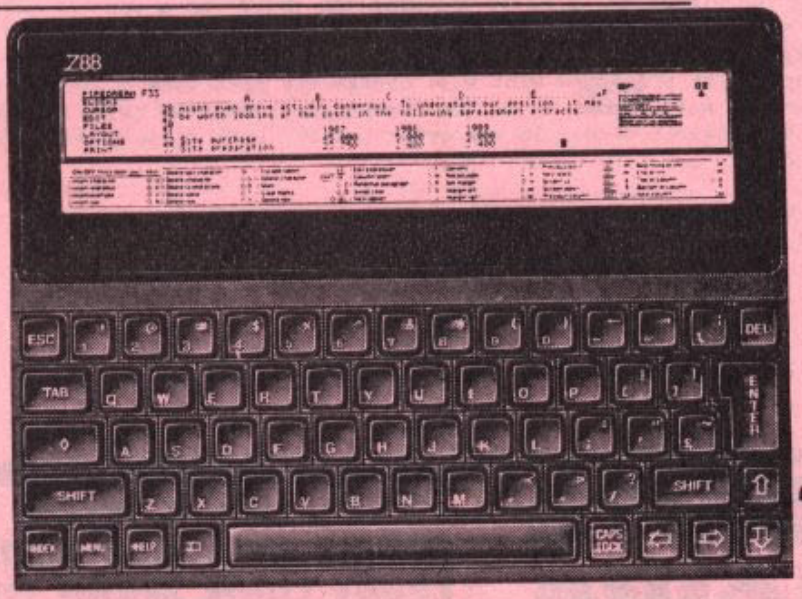
zx mushroom club

✉ 35644
MENLO PARK 0102
☎ (012) 46-8226
TELEX 3-21945 S.A.



Z88. Z88. Z88. Z88. Z88. Z88. Z88. Z88.

Hi to all the members of the Club. The staff and editor of the Newsletter would like to wish you all a very happy and prosperous New Year. Hope that you did not over indulge too much!

We would like to give a warm welcome to the newest member of staff at I.E., Leanne van der Walt. She will also be helping out with the Club ocasionaly. She will be manning the Pretoria phone mainly, so many of you will soon know her quite well!

At long last the factory in Bophuthutswana will be open to the public. If you would like to get the map on how to get to the factory, send a SAE to I.E. and they will send you directions. All the telephone numbers and how to order are on the order page at the back of the newsletter.

As this page shows, the Z88 is very much on the scene again. 100 of the computer are expected to arrive at I.E. at the end of January. The advance responce has been so overwhelming that the Club is busy negotiating for a special price on the computer when it arrives. And we will get it!

I would like to warn you that the number at the factory is only for orders. The assistant answering the phone is not trained to deal with queries.

Well,happy computing this year! Please take note of the questionaire in the newsletter. Help us to improve the newsletter - please. Thank you.

Anne

INDEX

Page	Article
2	Briefly.., Readers Reviews
4	Overheating Spectrum?
6	Carry on Clive
10	Suddenly I was in charge of an Army!
12	Books
13	Questions, News
14	Back issues
15	Space Chase
17	Drumbeat, Soundscanner
18	Classified, Notice Board
19	Underlin on the EP44
19	signal Booster

Z88

PS For those of you who are not writers, please phone us with your answer

Chairman: G.J. Coetzee Esq.

BRIEFLY..

Enlosed is a small but useful utility for the QL. The main procedure called WIND will give your window a shadow behind it. This will give your windows a better appearance. It works by windowing the window at x+a,y+a, then clearing it black an then rewindowing the window at x,y. By changing the value of a you can make some windows appear higher or lower. The syntax for the WIND command is WIND (chan,width,high,x,y,paper colour,a). Note you must first open the screen chan if it is not already open. The procedure win1 will change the positions of and give #0, #1 and #2 shadows. #1 will appear to be the lowest (a=4) with #2 being in the middle (a=5) and #0 the highest (a=6). To use enter "win1". Both these procedures work in MODES 4 and 8.

```
10 DEFine PROCedure WIND (ch,wide,hi,x,y,col,a)
20   WINDOW #ch,wide,hi,x+(2*a),y+a:PAPER #ch,0:CLS #ch
30   WINDOW #ch,wide,hi,x,y:PAPER #ch,col:CLS #ch
40   END DEFine
50 DEFine PROCedure win1
60   WINDOW 512,256,0,0:PAPER 7:CLS
70   WIND 0,438,40,32,20,4,6:WIND 1,200,150,32,70,2,4:WIND 2,200,150,270,70,4,5
80   INK #0,0:INK #1,0:INK #2,0
90   END DEFine
```

FROM:-
Peter Lupton

Readers' Reviews

Taking pen in hand, you tell us what the public really think about the goods on sale.

The Club would very much like to improve its services and newsletter in the New Year. One of the things that the Newsletter would not want to become is another item of regular Junk Mail! To be able to improve our service and the newsletter, we have to get you the members of the Club's views and critism of the Newsletter.

There have been several comments about the fact that there are so few articles in the Newsletter since it got its facelift, well the reason for that is that YOU the members of the Club are the ones that are to express your views, opinions, programming experience and other interesting snippets of information to other members of the Club. The newsletter is run by the Club for the Club. Without the reactions and feedback from the members of the Club the Club is no longer a Club!

As an added incentive there is MONEY offered for any article that is published in the Newsletter. The amount given to the writer is determined by the contence, length and quality of the article.

For the DOOERS of the Club, here is a short list of articles that we are looking for in particular:-

* Machine Code programming on the Spectrum
* Spectrum 128 programming - using the paging method
* Printing on the Spectrum 128
* Extended facilities on Tasword
* Reviews on Software and hardware, especially utilities. REVIEWS ARE NOT TO BE HIJACKED FROM OTHER MAGAZINES!
* Please, please, please Afrikaans articles on ANYTHING!

So come on that is not so bad! Share your expertise with other members of the Club and get remunerated for your efforts!

For the READERS AND ONLOOKERS of the Club here is a short questionaire for you to fill in, so that we have an idea as to what sort of articles you would like to see in the Newsletter.

To improve the newsletter, would as many members as possible fill in the quisionaire and send it back to us so that we know what you the Club members want!

We, the members of the Mushroom Club would like to see more ..✓.. in the newsletter.
(please tick appropriate boxes)

☐ Reviews on Arcade/Adventure/Utilities
Oorsig van Spieletjies

☐ Machine code programming
"Machine code" programering

☐ Reviews on hardware
Oorsig van Hardeware

☐ Programming in other languages
Programering in ander tale

☐ Using your hardware system to its max.
Verbruiking van u rekenaar tot sy maksimum

☐ Programming on the QL
Programering op die QL

→

☐ Printing with your computer
Drukwerk op die rekenaar

☐ Articles on IBM compatibles
Artikels oor IBM aanpasbare rekenare

☐ Using graphics on your computer
Gebruik van grafieke op die rekenaar

☐ Programming your own adventures
Programering van u eie avontuur spieletjies

☐ Letters and feedback from Club members
Briewe en terugvoering van lede

☐ Software features, eg. Stratagy games
Sagteware glanspunte, bv Oorlog spieletjies

☐ Afrikaans articles

OTHER, PLEASE SPECIFY, EG. COMPETITION

.....

.....

NAME .....

ADDRESS .....

.....

Talented? Musically frustrated? Read on . . .

We have several Music Programmes available for the Spectrum. All the programmes have been written by professional muscians and programmers, and even without any prior knowledge of music you will be able to use these programmes.

But, music does not only stop at Software on your Spectrum.... we have several Hardware packages which may be just up your... tinckle?!

This Hardware allows you to program harmonies, explosions, zaps, chimes and whistles and an infinite range of other sounds over a full 8 octaves, Hardware also comes with easy-to-understand user guide, and demo tape.

Sound good and adventurous? Well here follows our price list of all our available musical hard and software.

	RRP	Our PRICE
Music typewriter	37.50	34.99
Music Master	17.99	14.99
Three Channel Sound Synthesiser		
Specdrum	145.00	119.00
Currah Speech & Sound	75.99	67.99
Music Machine	215.00	185.00
Cheetah Midi Interface	225.00	199.00

Postage on Software R1.50
Postage on Hardware R2.00

INTERFACES the DISCIPLE DISK INTERFACE

1. Disk Interface:
2. Printer Interface:
3. Dual Joystick Interface:

– ALL YOU EVER WANTED FROM YOUR SPECTRUM

GREAT FOR GAMES

Don't you hate it when you've been playing a game for a couple of hours, you lose all your lives, and have to go all the way back to the beginning and start again?

Not with the Disciple!

The Snapshot Button lets you save any game at any point, so you just snap-save when you're getting into trouble and you can come back and start again at the same point later – tomorrow if you need a rest.

And with the Disciple's unique snapshot print, you can plaster your bedroom wall with print-outs of the screens of that adventure game that's been bugging you for days.

With two joystick ports as well, you just can't beat the Disciple for games-playing – and the games won't beat you!

BIG FOR BUSINESS

Yes, the Spectrum can be your business computer.

With up to 1.56Mb of storage on two disk drives, almost instant access to your files, and a powerful direct printer interface, the Disciple opens the door to serious applications with the Spectrum.

Good business software already exists for the Spectrum. Now the Disciple lets you use it to its fullest potential:

SERIOUS FOR SCHOOLS

Using the Disciple's network, you can link together all your classroom Spectrums, and give them all access to a single master disk drive and printer – that's a saving of hundreds of pounds.

And the network software has been written especially with the classroom in mind. At the master machine, you teachers can have as much – or as little – control as you want.

Suddenly the computer lab becomes an affordable possibility.

POWERFUL FOR PROGRAMMERS

The Disciple might look simple, with its uncomplicated syntax.

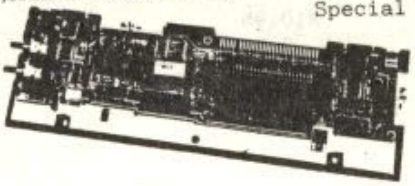
But it's been designed with the needs of the serious programmer very much in mind.

For example, the Disciple uses the Interface 1 hook-codes, and we've added 20 of our own as an aid to the machine code programmer. Then, the operating system is soft, to allow you to modify it to suit your own purposes.

THE Disk interface is now available for the UNBELIEVABLE price of only:-

Normal Price	R379.00
Special Price	299.00
P&P	2.00

5 Only in stock at this price.



A4 PRINTER

star 80 COLUMN
the ComputerPrinter

As you know the STAR 160 printer is on an unbelievable special at the moment for only R389.00. There are three models of this printer available, namely Serial, Parallel and IBM Parallel. To help you decide which model to choose should you be looking into buying a printer, these molels are recomended :-

160 AS for INTERFACE I and the QL

160 i for IBM compatibles

160 for the Spectrum used with either the Disciple Interface, Beta or OPUS.

Ribbons for this printer are also on special for only R7.00 for 2.

Normal Price for one R4.99

Stock up on your Ribbons now, put them in your freezer and they'll last a lifetime! This is not just a jaw, but the truth. It has been scientifically proved that ribbons and photographic film when kept in a freezer will last indefnitely!

NEW NEW RELEASES

NEW SOFTWARE IN STOCK:

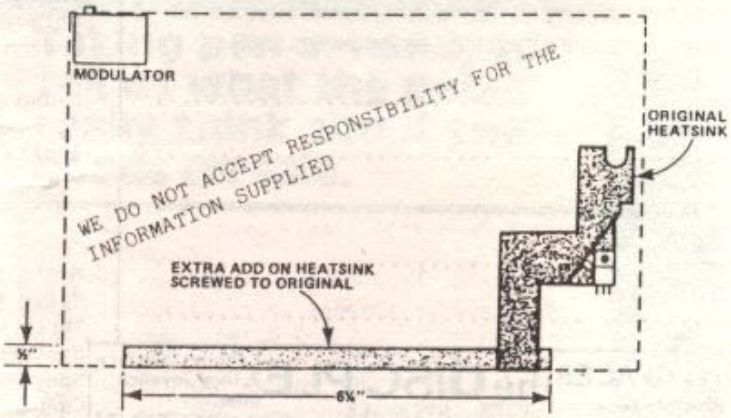
TITLE	PRICE
QL SOFTWARE	
Assembler Workbench	R87.00
Basic-Ally	69.99
Cartridge Doctor	55.00
Cosmos	55.00
GraphiQL	87.00
Jungle Eddi	55.00
Lost Pharaoh	55.00
Nemisis	55.00
Oxford Trivia	64.99
PCB no. 1	359.00
PCB no. 2	174.85
QDOS Trap Handler	55.00
Qimp	87.00
QL Toolset	69.99
RAM Disk, etc	36.99
Sideways	69.99
Strip Poker	55.00
Technikit	87.00
West	55.00
ZKUL	55.00
Farmer	55.00
Horrorday	55.00
Wimp Designer	55.00
QL HARDWARE	
Trump Card	799.00
Centronics Printer interface	119.00
Single 3.5" Disk Drive (cased with power supply)	449.00
Double 3.5" Disk Drive (cased with power supply)	749.00
SPECTRUM SOFTWARE	
Transmuter	9.99
Hit Pac (vol. 2)	37.99
Silicon Dreams(3 Level 9 adventures)	55.00
+80 Stock Manager (see special offer)	39.99
+80 Finance Manager(see special offer)	39.99
Hisoft Pascal	76.00
Speed King 2	9.99
Three Weeks in Paradise	16.50
Football Manager	12.99
Biology (collins version)	24.50
W.O.W. (14 games)	19.99
Lerm TU 09	
Ace 2	34.50
Evening Star	29.99
Indiana Jones and the Temple of Doom	29.99
6 Pak vol. 2	37.50
Includes:- Into the Eagles Nest, Batty, Ace, Shockway Rider, Light Force, International Karate	
SPECTRUM HARDWARE	
Multiface 1	169.00
Multiface 128	189.00
Multiface 3	199.00
Double 3.5" Disk Drive (cased with power supply)	749.00
Multiprint	165.00

DURBAN SINCLAIR USER GROUP

P.O.BOX 10301 MARINE PARADE 4056

OVERHEATING SPECTRUM?

If you are having problems with your Spectrum overheating the following may be of assistance. The Spectrum's heat sink on examination, after removing the upper portion of the case, is revealed as very small and it becomes very hot after a period of constant usage. The heat-sink is used to dissipate energy from the power supply that is a voltage higher than is required by the computer. The area of the heat sink may be easily increased by bolting a thin strip of aluminium sheet approximately 12mm wide by 159mm long ont the present heat sink and running it along the from of the case.



Details of extra heat sink modification.

This will result in the computer running at a lower temperature. CARE MUST BE TAKEN TO ENSURE THAT NONE OF THE ELECTRICAL COMPONENTS AND IN PARTICULAR THE ROW OF DECOUPLING CAP-ACITORS CONNECTED ALONG THE ROW OF 4116 MEMORY CHIPS ARE NOT SHORT CIRCUITED.

SUPPORT LOCAL HARDWARE SUPPORT LOCAL HARD
SUPPORT LOCAL HARDWARE SUPPORT LOCAL HARD

I.E. has now got COOLA UNITS in stock for those of you who are not bold enough to go ahead and to do this adaption yourselves. This neat little gadget fits neatly into the power socked between the power pack lead and the Spectrum. This little buddy lowers the voltage going through to the Spectrum and in this way the Spectrum does not get so hot.
At the unbelievable price of only R8.95 who can resist this? Besides it is safer than to experiment with your computer!

Normal Price	R10.95
Special Price	8.95
P&P	1.00

Advanced BASIC on the Sinclair ZX Spectrum

LOGIC 3

For the wise people who baught the first part of this programming series, now is the chance to really get going and start making more sence of your programs, and making programs that are of use and fun to use.

This first part of the program was desighed for first time users to enable them to really get going on their computers, however as you move further into the art of programming, the biggest problem you will meet is the control of complexity. This is just one of the problems you will encounter. To help you on your way again this program will set you right!

As you will already have the first part of the package, you will know what value for money this package is, and the well written manual is just that extra bonus. so come on and get your second part of the package and Master the art of programming!

REMEMEBER this series is also available for the BBC computer. For those of you who have any doubts about this cours, simply ask anyone that has it to see just how good it is!

Normal Price	R49.00
Special Price	35.00
P&P	2.00

You save an incredible R15.00! Remember to tell you freinds of this offer. The special offer is only valid for this month, so hurry and get your advanced package.

ZENJI

FANCY A CHALLENGE? ZENJI

A lecture from Rokan, Master of Zenji, 739 A.D.
Let us call the "Many the "Elements." Then let us see that in the vast blackness, beyond, the Elements assemble around the Source. Some are connected, some are not. Those united with the Source are green with energy, while the disconnected ones are an empty grey. The seeker must connect the Many to the One, thus turning all the Elements green with the power of the Source. In that instant, Zenji occurs!
An intriging game that involves more than just mere thought!

Normal Price	R25.99
Special Price	12.99
P&P	1.50

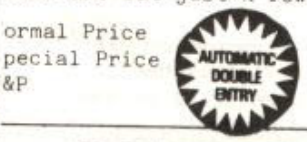
This is a very limited ½ Price Sale. There are only 3 copies of this game in stock. Do not miss this chance to get your copy.

FINANCE MANAGER

16K 48K PLUS 80 ONLY 80 COLUMN VERSION

This is a very comprehensive program for the Spectrum 48K with 80 column printour capability. It is a powerful and flexible menu driven program for practically all domestic and business applications. The program is also very user friendly and easy to use.
Other features are:
* Automatic double entry - for up to 255 separate accounts with running totals.
* Analysis -by user defined transaction descriptions and / or date.
* Standing orders - added, applied and removed by date or at regular intervals.
* Balance - all account balances can be listed at any specified date.
* New transaction Marker - differentiates between old and new entries.
* Page command - scroll back and forth through all accounts.
* Reconciliation - enables the user to check off items against statements.
These are but just a few of the many features!

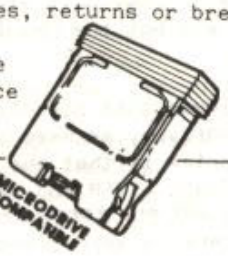
ormal Price	39.99
pecial Price	29.99
&P	1.80



+80 STOCK MANAGER

This is an interactive program which provides a controlled invoicing and Stock Accounting environment for up to 600 different product lines. The program utilises a full 80 column with printout to take advantage of the fact that it is designed to operate in conjunction with many 80 column printer interfaces available for the Spectrum.
Other features include:
* Master file with details of product code, description, unit price, min stock level, stock quantity and GST indicator.
* Reports include, price list with/without tax, stock/sales status/movements during period.
* Invoices include customer name, address, product description, quantity, unit price and special terms to name a few.
* Stock levels can be adjusted independently to account for user-selected options such as deliveries, returns or breakages.

Normal Price	39.99
Special Price	29.99
P&P	1.80



Carry on Clive

Z88.

A COMPLETE PERSONAL COMPUTING SYSTEM.

THE FACTS BEHIND A NEW BREED OF PERSONAL COMPUTER.

This is not a joking matter! we're serious and should be to. It has been more than three years since Sir Clive has released a machine into the computer market, the following reviews and facts have been put together to assure you that this is by no means a fantacy computer, but is really on its way. I.E. has been negotiating with Cambridge Computers for the last 3 months to get 100 of the Z88 into the country. Unfortunately they are 3 months late in the production of the computer and that is the reason why we have not received ours yet. Apart from that the reports received on the computer are getting better and better by the day!

The Z88 is a real achievement for Sir Clive, and to top it all he certainly has lost none of his skill or entreperneurial genius. He has, just as he said he would, released the first truly portable computer that anyone could carry and use constructively. Yet again, Sir Clive has ignored what most people consider to be the industry standard, MS-DOS, by producing a machine which at best can be described as idiosyncratic.

NOW, read on!

Having paid your money (more than likely a couple of months prior to the machine arriveing on your doorstep) it is somewhat disappointing to receive nothing more than a small briefcase-like package, but once you have extricated the machine, the disappointment soon turns to amazement!

Compact

The compactness of the Z88 is truly a revelation. With a surface area slightly larger than an A4 pad, and weighing less than a hard cover book, the Z88 really is the epitome of portability, and even when it is stored in its case - advisable if you want the machine to last - it will comfortably fit in all but the briefest briefcase!

Most people believed that Sir Clive would stick with microdrives, as used in the QL. But the big surprise is that the Z88 takes a different approach - RAM and EPROM. At the front of the Z88 are three expansion slots that can take an assortment of RAM and EPROM cartridges. The advantage of this is that the RAM is both simple and reliable. If it becomes necessary to store more important information more permanently, that is where the EPROM comes in. Using the built in EPROM blower, the Z88 can copy files and information from the RAM cartridges straight to EPROM.

The following questions were recently asked to Sir Clive and he had the following answers.

Q. THE MACHINE USES EPROM CARTRIDGES FOR MASS STORAGE. WITH CONVENSIONAL DISKS ONE ADVANTAGE YOU HAVE IS THAT YOU CAN CARRY OUT A SELECTIVE RANDOM ACCESS PURGE TO CLEAR OUT YOUR UNWANTED FILES. WITH THE Z88 CARTRIDGE YOU CAN ONLY ERASE THE WHOLE CONTENT AT ONE.

A. "Yes, but that's not a problem because you use it in a different way. You take an EPROM with a lot of stuff on it, put it into the machine, dump the whole lot to RAM, delete the files you do not want, wipe the cartridge and save it all out again. The wipe process only takes about 12 seconds, which is pretty fast for EPROM. When you get up to a megabyte on a cartridge we are going to use PROMs which you can't erase yourself, though you can send them back to us to be wiped. (In South Africas case the dealer). The reason is that we expect people to use the megabyte cartridge like a hard disk. It is essentially for long-term archival use. People don't generally delete things from their hard disks - they just dump things to them."

Q. WILL YOU LIMIT THE FUTURE CAPACITY OF THE CARTRIDGES TO 1MB? IF NOT, HOW WILL YOU MANAGE THE DIRECTORY PROBLEM?

A. "We don't need to limit the capacity. The current 1 MB cartidges have a 1 MB direct addressing range. There's no reason why you shouldn't have more than 1 MB in there, but as with a hard disk, you will have to tell the machine which page you want to look at."

Starting to sound more inviting? Read on.

Dead Flesh

The keyboard is made out of the familiar "dead flesh" rubber that was used on the early Spectrum computer. It feels lifeless to a first-time user. After a few hours use however, the keyboard grows on you, and it is found to be quite refreshing especially after many hours tapping away on your PC.

The screen is one of the most surprising features of the computer. Showing a total of eight line (which is surprisingly ample) it is one of the new generation of "super-

twist" liquid crystal displays, in this case produced by the printer giant Epson.

WORD-PROCESSING

The software is very impressive. The main part of the software is a generic word processor-cum-spreadsheet-cum-database called Pipedream. . The software is both well written and, so far, bug free. Pipedream is a spreadsheet that has been adapted to be a word processor. It allows the user to justify text, set line spacing, set headers and footers, as well as most features Wordstar users will have grown accustomed to.

If you can be satisfied with the word processing side of Pipedream, then the spreadsheet will come as a revelation. Using a similar format and entering system to such firm favourites as Lotus 1-2-3 and Viscalc, the almost immediate copying and loading from the Z88's RAM means that long and complex tables can be altered and maintained in minutes rather than hours.

Some interesting quesions on compatibility were asked. Sir Clive answered:
Q. CAMBRIDGE COMPUTERS SELLS SOFTWARE TO TRANSFER FILES BETWEEN THE Z88 TO THE IBM PC. AT THE MOMENT, WORDSTAR AND LOTUS 1-2-3 ARE SUPPORTED. ARE THERE PLANS TO IMPLEMENT FILE TRANSFER TO OTHER SOFTWARE OR HARDWARE ENVIRONMENTS?

A. "Yes, a Macintosh package is under way, and as for others we'll look at them in the light of demand from our customers. Its worth remembering that there will be a healthy market for third-party manufacturers of add-on software and hardware for the Z88. a third-party communications pack for Z88 to BBC micro is one example which should appear shortly."

Achievement

Where Pipedream excels is for users who combine text and tables to form reports. Unlike programs such as Symphony, data can be changed and recalculated even when it is surrounded by text. Another useful feature for this kind of editing is the novel page map at the left of the screen, which gives the user an accurate picture of how the finished page will be printed. As well as Pipedream, the Z88 comes complete with a diary, clock, calendar, communications package, file import/export program, as well as an impressively complete version of BBC basic and a stand alone filing system. All these programs operate with the Z88's unusual menu system which uses the MENU key to pull on to the screen a variety of options. Another small thing that makes the computer even more remarkable in many peoples eyes is the fact that the computer is completely British made. (Some geeks believe that the Japs are the only ones that can make a good computer!). We hope that some of the points brought out in this article will make you as positive about the Z88 as we are. as you would expect from Sinclair, the Z88's features set it apart from ALL other computers.

= THE INTELLIGENT CHOICE =

Z88

COMPARATIVE CHART		COMPETITORS
MEMORY	32K of RAM built in upgradeable to 416K, 1 Mbyte pack, total of 3 Mbyte	THERE IS NO COMPARISON THERE IS NO COMPARISON THERE IS NO COMPARISON THERE IS NO COMP
KEYBOARD	full QWERTY keyboard special function keys INDEX, MENU	
COMPATIBITY	software package allows transfer and receipt of files from IBM & compats Converts Pipedream files into either Wordstar or Lotus files Also can take standard ASCII files	
PORTABILITY	total no further comment	
SIZE AND WEIGHT	A4 size, weight = that of a hard cover book weighs just under 2lb	
DISPLAY/SCREEN	state-of-the-art super-twist LCD screen format = 8 lines x 106 characters provides working area of 8 x 94	
POWER SUPPLY	4 x standard AA batteries = 20 hrs active use mains adaptor available	
Z88-BBC LINK	uses BBC Basic Pipedream compatible with View Professional	

As there is NO COMPARISON with this computer we were not able to give you a comparison, however we have been able to supply all data and specifications of the computer. We hope that even the novice will be able to understand all this bumf, as one could say that the computer was specialy designed for you, its that easy to use!
The point of the Z88 is that if you're getting rid of paper, get rid of all your paper! Because the Z88 included a database, calculator, free-form diary, calendar, and real time clock and alarm - when you put the Z88 into your briefcase, you can take just about everything else out!
The Z88 is a computer that you will WANT to carry with you - whereever you are ... at home, on the move, in meetings, in hotels... with the Z88 you will have a companion for LIFE!

Z88. THE FACTS

QL·Macro Assembler

incorporating QL·Linker and QL·Screen Editor

For the serious QL user who uses Assembly language on his computer, this program is an absolute must. The MACRO ASSEMBLER comes with a very extensive manual which is divided into three parts, describing in detail how to use each of the three programs which make the package:

* MACRO ASSEMBLER
* LINKER
* SCREEN EDITOR

Each program's documentation is self-contained. The MACRO ASSEMBLER'S manual tells you:-

* what inputs the assembler takes and what outputs it produces
* how the assembler language instructions should be coded
* what assembler directives are available, what they do, and how to code them

It is usually convenient to write programs as several separate source files and compile or assemble them at different times. It is then necessary to combine these compiled parts of program to form a single program file before the program can be run and the program which does this combining is called a LINKER. The LINKER'S manual tells you;-

* What inputs the linker takes and what outputs it produces
* details of the Sinclair relocatable binary file format

The SCREEN EDITOR may be used to create a new file or to alter an existing one. The text is displayed on the screen, and can be scrolled vertically or horizontally as required. The size of the program is about 20K bytes and it requires a minimum workspace of 8K bytes.

Please note: This program is for the serious programmer who already knows the assembly language. The program does NOT teach programming in general, assembler programming or 68000 programming in particular.

Do not miss this great offer for a really fantastic package!

Normal Price	R157.99
Special Price	99.00
P&P	2.00

Watch for the Z88 comparison further on in this issue of the newsletter.

LOOK FOR THE TABLE OF COMPARISON ON PAGE Z88 AND COMPETITORS

QL USERS

ATTENTION

UPGRADE TO THE LATEST

Its here at last! Spare parts in the form of the much-saught-after JS ROM for the QL are now available!
For those of you who are older, and more experienced!, users, and who wish to upgrade your QL to the latest version, now is your chance.

The JS ROM for the QL is now in stock and costs only:-

Normal Price	R55.99
Special Price	49.00
P&P	2.00

FIRST TIME USERS GO MICRO

At last a clea and interesting introduction to the ZX Spectrum that doesn't expect you to be a programming genius!
This simple, well-illustrated book fills in the fascinating background to your micro and shows you just how much you can do with it.
The first part of the book illustrates the many uses of your micro - in home learning home entertainment, household management and word processing. You'll see how all that fits in with the use of computers in business and communications systems.
Then you'll find out how your micro actually works and haw programs are created. You'll discover your micro's potential to create colour and graphics - and sound.
Finally ther's advice on how to get the best out of the five software programs included in the pack.
The ideal introduction to the ZX Spectrum for the whole family! And its such fun!
This pack is a real must for any beginner.

Normal Price	R35.99
Special Price	25.99
P&P	1.80

+ 80 ADDRESS MANAGER

This useful utility for keeping all your address and friends on record is and absolute must if you want to be on top of this chore.

Normal Price	R39.99
Special Price	29.99

SL-80AI

This is just how Seikosha shows you that they really are value for money printers. Where else can you get a quality 24 pin printer for under R1000.00? The versatility and excellent printing quality of this printer really excell to that of any other printer under R1000.00, whether the printer be 9 or 24 pin. Features of the printer include:

the real 24-pin printer

* 300 cps draft
* 54 cps NLQ
* Featuring EPSON LQ and IBM mode
* 10 kinds of high resolution dot addressable graphic printing
* Automatic paper loading and ejection
* Switch margin setting by the from panel
* Built in 16K buffer
* Quiet even for executive office (52dBA)

All this and more for only:-

Normal Price	R969.00
Special Price	899.00
P&P	14.00

Remember that Seikosha offer just about the BEST value for money!

Effective enhancements for your computer system

SEIKOSHA CO.,LTD.
SYSTEM EQUIPMENT DIVISION

SP-1200

Seikosha printers are of the finest value dot matrix printers on the market today. All Seikosha printers have one common denominator of value and performance. It is this superb combination of characteristics that allows Seikosha printers to stand apart from the competition.
User friendly operation and dependability are two reasons why Seikosha printers are rapidly becoming more and more a part of the home and business computer environment. Ideal for home and small business applications, the SP-1200 is suitable for all computers and applications. These printers have special user benefits like efficient paper handling, quiet operation and a wide array of features and functions. For the features READ ON!

* 120 cps draft
* 22 cps NLQ
* Automatic paper loading/ejection
* Friction and tractor feed standard
* User friendly operation with multifunction from panel buttons
* High resolution graphics up to 1920 dots per line
* 2.3K-Byte buffer standard

Normal Price	R649.00
Special Price	599.00
P&P	14.00

MAKE YOUR BUSINESS SUCCESSFUL ....

SEIKOSHA

The BIGGEST Amstrad ever!

AMSTRAD 1640

Although this really remarkable computer is not yet available in South Africa, we have been able to get hold of the Specs and have been astounded at what this computer has to offer! And to top it all, it is believed that its price is going to be in the region of only R2 000 for the basic unit of one floppy drive and a mono monitor.

Over and above the features of the Amstrad 1512, the 1640 has the following to add to its credit:-

* Standard 640K
* 80286 processor chip
* Socket for 8087 maths co processor
* EGA, CGA, HERCULES] SWITCHABLE !!!
* Switchable between these graphics cards
* All built into one monitor, just switch between the modes.

REMEMBER:- We can't say it more clearly. The Amstrad is a ready-to-go computer with EVERYTHING built in plus 3 free slots. (some computers give you 5 slots BUT no parallel or serial ports, no mouse or joystick adaptor)

We will let you know as soon as these computers are available and the prices of the various models.

AMSTRAD

MONITOR

INFORMATION ENTERPRISESE has 2 Demo models in stock that are now for sale. The monitors are AMSTRAD RGB COLOUR MONITORS. The one monitor has never been used, although it is a Demo model. These monitors can be used on either the QL or the Spectrum + 3.

Take adventage of these unbelievable offers and get yourself a first class monitor NOW! Remember that there are only 2 in stock, so it is first come, first serve.

The two monitors are going for R550.00 and R499.00 respectively.

The latest game released by HEWSON is now in stock. the game is called EVENING STAR. Undoubtedly you have heard about this game. For those of you who are interested in Steam Locomotives, then you are not to miss this. The game costs only R29.99
P&P 1.50

Suddenly I was in charge of an army.

COMPUTER WARGAMING - AN INTRODUCTION

ORIGINS: The past decade has seen an enormous increase in the use of computer technology, with the use of home computers rising dramatically in the last five years.

The computer wargame, has developed from the table top wargame as a natural consequence of this technology. The computer is ideally suited to handle large amounts of rapidly changing data present during a large battle or campaign. Programmers have made full use of this to produce playable wargames which, over the years have increased in complexity and realism.

GAME TYPES: the first generation of games available represented attempts by the wargamer to protray tactical table top situations onto the screen. Whilst playable, these games tend to be slow to play, unrealistic and not user friendly. Some of these include "Invasion", "War 70" and the old favourate "Stonkers". These games are limited by the ingenuity of their programmers rather than by computer memory.
Recently produced games show a great improvement in quality, realism and ease of use. The trend has shifted toward reproducing the table top board wargames onto the computer.
The success of this can be seen in excellent campaign/stratagy reproductions such as "Arnhem", "Desert Rats", "Vulcan", "Austerlitz" and "Johnny Reb". Limitations on games are no longer dependent on programmer ability but rather computer memory.
With the continuing increase in memory of the home computer the computer wargamer has a stimulating future.

ADVANTAGES:

1. EASE OF SET UP: set up time is less than 10 min on audio cassette.
2. EASE OF PLAY: the drudgery of dice throws, complex rules, movement etc, is handled by the computer.
3. ONE PLAYER OPTION: if other players are unavailable, the computer provides an opponent at anytime of day or night.
4. STORAGE: games can be stored on audio cassette (or disc) and can be easily "moved" to other venues for continued play. Table top games occupy the space of a large table and room.
5. UMPIRE: the computer is a fair, incorruptable, tireless umpire.
6. GAME COSTS: at R30 to R40 per game the computer game tends to be cheaper than its board game equivalent.

DISADVANTAGES:

1. HARDWARE COSTS: a TV set, a home computer (R300-R800) and a tape recorder (R50-R100) are needed to start.
2. TV SCREEN AS BATTLEFIELD: limitations on seeing the entire playing area at once, eyestrain, monopolising TV set. Loss of the tactile and three dimensional "feel" of the table top game and the feeling of "involvement" generated by dice throws, rule consulting and arguing with the umpire and other platers.
3. COMPUTER PHOBIA: a genuine fear of computers is apparent in some people who feel disadvantaged as they are not familiar with computer technology.
4. POWER SPIKES: can destroy hours of play if not saved.

The computer wargame is here to stay and will increase impopularity. It will not however replace table top model wargaming. The above disadvantages plus the satisfaction derived by the model wargamer out of producing and painting quality models and scenery will ensure that.
The long term effect of computer wargaming on table top board wargames may however be terminal.

By Shawn comrie, Port Elizabeth

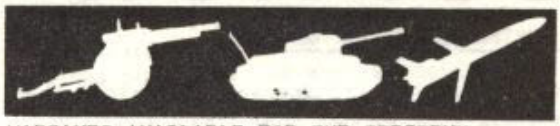
Printed with permission of the Editor "Wombat", E.P. Wargames Group Magazine.

PLEA FOR ARTICLES!

As you know, we are looking for articles for the newsletter, and we offer money for any of the articles that are printed! Just to help you along when deciding to write an article for the newsletter, we have put a short list together just to give you an idea of the type of articels that we are looking for.

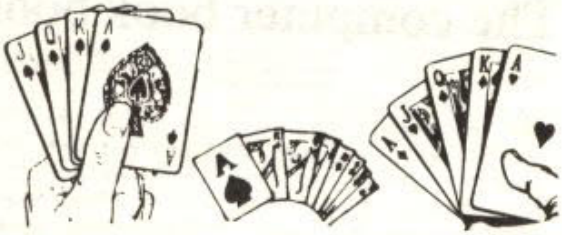
1. Machine code programming on the Spectrum
2. Spectrum 128 programming - using the paging method
3. Printing on the Spectrum 128K
4. Extended facilities on Tasword
5. Reviews on new software, especialy utilities and hardware
6. Please, please, please Afrikaans articles

The battle of the north



WARGAMES AVAILABLE FOR THE SPECTRUM

TITLE	PRICE
Falklands '82	R26.95
Iwo Jima	34.50
Battle of Britain	29.99
Confrontation	23.95
Beach Head	14.50
Beach Head II	32.50
Apocalypse	17.95
Napoleon at War	32.50
Waterloo	34.99
Tobruk	33.99
Annals of Rome	43.95
Theatre Europe	33.95
Battlefield Germany	33.95
Arena	35.99
Desert Rats	33.95
Vulcan	33.95
Dreadnoughts	17.99
Firelord	29.99
Archon	32.95
Defenda	16.99
Johnny Reb	29.99
Johnny Reb II	19.99
Fighting Warrior	29.99
Winged Warlord	9.99
Paras	18.99
Warlord	28.99
Roman Empire	16.99
Tyrant of Athens	16.99
Stonkers	19.99
Xcel	14.50
War 70	10.50
Conquest	29.99
Legions of Death	38.50
Bismark	38.50
Conflicts 1	
Battle of Britain	
Theatre Europe	49.99
Conflicts 2	
Battle for MIdway	
Iwo Jima	29.99
Warmaster Pack	
Dreadnoughts	
Red Baron	
Phanser Attack	
Paras	29.99
The war of the Worlds	23.99
Battle for Midway	32.99
3D tank Duel	12.50
Zulu War	38.50
Yankee	38.50



Support local software Support local software

Support local software Support local software

PROFFESIONAL POKER PLAYER

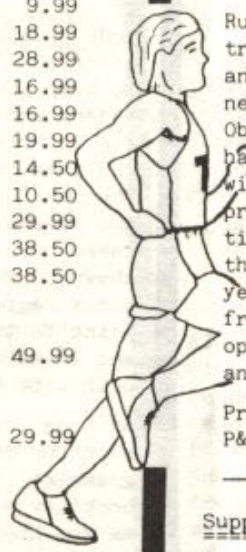
Now you can really play a good game of poker and now have to worry about losing any mony! The game is thourghly explained for any beginners in a clear, precise and easy to understand sheet of instructions. For the guys who already play the game, its as easy as.ABC to get started and playing a good game. All rules as given in the "OFFICIAL RULES OF CARD GAMES." So come on and take up the challenge! AND enjoy your gambling!

Price R 9,99
P&P 1,50

Support local software Support local software

Support local software Support local software

RUNNERS LOG - PROGRAM



Runners like to keep a record of their daily training sessions - for subsequent reference and comparison purposes. To fulfil this need, one of our Club members, Gustav Oberholzer has written this program. It has been designed in such a way that it will give the runner a picture of his training program over a year. The program is not tied to a claendar kyear and the user can therefore start using it at any time of the year. The program itself is extremely user-friendly and you should have no problems in operatin it. Give Johan Fourie some competion and get your training into order!

Price R 9,99
P&P 1,50

Support local software Support local software

Support local software Support local software

THE RUSSIAN'S REVENGE

Man with a secret

A choice based text adventure set in the murky darkness of a heavily protected nuclear base. Can you succeed in escaping unharmed?

Also available in Afrikaans under the title "Wraak van die waansinnige Rus", this is a text only adventure in which you make choices using the old numeric choice system. It's less easy - and sane - than you might expect!

Death lurks in every shadow of THE RUSSIANS REVENGE! Price R13.50
P&P 1.50

The computer book book

BOOKMARKS!

The information on the books which is to follow is on books that are not yet in stock, but for those of you who are wise enough to secure an order before the time, now is the time! The following books will soon be commming into stock, although stocks are very limited on the QL titles.

QL ASSEMBLY LANGUAGE PROGRAMMING

The book has a lot of examples that are useful inclusions in a routines library. The book is divided into 4 main sections:
Part 1 deals with the 6800 processor instrucions and addressing modes.
Part 2 has instrucions regarding the traps, utility routines and linking into Super-Basic.
Part 3 includes numerous programming examples and looks into graphics and SuperBasic extensions.
Part 4 provides additional information to the assembler and editor documentation.

Price	[illegible]
P&P	1.80

ADVICE FOR THE BEGINNER

QL SUPERBASIC: THE DIFINITIVE HANDBOOK

This book covers every aspect of programming with SuperBasic. Related keywords are grouped in chapters and are each defined in great but highly readable detail. One of the advantages is that, rather than relying on the usual dry glossary approach of other similar books, the autor details the implications of SuperBasic keywords and has included lucid illustrations of SuperBasic keywords and has included syntax flow charts.

Price	R 39.99
P&P	1.80

CALCULATING WITH QL ABACUS

This book provides clear and concise information for using Abacus, from basic theory of spreadsheets to using the system commands. The biggest part of the book is devoted to practical applications of Abacus in worked spreadsheet models. Throughout users are encouraged to amalgamate Archive, Quill, and Easel.

Price	R 34.50
P&P	1.80

OUT NOW

THE AMSTRAD PC USERS OMNIBUS

This book is the ultimate weapon against the relatively poor manual that comes with the amstrad PC 1512. The ultimate programming resource for your Amstrad PC! The book is a very valuable collection of programs, ideas and techniques to ensure that you make the maximu use of your computer. Sections in the book include:- Business programs and applications, Making the most of gem paint, Exploring computer simulations, Exploring artificial intelligence, Searches and sorts, learning Forth, Creating banners and signs, Explorations and entertainment. Where else can you get a book that covers everything from A - Z on you computer and is a ready referance on just about any subject?
This book will become your best buddy, without it you will be absolutely lost!

Price	R 39.99
P&P	2.00

At last

THE SPECTRUM MACHINE CODE REFERENCE GUIDE

This book contains a full disassembly listing of the ZX Spectrum 16K ROM and a machine code programmer's guide to the Microdrive and interface I unit. Enough detail is included to help you, as a machine code programmer, to understand the operation of the Spectrum and its Interface I and to design machine code routines for your own purposes.
The absolute addresses of all system variables and several important routines have been named using where possible the standard names shown in the manual. In addition, the Z80 index register IY is assumed throughout to point to the variable ERRNR at address 5C3A and so offsets have also been named by a Y- prefix to the standard name.

At long last a true reference guide is available for you long suffering machine code programmers! Take the oportunity to get this book now as I.E. has only got 5 in stock, and as you know books on machine code are pretty difficult to get.

Normal Price	R 24.99
Special Price	18.99
P&P	1.50

QUESTIONS

It would appear that the Club is really made up of real dummies, because not even the supposed boffins at the Club could answer all of these problems! If you can help us please send us the information. We would really appreciate it. Remember that this is what the Club is all about - one boffin helping a not so uppity boffin!

HELP

Ek het Wizball van I.E. gekoop, en dit is die beste speletjie wat ek in jare gespeel het. Maar, op die instruksies sê hulle 'n mens kan twee speleers speel. Hoe kry 'n mens dit reg?

KAN IEMAND MY VERDUIDELIK D.M.V. DIE MUSHROOM KLUB HOE OM DIE "BAUD-RATE" VAN DIE SPECTRUM TE VERANDER.

HELP

Mario Schoonraad of Wetton is looking for Part One and Three of Alan Davis' adventure series "VENTURESPEAK" articles which featured in the October and December issues of ZX COMPUTING MONTHLY 1986. Can you help with photostats of these articles? Mario is willing to pay for postage and the trouble. If you have these articles, please send them to the Mushroom Club. They will forward the information.

HELP

Do you have the game SUPER BOWL? Paul Lutge of Pretoria has the following problem. After every snap the game-clock doesn't start. After going through the snap 3 times then the game will not start again. Have you had a similar problem? Were you able to rectify the problem? If you were, please send the solution to the Club.

ONs het die volgende vraag van Dries Swart van Upington ontvang. Lede met 'n GEMINI 160i sal dalk hierdie inligting interesant vind.

V. Ek besit ook nou 'n GEMINI 160i. As ek egter enkel velle papier druk, dan stop die drukker 'n ent van onder af, en rooi (paper out) liggie gaan aan. Ek wil egter die drukwerk tot op die einde van die bladsy kry. Kan iemand my help met die korrekte kodes op die korrekte plekke op my "Printer Driver" program.

A. Op bladsy 132 van die 160i se handboek, kan U lees dat die "paper out" meganisme d.m.v. "dip switch 2-1 afgeskakel word".

Any answers must please be sent to the Club

NEWS

FASTER AND FASTER!

Simon Goodwin, author of the Supercharge and Turbo compilers, aims to make the QL faster still. His latest product SPEEDSCREEN, is a general-purpose utility designed to increase screen output speed im Mode 4 by any thing up to 10 times normal.
The exact speed increase factor depends on the CSIZE, INK, PAPER, OVER and UNDER being used when printing text. Speed increases have also been achieved on scrolling and even clearing the screen.
In addition to re-writing the appropriate display routines a number of new features have been added. There is now a new speedy CSIZE between 0,0 and 1,0, and a condesed size. User defined graphics are also available from Super Basic on an 8 x 9 grid, giving much more attractive characters. A library of new fonts is supplied with the tape and disc versions.
Speed Screen will also soon be available built into expansion systems from several major QL manufacturers.

For the serious Ql user this program will certainly be his forté. This program just goes to prove that the Ql is really going overboard to prove that the PC is not even vague competition in just about any field. The Ql can now hold much more memory than a standard PC with the help of the TRUMP CARD. so Jimmy, whats next?

Price of the SpeedScreen is:-

Price of cartridge/disk	R79.00
Price of ROM	109.00
P&P	1.20

SCHON KEYBOARDS

After overcomming considerable production difficulties, supplies of the new Schon separate keyboard are now finding their way into users hands. More reminiscent of the PC than the traditional QL key layout, the Schon top-of-the-range 76-key keyboard includes 10 funtion keys, a numerical keypad and several genuinely useful functionally-combined keys exceptional to the operation of the QL. Eight cursor keys are provided for horizontal, vertical and diagonal movement of thescreen cursor.

So, QL users, this is the answer to why your keyboard is taking so long to get here . The information contained in this article was taken from QL WORLD, November 1987 on page 7. This just goes to prove that all hop is not lost just yet to get rid of the typing sponge!

BACK ISSUES

PAST ARTICLES

We have compiled a special list of very past artices for all of the new members of the Club and for those of you who have lost your old newsletters. These articles go back to when the club was a very young club indeed! Any prices appearing in the articles are of course out of date, but please feel free to enquire about current prices, and availability of any of the programs.

Code	Month and article
	JULY
2-1	ZXLPrint information
2-2	Spreadsheet comparison
2-3	Pot-Pourri
2-4	Cook Book
2-5	Primitive Calculator program
2-6	News and tips
2-7	Vu-Calc to an A4 Printer
2-8	Programming - grid game
2-9	Spectrum Basic - extended and different
	AUGUST
2-10	Logic 3 review
2-11	Spectrum basic - different
2-12	Programming POINT
2-13	ZXLPrint and Tasword 2
2-14	Disk Drives
	SEPTEMBER
2-15	Tips
2-16	Machine code
2-17	Friendly Face MD utility review
2-18	ZXLPrint, Star Gemini and Downloadable characters
2-19	Reviews by S. Grundlingh
2-20	More reviews by E. Erasmus
	MARCH
2-21	Scrabble - MD conversion
	OCTOBER
2-22	Adventure corner
2-23	Star Gemini
2-24	Beta Basic
2-25	R Tape Loading Error !!!?
2-26	Let your Spectrum feel used!
2-27	Supertill - programming
2-28	Learning Box Educational software
2-29	Help and Tips
2-30	Tasword text conversion
2-31	Modems
2-32	UDG's - programming

A specialist is somone who knows more and more about less and less until he gets to the point where he knows absolutely everything about nothing.

reprints

EEEK!

STRIP POKER

QL Review

	NOVEMBER
2-33	QL news
2-34	MC tutor review
2-35	Seikosha GP250X screencopy
2-36	Tips
2-37	QL hex loader
2-38	Adventure corner
2-39	Adventure?
2-40	Appliction - programming
2-41	Mail list review
2-42	Seikosha SP800
2-43	ZX Calendar - programming
2-44	Input at - programming
2-45	Help
2-46	Machine

* Per Article R1 =

SEND A SAE TO THE CLUB AND A R1 POSTAL ORDER* ALSO INCLUDE A NOTE STATING WHICH ARTICLES YOU WISH TO RECEIVE. PLEASE QUOTE BOTH THE CODE AND THE TITLE.

REVIEW: QL STRIP POKER

Not too long ago Spectrum users got Samantha Fox Strip Poker. Now TALENT presents a girl called Denise to play against you.

STRIP POKER

The object of the game, uhm, is to help Denise to get rid of her clothes. This can be achieved by playing poker against Denise. Every time Denise has lost all her stake money, she will exchange an item of clothing for £200. The only disadvantage is that Denise plays poker rather well, which means, in all fairness, that every time you lose your stake money, you have to exchange some of your clothing for £200. This could lead to some embarrassing situation, for how would you explain to anyone, why you are 'working' in a semi-undress state at your computer.

TALENT COMPUTER SYSTEMS

The normal hands are recognised, e.g. STRAIGHT FLUSH, FOUR OF A KIND, FLUSH STRAIGHT (which, by the way is what you should be to enjoy the game), FULL HOUSE, THREE OF A KIND, TWO PAIRS, A PAIR.

After loading, the program asks whether you are using a colour or monochrome monitor. The graphics are then configurated accordingly. When playing in monochrome, the full graphic capabilities of the QL are used.

Unfortunately there is no SOUND ON/OFF choice, which means that you will not be able to sneak to your computer in the middle of the night without anyone knowing. The sound effects can get a bit irritating.

This is one of these games which will keep most of us busy for hours. Although Denise certainly didn't have any cards up her sleeve (no sleeve, you see), I do think she cheats sometimes.

Space chase

From:-
Tahir Abbas,
Chatsworth

SPECTRUM

IN THIS GAME for the 48K Spectrum, you shoot down 10 alien craft before they reach the safe zone. You are looking out of your cockpit window and have to line them up in your sights and fire your lasers. If they reach the safe zone then you have failed. The bottom of the screen displays time left and craft shot down.

To fly your ship use these keys:

Up	7
Down	6
Left	5
Right	8
Fire	0

This program uses three machine-code routines. The first of these copies the screen into another part of the memory. It acts as a kind of CLS but it recalls the saved screen only, clearing everything else on the screen.

Register HL holds the location where the copy starts. Register DE holds location where screen is moved to. Register BC holds the amount of bytes to be transferred. LDir carries out the task of moving the block of memory.

The next machine-code routine enhances the Spectrum's sounds. It uses the Spectrum's sound routine in the ROM. Register DE holds duration of the note; register HL holds pitch of the note; and register B controls the loop.

The final machine-code routine prints out the explosion. The data for the explosion is held in location 40051 onwards. All the machine-code routines are held in Data statements within the program. So there is no need to load them separately in the Spectrum.

Once you have mastered the game as it stands, you can make it more difficult by reducing the time variable "ti" in line 300.

Space Chase program construction

```
10 TO 195--SCREEN CONSTRUCTION.
200 TO 202--LOAD DATA FOR SOUND
        AND SCREEN ROUTINES.
300 TO 305--VARIABLES.
500 TO 560--PRINT ALIEN CRAFT
        & MOVEMENT OF YOUR
        CRAFT.
605 TO 700--FIRE LASER.
800 TO 860--EXPLOSION & SOUNDS.
905 TO 980--PRINT STARS.
1000 TO 9020--END OF GAME
        ROUTINE & DATA.
```

Space Chase graphics

```
A----ABCD  LINES 505 & 605
B----E.  CHR$ 148
C----F.  LINE 965
D----G.  LINE 967
```

JOIN AND SAVE

```
  1 REM *****SPACE CHASE*****
  2 REM WRITTEN BY TAHIR ABBAS.
  3 REM        FOR THE
        48K SPECTRUM.
  5 REM SCREEN CONSTRUCTION.
 10 REM
 11 INVERSE 0: OVER 0: BRIGHT 0
 BORDER 3: PAPER 0: INK 9: CLS
  20 INK 6: PLOT 112,64: DRAU 0,
15,-PI: DRAU 15,0: DRAU 0,15: DR
AU 1,0: DRAU 0,-15: DRAU 15,0: D
RAU 0,-15,-PI: DRAU -15,0
  30 DRAU 0,-15: DRAU -1,0: DRAU
 0,15: DRAU -15,0
  40 PLOT 105,92: DRAU -15,0: DR
AU 0,-1: DRAU 15,0: PLOT 151,92:
 DRAU 15,0: DRAU 0,-1: DRAU -15,
0
  50 INK 7
  70 PLOT 30,0: DRAU 15,15: DRAU
 1,0: DRAU 5,5: DRAU 1,0: DRAU -
5,-5: DRAU 1,0
  80 DRAU -5,-5: DRAU 20,-10
  90 PLOT 225,0: DRAU -15,15: DR
AU -1,0: DRAU -5,5: DRAU -1,0: D
RAU 5,-5: DRAU -1,0: DRAU 5,-5
 100 DRAU -20,-10
 105 REM
 106 REM COPY SCREEN
 110 FOR f=40000 TO 40050: READ
a: POKE f,a: NEXT f
 120 DATA 33,0,64,17,80,195,1,19
2,26,237,176,201,33,80,195,17,0,
64,1,192,26,237,176,201,0,0,17,1
0,0,33,10,0,6,10,197,213,229,205
,161,3,1,100,0,225,237,74,209,19
3,16,240,201
 130 PRINT INK 4;AT 21,10;"TIME=
"
 140 PLOT 75,0: DRAU 0,9: DRAU 7
6,0: DRAU 0,-9: PLOT 170,0: DRAU
 0,9: DRAU -18,0
 195 LET l=USR 40000
 196 RESTORE 8600
 197 REM
 198 REM USR GRAPHICS
 200 FOR g=144 TO 150: FOR f=0 T
O 7: READ a: POKE USR CHR$ g+f,a
: NEXT f: NEXT g
 202 FOR f=40051 TO 40169: READ
a: POKE f,a: NEXT f
 210 POKE 40027,10: POKE 40033,1
0: POKE 40041,100
 230 LET l=USR 40012: PAUSE 30
 300 LET ti=500: LET sh=10
 305 LET x=INT (RND*15): LET y=I
NT (RND*27)
 310 GO SUB 500
 330 GO TO 900
 500 PRINT AT x,y;"▚▞▚"
 505 PRINT AT 21,15;ti: LET (i=t
i-1
 510 LET x=x+INT (RND*3)-1+(INKE
Y$="7")-(INKEY$="6")
 520 LET x=x+2*((x<0)-(x>15))
 530 LET y=y+INT (RND*3)-1+(INKE
Y$="5")-(INKEY$="8")
 540 LET y=y+2*((y<0)-(y>28))
 550 LET l=USR 40012
 560 RETURN
 600 REM
 605 PRINT AT x,y;"▚▞▚"
 610 INK 3: PLOT 54,22: DRAU 72,
67: PLOT 201,22: DRAU -72,67: LE
T l=USR 40026: INK 7
 620 IF POINT (128,90)=1 THEN GO
 TO 800
 650 GO SUB 500
 700 RETURN
 800 REM
 801 LET l=USR 40012
 803 PRINT AT 21,15;ti
 804 POKE 40027,5: POKE 40033,20
: POKE 40041,30
 805 FOR f=1 TO 2: LET l=USR 400
26: POKE 40033,60: NEXT f
 806 PRINT AT 0,0;
 810 POKE 40027,1: POKE 40033,1:
POKE 40041,0: POKE 40159,0
 815 POKE 40150,INT (RND*2)+148
 820 PRINT : LET L=USR 40135
 825 POKE 40150,32
 830 POKE 40027,1: POKE 40033,1:
POKE 40041,0: POKE 40159,12
 832 PRINT : LET L=USR 40135
 834 LET l=USR 40012
 835 POKE 40027,10: POKE 40033,5
: POKE 40041,250: FOR f=1 TO 10:
LET l=USR 40026: NEXT f
 845 POKE 40027,10: POKE 40033,1
0: POKE 40041,100
 850 LET sh=sh-1: PRINT AT 21,20
;sh: IF sh=0 THEN GO TO 2400
 860 FOR F=1 TO 20: NEXT F: GO T
O 305
 905 LET y=INT (RND*4)+1
 910 IF ti<23 THEN GO TO 1000
 920 RESTORE 7000+y
 930 LET a$="."
 940 FOR f=1 TO 6
 950 GO SUB 500
 960 READ j,k
 965 IF j<0 OR j>11 THEN LET a$=
"."
 967 IF j<4 OR j>15 THEN LET a$=
"."
 970 PRINT BRIGHT 1;AT j,k;a$
 975 IF INKEY$="0" THEN GO SUB 6
00
 980 NEXT f
 990 GO TO 905
1000 LET z=85: LET g=85: LET l1=
85: LET l2=5
1010 PLOT z,g: DRAU l1,0: DRAU 0
,l2: DRAU -l1,0: DRAU 0,-l2
1020 GO SUB 500
1030 LET z=z-5: LET g=g-5: LET l
1=l1+10: LET l2=l2+10: IF z=0 TH
EN GO TO 2000
1050 GO TO 1010
2000 POKE 40027,10: POKE 40033,1
0: POKE 40041,100: LET l=USR 400
12: FOR f=1 TO 20: LET l=USR 400
26: NEXT f: FOR f=1 TO 100: NEXT
 f: CLS
2005 LET TI=0
2010 BORDER 2: PAPER 3: INK 9: C
LS : PRINT : PRINT "YOU
HAVE FAILED IN YOUR MISSION.";"'
sh;" ENEMY CRAFTS REACHED THE SA
FE ZONE."
2015 GO SUB 2700
2020 INPUT "DO YOU WISH TO PLAY
AGAIN ?      (y/n)";A$
2030 IF a$="y" OR a$="Y" THEN BO
RDER 3: PAPER 0: INK 9: CLS : PA
USE 50: RUN 205
2040 PRINT '"THANK YOU FOR PLAY
ING.": STOP
2410 POKE 40027,5: POKE 40033,20
: POKE 40041,200: LET L=USR 4001
2
2420 FOR F=1 TO 5: LET L=USR 400
26: NEXT F
2500 PAUSE 100: INK 1: BORDER 4:
 PAPER 6: CLS : PRINT AT 0,0;"UE
LL DONE"'"YOU HAVE COMPLETED YO
UR MISSION SUCCESSFULLY."
2510 PRINT '"ALL 10 ENEMY CRAFT
 ARE DESTROYED"
2520 GO SUB 2700
2600 GO TO 2020
2700 PRINT '"YOUR SCORE IS ";TI
*10+((10-SH)*10): RETURN
7001 DATA 10,15,9,14,8,13,7,11,4
,6,0,0
7002 DATA 10,16,9,17,8,18,7,20,4
,25,0,31
7003 DATA 10,15,11,14,12,13,13,1
1,16,6,21,0
7004 DATA 10,16,11,17,12,18,13,2
0,16,25,21,31
8600 DATA 0,24,60,63,63,63,60,24
,17,35,71,141,255,255,127,9,136,
196,226,177,255,255,254,144,0,24
,60,252,252,252,60,24
8620 DATA 0,BIN 10000000,0,BIN 0
0000010,0,BIN 01000000,0,BIN 000
01000
8630 DATA 0,0,56,124,124,124,56,
0,50,126,255,255,255,126,60,0
9000 DATA 10,15,10,16,9,17,12,14
,12,17,6,14,12,18,6,13,6,18,12,1
3,9,12,11,19,11,12,9,19,9,13,15,
10,7,10,13,13,13,12,7,19,13,10,7
,12,6,14,14,17,6,17,14,14,12,11,
6,20
9010 DATA 8,11,12,20,14,15,5,15,
14,16,6,15,9,21,11,10,11,21,6,16
,10,22,10,9,15,16,5,16
9020 DATA 33,115,156,6,42,62,22,
215,126,215,35,126,215,35,62,32,
215,197,229,205,90,156,33,232,4,
43,124,181,32,251,225,193,16,227
,201
```

Screen Copy

```
40000 LD    HL,16384
40003 LD    DE,49000
40006 LD    BC,6335
40009 LDIR
40011 RET
40012 LD    HL,49000
40015 LD    DE,16384
40018 LD    BC,6335
40021 LDIR
40023 RET
```

Sound enhancer

```
40026 LD    DE,5
40029 LD    HL,10
40032 LD    B,60
40034 PUSH  BC
40035 PUSH  DE
40036 PUSH  HL
40037 CALL  949
40040 LD    BC,200
40043 POP   HL
40044 ADD   HL,BC
40045 POP   DE
40047 POP   BC
40048 DJNZ  40034
40050 RET
```

THE COMPUTER CLUB

Have you got some friends that would like to join the Club?

NOW is the time to join them! AND for your efforts get rewarded with Gift Vouchers for each of the new members that you join!

You will receive a R1 for each new member that you join.

If you join 10 new members, then you will be entitled to a 5% discount on any purchase that you make at INFORMATION ENTERPRISES. (This is NOT valid on Mushroom Club special offers, however) On top of the 5% discount you will of course receive your well earned R10 Gift Voucher that you can use on any purchase made at I.E.

Just fill in the coupon underneath - or a reasonable facimile.

Name .....

Address .....

.....

Tel .....

Hardware .....

Please feel free to make as many copies as you would like to. You can also make it bigger if you would like to.

A VITAL COMPLEMENT TO YOUR WORD PROCESSOR

IBM Compatible usere, take immediate Advantage of these unbelievably low prices for packages for your computer, and they are origionals with all instructions, and now copies without full instructions! Remember that!
Programs available are:

THE SPELLING CHECKER

FOR THE IBM PC, THE AMSTRAD PC, AND ALL OTHER COMPATIBLES

TAS-SPELL PC

Spelling mistakes and typing errors spoil any document whether it's a private letter or your latest novel. Is your spelling less than perfect? Do you ever need to consult a dictionary to check the spelling of a word? If the answer to either of these questions is "yes", then TAS-SPELL PC is a vital complement to your word processor. TAS-SPELL PC checks the spelling of text written with TASWORD PC. TAS-SPELL PC also adds 6 new commands to TASWORD PC which you can use while working on your text:

* Check spelling of word under cursor
* Find next unrecognised word
* Fund last unrecognised word
* List relevant section of dictionary
* Lezrn word under cursor
* Delete word under cursor from dictionary

Just to name a few of the advantages of this program. The program is available for the fantastic price of only -

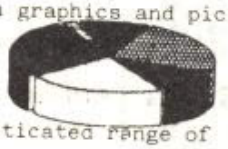
Price	R89.00
P&P	1.50

THE GRAPHICS PROCESSOR

FOR THE IBM PC, THE AMSTRAD PC, AND ALL OTHER COMPATIBLES

TASCOPY PC

If you are in any way into creating graphics on your PC,then this program is an absolute must! TASCOPY PC is the graphics processor for any IBM PC's, The Amstrad PC and all other compatibles.
TASCOPY PC is a powerfula sn versatile tool for handling graphics and pictures on the IBM PC and compatibles. The suite of TASCOPY programs complement each other and provides a comprehensive and flexible approach to illustrating text with graphics and pictures.
TASCOPY PC includes :



* a picture editor
* a font designer
* and a highly sophisticated range of printing options.
* snapshot to capture screen pictures from other programs

All this and more for only:

Price	R89.00
P&P	1.50

THE SIGN MAKER

FOR THE IBM PC, THE AMSTRAD PC, AND ALL OTHER COMPATIBLES

TAS-SIGN PC

VOTE FOR ME

The ultimate SIGN MAKER for your PC!
Produce and print your own signs, posters, banners, and large notices to get your message accross with maximum impact!
A few of the features of this program are:-

* 4 distinctive lettering styles
* Characters at any height from less than 1" to the full width of the paper
* Constant or proportional letter spacing
* Automatic kerning
* 8 shading patterns
* Print either accross the paper in the usual direction, or along the length of the paper to produce large eye-catching banners and notices.

These features inviting? You can own this program, as its price is only:-

Price	R89.00
P&P	1.50

paperbox

PAPER BOX

The way that things are going as far as special paper is concerned, supplies are harder and harder to get. Many supplies from overseas are erratic and there is no guarrantee of steady supplies. Do not let yourself land in a situation where you have no paper! Get your paper now while we have stocks, afterall paper lasts for a long time Stock up and make sure that you will not be left in the dark!

Type	Price	P&P
ZX Printer Paper (for 1 roll)	R4.99	1.20
For 3 or more - each	4.49	1.80
Alphacom Paper (for 1 roll)	4.99	1.20
For 3 or more - each	4.49	1.80
A4 Sheets of thermal paper (per 100 sheets)	11.00	1.00
Typec Bond 80gm white paper (per ream)	7.49	2.50
A4 roll of white paper (50 meters long)	5.99	2.50

...PER:- we also have stocks of ordinary tractor feed paper, both standard, kleen-eadge, and 132 column tractor feed. Phone us for best prices!

Drumbeat

From:-
David Squires,
St Andrews

SPECTRUM

THIS SHORT program, written for either version of the ZX Spectrum, expands the idea of machine-code sound effects to produce a rhythm generator.

It is deliberately not too long or elaborate as this would mean losing some of the speed so essential to the program. The program itself suffers from the Spectrum's usual lack of volume but even without headphones or amplification, some fairly impressive rhythms can be produced.

You have two instruments at your command; the bass drum and side-drum with snare. When the program is run, it asks you for first the length of the note of the bass drum, then the length of the note of the snare drum. It then asks you for the number of bars the rhythm is to be played and finally the rhythm the machine is to play each bar. This is fed into the computer as a string of letters, with B for a note on the bass drum and S for a note on the snare drum. The other letter that can be input is P, for pause. Two or more can be written for longer pauses. Therefore BBSSPPSBBP would be read as two notes on the bass, then two on the snare, a short pause, another on the snare, two more on the bass and finally a very short pause.

Incidentally, if you are using headphones or amplification, the Mic socket gives a more faithful reproduction of the sound you hear from the Spectrum's own speaker but the Ear socket gives a sharper, louder, more percussive sound.

```
  10 REM ***Rhythm Generator****
  20 REM *For 16/48k ZX Spectrum*
  30 GO TO 60
  40 POKE 32505,(lb*t)/2: POKE 3
2507,1: LET c=USR 32500: RETURN
  50 POKE 32505,(ls*t)/2: POKE 3
2507,0: LET c=USR 32500: RETURN
  60 CLEAR 32499
  70 GO SUB 200
  80 INPUT "Tempo(0-5)?";t
  90 INPUT "Lenth bass drum ?(0-
5)";lb: INPUT "Lenth snare ?(0-5
)";ls: LET ls=ls*5: INPUT "No. b
ars? ";b
 100 INPUT "Rhtym ";a$
 110 FOR k=1 TO b
 120 FOR v=1 TO (LEN a$)
 130 IF a$(v)="b" THEN GO SUB 40
 140 IF a$(v)="s" THEN GO SUB 50
 150 IF a$(v)="p" THEN PAUSE t+(
t=0)
 160 NEXT v: PAUSE t+(t=0): NEXT
k: STOP
 200 FOR a=32500 TO 32525
 210 READ n: POKE a,n: NEXT a
 220 DATA 6,1,197,33,15,1,17,1,0
,229,205,161,3,225,17,100,0,167,
237,82,125,254,255,32,237,193,16
,230,201
 230 RETURN
```

I.E. is taking a very big risk by using comparative advertising in this newsletter! Comparative advertising is illeagle in this country.

with

SOUND DURBAN SINCLAIR USER GROUP SINCLAIR

P.O.BOX 10301 MARINE PARADE 4056

SOUNDSCANNER IN BETA BASIC: By GvW

SPECTRUM

Here is routine for those who enjoy staring at the screen as the Speccy performs yet another useless but spectacular trick ! In this routine a small code routine reads the sound level on the sound port and the program is so designed as to give a visual representation of it on the screen. Although it is written in Basic the routine is still fast enough to give a pretty good effect. For best results try playing a tape with female vocal music and play around with the volume. If you are getting a readout without playing any music\sound it means the Speccy is getting warm and is starting to pick up "noise" on the sound port. Increasing the value for S in line 20 will remove it but making it too high will distort the screen representation. Perhaps the enterprising would like to rewrite line 70 so that the program will run in Spectrum Basic.

```
 10 IF PEEK 40000<>1 THEN GOSUB 110
 20 LET S=40
 25 DO
 30   FOR X=0 TO 255 STEP 4
 40     LET Y=ABS ((USR 40000)-255)
 50     IF Y>175 THEN LET Y=175
 60     IF Y<S THEN LET Y=0
 70     DRAW TO X,Y
 80   NEXT X
 90   CLS
100 LOOP
110 RESTORE 190
120 FOR N=1 TO 18
130   READ A
140   POKE N+39999,A
150 NEXT N
160 BORDER 0
170 CLS
180 RETURN
190 DATA 1,0,255,17,0,0,219,254,203,119,32,1,19,16,247,66,75,
    201
```


I.E. has now got BETA BASIC in stock for the unbelievalbe price of only R49.99. Where else can you get a language with the same capabilities at this price?

For those of you who have already got BETA BASIC version 3.0 , you can upgrade to the latest version by simply purchasing the upgrade kit. To be able to purchase this you will have to produce some sort of identification that you have indeed got version 3.0. When you place your order, send either the origional casing or the tape along with your order.

BETA BASIC ver. 4.0		BETA BASIC UPGRADE TO VER. 4.0	
Normal Price	R55.99	Normal Price	R35.99
Special Price	49.99	Special Price	29.99
P&P	1.80	P&P	1.50

CLASSIFIED

HAY: Tired of waiting for your games to load this Christmas? Convert your games to microdrive simple and easy. Includes instructions and transfer-program. Send tape and R7.50 Postal Order to Mario Schoonraad, "Caritas", Roy Road, Wetton, 7780.

FOR SALE: Cumana Double Drive for the QL, 3.5", 729K/drive, R575.00. Contact albert Hoffmann at (01363) 48 769 after 17h00.

Anyone who has the book which helps to solve The Hobbit, and would like to sell it, please contact the Club.

FOR SALE: Beta Disk controler and version 4.1 ROM R35.00, Issue 3B Spectrum(48K) and origional games R200.00, Casio FX-801 P programmable calculator with mini-recorder and printer(3 mini-cassettes included) R220.00, shugart compatible DS/DD 760K Disk Drive R160.00, IBM compatible DS/DD 1.2MB disk Drive (as new) R350.00. Phone Chris at (012) 46 8877

FOR SALE: Taxan Colour monitor R500.00 - R550.00, Spectrum + 3 R600.00, D'Ktronics 3 channel sound synthesiser R40.00, D'Ktronics light pen R35.00, RD Digital Tracer R30.00, ZX 81, 16K Spectrum,books and software all for only R100.00. Phone Duncan Anderson at (011) 726 3452

FAMILY TREE PROGRAM: This allows you to plan, enter, record and update your family tree. Information about each person such as birthdate, occupation etc. can be entered. It allows 10 generations with 22 people in each. Search and list functions are also included. Send R10.00 to S. Hirsch, 1 Ernest Whitcutt Road, Cowies Hill, 3610 for a copy.

THE ORB: 48K Spectrum adventure game written with GAC. Can you unravel the mystery of "The Orb"? Send R12.00 to: Alain Craven, 30 Avenue St. Charles, Fresnaye, 8001. Phone 021 44 3001.

WANTED: Second-hand printer wanted. Phone:- (012) 64 7935

FOR SALE: amstrad PCW 8256, complete with monitor, keyboard, 3" disk drive, two master disks, printer and manual. Bargin at R1800. Phone Brenda [w] (021) 52 1003 x 235, [h] (021) 58 3888

CUB COLOUR MONITOR
Phone Ivan at:-
(011) 787 7619 work
(011) 793 6055 home

Your deram was to become Emperor of all known universe. Now make this dream come true with this strategy game - "I EMPEROR". Send R3.00 + tape to: Antonie Fourie, PO Box 401, Empangeni, 3880.

FOR SALE: Interface I, Microdrive, Dk'tronics programmable joystick, Novex colour monitor, cartridges, magazines, software. Prices negotiable. Phone L. Matkowsky at (0171) 73991 - h. Or write to 32 Casona Park, Dagbreek, Welkom.

FOR SALE: 48K Spectrum, datarecorder, 13 games, a book on further programming and all user manuals and leads. Excellent condition R300.00. Phone (0233) 22424

FOR SALE: Sinclair QL, version II programs, abacus, quill archives, easel, 20 extra micro tapes, 12" green monitor, all for R1000.00 onco. Phone Chris [h] (01311) 31478 [w] (01311) 32011.

NOTICE BOARD

MULTI DUAL DISC DRIVE

Sandy UK has produced a new disk drive, which has not been produced by any other manufacturer. This drive is quite a different looking fella, because unlike normal disk drives, it features both 3.5" and 5.25" drives, one of each, with the 5.25" being 40/80-track switchable.
The new drive which sounds very unusable, it will have many uses, some of them being:- application programs can be kept on one size and data on another.
For boot purposes drive one will be switable between the two sizes.
Its bigest advantage is in its being particularly useful for users of Sandys CP/M Emulator package. CP/M programs tend to be in a variety of disk sizes and formats. With the new drive users can be certain of being able to read them all!
For those of you who are interested in the drive, you will be notified of its availability through the newsletter as soon as I.E. has more details.
LOOK UNDER NEW RELEASES ON AVAILABLE DRIVES

.....

PLEASE NOTE THAT YOUR MEMBERSHIP NUMBER (ON THE FIRST LINE OF THE ADDRESS LABEL) HAS CHANGED. MENTION THIS NUMBER ON ALL CORRESPONDENCE AND ORDERS.

DURBAN SINCLAIR USER GROUP

P.O.BOX 10301 MARINE PARADE 4056

UNDERLINE MODE ON EP44 USING TASWORD 2

by Ron Dunlop

1) Press STOP key for list of options
2) Press G for "Define graphics/printer" and ENTER
3) From list of graphic symbols select two you wish to use to open & close the auto underline function on the EP44. (I used graphic "1" & "2", with character codes of 129 and 130 respectively as the most convenient)
4) Type in character code 129 and ENTER. Type in control codes 27 and 69 and ENTER respectively.
5) Type in character code 130 and ENTER. Type in control codes 27 and 82 and ENTER respectively.
6) To underline text use graphics "1" before and graphics "2" after text to be underlined.
7) Save a customised version of TASWORD.

P.S. To modify the basic to accomadate an EP44 printer alter line 279 and 281 as follows:-

```
279 FOR i = 1 TO k: FORMAT "b" ; 1200: OPEN # 3;"b"
281 CLOSE # 3: NEXT i
```

N.B. Ensure that EP44 is in T/W mode not 7 bit or 8 bit

Many thanks Ron for a very usefull article.

Word Processor

TASWORD 2 SPECIAL

Wordprocessing is essential for any system today. Without it your system isn not complete! With this special and the special offers on the printers in this newsletter, I.E. has made Word-processing affordable.

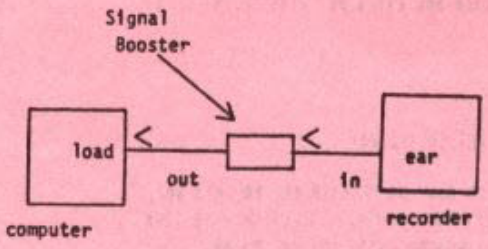
Wordprocessing can be used at home, at work, in the kitchen on your way to work with the Z88. There are endless applications for this program! Get your copy now and start experimenting!

Normal Price	R35.99
Special Price	27.50
P&P	1.50

SIGNAL BOOSTER

Correct cassette loading problems
by HAL SOHN

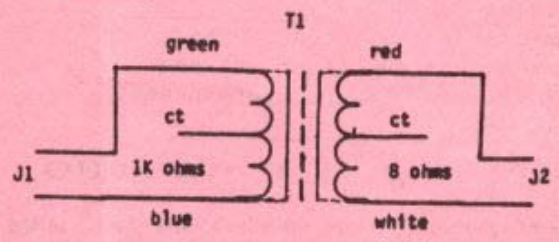
The signal booster consists of one miniature audio transformer. The transformer is used as an interface between the computer and the cassette player.
Examples:



The signal booster has the following advantages:

1. Isolates the computer from the cassette player, which eliminates noise.
2. Increases the audio signal amplitude.
3. Cassette player volume setting can be adjusted to a lower level, thus improving the signal/noise ratio, this lower level setting decreases the inherent noise caused by high level of volume setting of volume control of most cassette players.
4. Increased signal amplitude, allows for misalignment of the record/playback head, which causes low signal amplitude.
5. No power required.
6. LOW COST.

SCHEMATIC:



CONSTRUCTION

1. Drill two .250 (1/4 inch) holes in a plastic pill bottle, one through the cap, and the other through the bottle bottom.
2. Solder transformer leads to jacks (J1) and (J2) as per schematic, then insert into the plastic bottle.

NOTE: Don't use a metal container, the metal prevents proper isolation and grounding btween the computer and the cassette player.

Parts List

1. T1 - 1K to 8 ohms (Radio Shack 273-1380)
2. J1 & J2 (Radio Shack 274-297)
3. Plastic pill bottle to fit transformer T1

When using signal booster, use a lower volume setting for best results.

Retyped by G.F.C.

Reprinted from the May/June issue of SINCUS NEWS

MURPHY'S LAWS OF COMPUTING The component which has the shortest life span, will always be located in the least serviceable position.

If you take a computer apart and put it back together enough times, you will end up with two computers ....neither of which work.

ORDER FORM

MEMBER REF. #: _____

NAME _____

ADDRESS _____

OR AFFIX NEWSLETTER LABEL

To: INFORMATION ENTERPRISES, PO Box 35644, Menlo Park, 0102

DESCRIPTION	PRICE
_____	R_____.____
_____	R_____.____
_____	R_____.____
_____	R_____.____
_____	R_____.____
_____	R_____.____
_____	R_____.____
_____	R_____.____

NB NB NB NB NB NB NB NB NB NB NB NB NB NB

C.O.D. orders will only be accepted if we have your contract. send a SAE for a blank copy.

K.B.A. bestellings sal slegs aanvaar word as ons die kontrak van U ontvang het. Vir 'n kontrak, stuur 'n gefrankeerde koevert aan ons.

SUBTOTAL: R_____.____

12% GST : R_____.____

* POSTAGE : R_____.____

TOTAL : R_____.____

POSTAGE & PACKAGING

All items registered for your protection. Remember to take your ID to the P.O. Insurance 50c extra per item. First price in ( ) is for surface mail, second for air mail.

SOFTWARE:

1 TAPE (R1.00, R1.30); 2 TAPES (R1.30, R1.50); 3 OR MORE TAPES (R2.00, R2.50); PACKS (R1.50, R2.00)

HARDWARE:

INTERFACES (all) (R1.50, R2.00); DISC DRIVE (R5.50, R8.00); EXPANSION PACK (R3.00, R5.00); A4 PRINTER (R7.00, R13.00); TIMEX PRINTER (R4.00, R5.50); JOYSTICK (R1.50, R2.00); MONITOR (R7.00, R9.50); QL (R7.00, R13.00); SPECTRUM + (& 128K +) (R5.00, R7.50); PARTS: MEMBRANE (R2.00, R2.50); ALL OTHER PARTS (R1.50, R1.00); KEYBOARDS (all) (R1.50, R3.00).

You can have goods freighted - price on application. We also do C.O.D. parcels by post. Please send SAE for info.

ORDERING FROM AMABOP

ALL mail Orders are still to be posted to the same address:-

PO Box 35644
Menlo Park
0102

When you phone, please take note of the following numbers:-

General Enquiries	(012) 46 8226
Advice on equipment / software	(012) 46 8226
To query postal orders and parcel numbers	(0146) 30 774
To place a telephonic C.O.D. order	(0146) 30 774
Technical enquiries	Box 35644, Menlo Park, 0102

PLEASE TAKE NOTE OF THE FACT THAT THE ASSISTANT ANSWERING THE TELEPHONE IS NOT TRAINED TO ANSWER ANDY QUERIES. SHE WILL ONLY DEAL WITH TELEPHONIC ORDERS.