

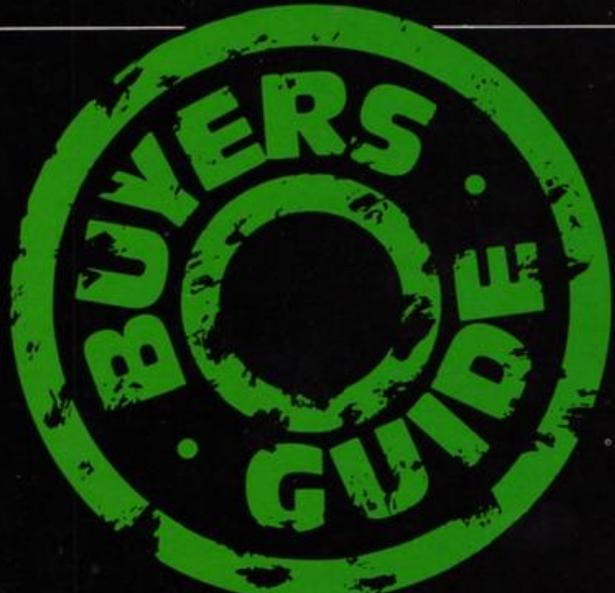
● Competition-Pro joystick



● Tactile Keyboard from Steatite Insulations



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ADD
ONS
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Saffron Walden, Essex CB11 3AQ.
Telephone: (0799) 26350 [24 hrs] 5 lines

How to use your guide

By PETER SHAW

A thriving industry has grown up around Sir Clive Sinclair's computers — to make them do more or to improve their basic features.

In this free supplement you'll find details of more than 125 additions, from keyboards to joysticks, printer interfaces to EPROMs.

It's been a big job and, because we have tried to cover as many products as possible, the reviews are brief, but with all the facts you need.

At the end of the guide you will find the names and addresses of all the companies whose products are featured.

They will be pleased to provide more information.

To help you choose, we have included ratings — five means best value. In some cases where the text says "untested" the ratings are based on the specifications and prices.

A few points to bear in mind when you are using the guide:

Each product is first named alongside the computer/s it works with.

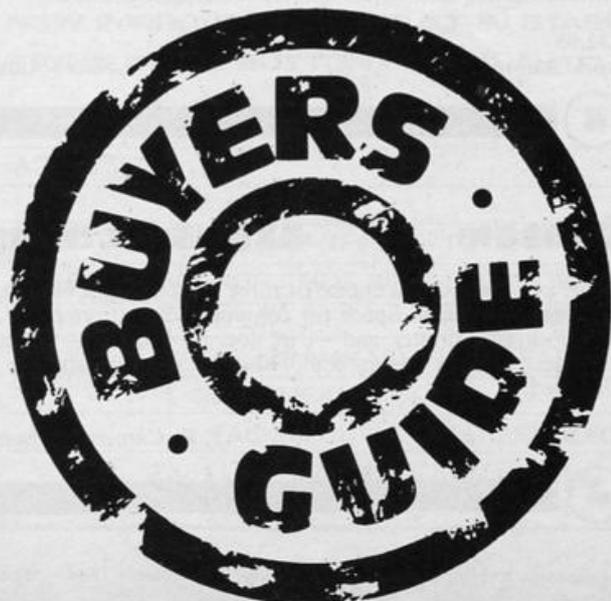
Any opinions given below are my own, based on long experience with both the ZX81 and the Spectrum.

The prices, all including VAT, are from the companies' own literature. You may find variations in the shops. Some products are only available by mail order, so far, which may add to the cost.

Please remember that this is a fast-moving industry. Although we have made every effort to ensure accuracy, prices and specifications change rapidly. Always check before buying.

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ZX 81 &
SPECTRUM
ADD
IONS
ZX 81 &
SPECTRUM
ZX 81 &

Keyboards, consoles, stands, cases

Backpack ZX81/Spectrum

Six models, all with save/load and on-off switches and space for the power supply. Top of the range also has a variable sound amplifier, three 13amp sockets, switch and neon indicator. Untested.

£27.50-£12.85

Kelwood Computer Cases

3

Wobble Stopper ZX81

Wobble stoppers are a great idea for those who get system crashes every time the Newline key is pressed. The idea is that the RAMpack is clamped firmly to the back of the computer. The prices of these may be a little steep for you, though. See also Miscellaneous section.

small flat £5.25
small tilted £6.25
large flat £5.75
large tilted £6.75

Kelwood Computer Cases

3

Keyboards/ RAMpacks etc. ZX81/Spectrum

A new range from Spanish company Indescomp, all housed in good-looking glossy black boxes. Includes a novel Domestic Controller for the Spectrum which has four outputs to control alarms, lights, heating and so on. Untested. Keyboards are typewriter-style.

Spectrum keyboard £42.95
ZX81 keyboard £39.95
Domestic Controller £37.75

Indescomp

4

Console ZX81

Low-price console which will house the computer, power supply and RAM pack and could be adapted for add-ons. When not in use the ZX81 slides away inside. Untested.

£3.99

Ricky Caplan

4

Microstation/ Work Station ZX81/Spectrum

The first is tray-shaped with space for computer and peripherals. The Work Station, suitable for other micros as well, is made of stove enamelled sheet metal and has on-off switch, four 13amp sockets and carrying handle. Room for peripherals and the TV stands on top. Accessories: Power Base (£10.50-£11), legs (£11) and keyboard dust cover (£2.50). Untested.

Microstation £7.50
Work Station
desk top model £49

Kelwood Computer Cases

4

Executive Case Spectrum

ABS plastic case with space for Spectrum — inclined for ease of use — power supply, ZX Printer, cassette recorder, six cassettes and spare printer paper. Lid has room for leads. A new design will hold Microdrives and earlier versions are convertible. Untested.

£47.45

Treetop Designs

3

Computer Desk ZX81/Spectrum

Made from black ABS plastic, this desk has recesses for computer and printer and the TV can rest on the top. Power supply and cables are hidden from view. Untested.

Spectrum £16
ZX81 £15

PH Scientific Products

4



● Computer Desk
from PH Scientific Products

Microcase ZX81/Spectrum

Executive-style case with detachable lid to house computer, cassette recorder, power supply, ZX Printer and leads. Work station, from the same company, has space for Spectrum, recorder or Microdrive and monitor. Micro Aids also supplies other items like dust covers and planning aids. Untested.

£32.95
work station £22.95

Micro Aids

4

Console ZX81/Spectrum

Made of plywood in a choice of three finishes: light or dark mahogany or black. Space for computer, cassette recorder, power supply, printer and — in slots on the top — eight cassettes. Makers say it could also be used on the lap. Untested.

£23.50

E.R. Cameron & Son

4

AGF

PROGRAMMABLE JOYSTICK INTERFACE

MICRODRIVE
COMPATIBLE

for Spectrum or ZX81



AGF PROGRAMMABLE INTERFACE

Recognised as the only true Hardware Programmed joystick interface this product offers all the features associated with such a design.

You can use *any* Atari-compatible joystick controller with *any* software for your Sinclair Spectrum or ZX81, not just those with a joystick option.

Movement of the joystick is recognised by the computer *exactly* the same as pressing the appropriate control keys, and can therefore give the most immediate response to that movement. The hardware programmed design works with *all* possible key-reading methods, both BASIC and Machine Code.

Eight directional movement, with or without the fire button being pressed, can be achieved by only programming the left, right, up, down and fire keys required by the game.

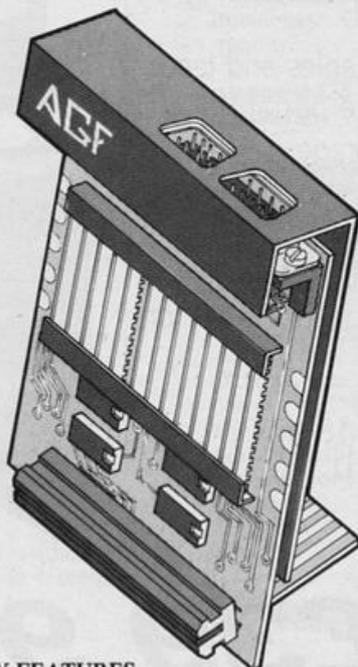
Programming is achieved by a two-digit code, which is looked up on the Programming Chart supplied, for each direction and firing button. These two numbers are then selected onto a pair of leads which are clipped onto appropriately numbered strips on the interface.

Once configured this can be marked onto a Quick Reference Programming Card for storing with the game. As the programming is *not* power dependent the interface can be immediately used when next switched on.

The keyboard remains fully functional and can be used simultaneously with the joystick.

An integral rear expansion connector means there is no need to remove the interface to connect other peripherals.

NB. A recent design improvement now means that the AGF Programmable Interface works with the new Quickshot II rapid "Auto Fire" feature.



KEY FEATURES

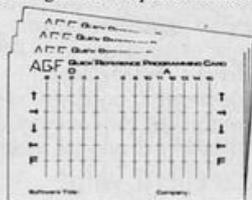
- ★ Programmable design gives TOTAL software support.
- ★ Accepts Atari, Competition Pro, Wico, Starfighter, Quick Shot, Le Stick etc.
- ★ Rear extension connector for all other add-ons.
- ★ Free demo program and instructions.

PACKAGE CONTENTS SUPPLIED

- Programmable Interface Module as illustrated, complete with clip-on programming leads.
- Self adhesive programming chart detailing how to define which key is simulated by UP, DOWN, LEFT, RIGHT, and FIRE.



- One pack of ten Quick Reference Programming Cards for at-a-glance setting to your games requirements.



- 12 months guarantee and full written instructions.

ONLY
16.95
+£1 P&P



Quickshot II® JOYSTICK

NEW IMPROVED GRIP : BUILT-IN STABILIZING SUCTION CUPS

TRIGGER FIRE BUTTON : RAPID AUTO FIRE SWITCH : TOP FIRE BUTTON

FROM: MR/MRS/MISS

ADDRESS

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FREEPOST, BOGNOR REGIS, WEST SUSSEX, PO22 9BR.

| QTY | ITEM | ITEM PRICE | TOTAL |
|--|-------------------------------|------------------------------|-------|
| | PROGRAMMABLE INTERFACE | 27.95 | |
| | JOYSTICK(S) | 17.95 | |
| | PACK(S) QUICK REFERENCE CARDS | 1.00 | |
| ZX81 <input type="checkbox"/> ZX SPECTRUM <input type="checkbox"/> Please tick | | FINAL TOTAL | |
| DEALER ENQUIRIES WELCOME | | EXPORT PRICES ON APPLICATION | |

The Perfect Partnership

The features of this superb desk include

- ★ Effective and economical space saving design
- ★ Attractive Teak effect finish
- ★ Ample desk top space to house the latest Home Computers
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- ★ Raised section to accommodate portable T.V.
- ★ Large shelf and drawer for storage
- ★ Stability
- ★ Durability
- ★ Practical, beautifully made and truly functional
- ★ Delivered flat-packed with full instructions for easy assembly
- ★ Specifications:
Overall: 34½" H, 38¼" W, 18¾" D.
Platform: 6" H, 18½" W, 9" D.
- ★ Excellent value



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Please send me Grenville Computer Desks at £39.95 + £10 P&P. I enclose a CHEQUE/POSTAL ORDER for £..... payable to DISCOUNT Computer Supplies.

Name

Address

Signature

Overseas – check for carriage

Please allow 28 days for delivery

Console

Spectrum

A very cheap method, comparatively, of putting your Spectrum on a tilt — in a console with its peripherals. The ZX Printer fits alongside and the power pack goes underneath. The one disadvantage is that it also looks pretty cheap, being made of shiny black corrugated cardboard. It comes packed flat and is very easy to assemble.

£8.25

Print 'n' Plotter Products

3

Console

Spectrum/ZX81

This black plastic console limits the expansion of the computer as it hides the port underneath a hood on which the television stands. The ZX Printer can still be used. It is also a very bulky object, so you'll need a lot of space.

£31.50

Computerlock

2

Work Station

ZX81

Made of black plastic, this is quite a nice work station. But again you are limited by the spaces which are already on the console — keyboards or motherboards are out when it is in use. The printer fits in the console with the power pack underneath.

£16.50

Peter Furlong Products

4

Case

ZX81

A sturdy wooden box in which to place your ZX81. Although not thoroughly tested, I quite like the look of this one. It seems ideal for carrying your computer around.

£21

slightly larger version £22

Kalenia Wood Products

3

ZX

Custom Case Spectrum/ZX81

This is the one you may have seen in W. H. Smith. It's a briefcase which will hold your Spectrum/ZX81, power pack, printer, tape recorder and cassettes, etc. There is even space for the cables. Everything is protected by foam, which you could chop away to make space for other items, like Microdrives. The case itself is executive style in black with white metal trimmings.

£38.95

Computer Cases

3

Desk Console

Spectrum

Smart-looking unit in black ABS plastic which has switches for SAVE/LOAD/RUN and power, plus a "power on" LED.

£42.18

Traffic Technology

3

Spectrum Keyboard Spectrum

Strangely enough, part of the dk' keyboard case is made of wood and part is plastic. The stick-on legends soon come off and there is no space bar. But it does have a useful numeric keypad. It is fitted by removing the Spectrum from its casing and fitting into the new unit with screws into pre-formed holes — a 15-minute job. The power pack can also fit inside, but it's easier to leave it on the outside.

£45

dk'tronics

3

Computer Keyboard

ZX81/Spectrum

The case is a bit "boxy", but the typewriter-style keyboard — angled like a real typewriter — is quite nice. Again, the computer case is removed and it screws in and there's space for the power pack. There are two versions available, with standard or metal case. Good keyboard, but you can do better for your money.

standard £35

metal £50

Computer Keyboards

3

FD42

ZX81/Spectrum

This was one of the two original replacement keyboards — the other is now obsolete. Fitting means removing the computer from its case. But it also needs a little soldering to wire up the "power on" red LED. Made of plastic, the case is black and the keys — each guaranteed for a million depressions — are white with the legends screen printed so they will not come off. For the money it is excellent value. Its one drawback is that it has not got a space bar.

£29.95

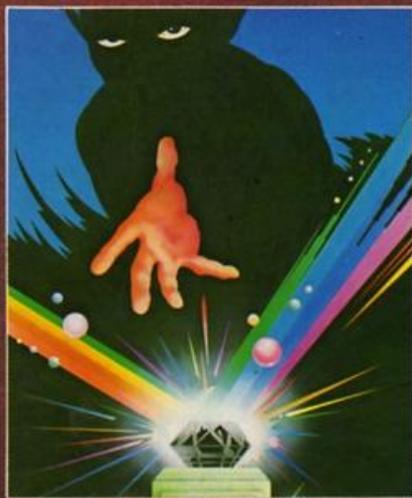
Fuller Micro Systems

4



● Smart-looking and useful desk console from Traffic Technology

JUST AROUND THE CORNER, A NEW



BLACK CRYSTAL

The Classic, six program adventure game for the 48K Spectrum and 16K ZX-81 computers. No software collection is complete without it.

"BLACK CRYSTAL is an excellent graphics adventure and a well thought out package" (Sinclair User, April '83).

"BLACK CRYSTAL has impressed me by its sheer quantity and generally high quality of presentation. I am afraid I have become an addict" (Home Computing Weekly, April '83).

SPECTRUM 48K 180K of program in six parts . . . only £7.50

ZX-81 16K over 100K of program in seven parts . . . only £7.50

Why pay more for less of an adventure?



THE ADVENTURES OF ST. BERNARD

An exciting, fast moving, machine code, arcade game where you guide your intrepid St. Bernard through the perils of the icy wastelands to rescue his Mistress from the clutches of the abominable snowman. 48K Spectrum £5.95.



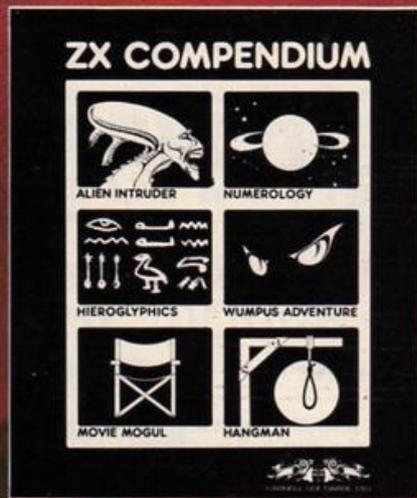
THE CRYPT

written by Stephen Renton

Prepare yourself for the many challenges that shall confront you when you dare to enter "THE CRYPT".

You will battle with giant scorpions, Hell spawn, Craners, Pos-Negs and if you are unlucky enough — the Dark Cyclops in this arcade style adventure.

Available now for the 48K Spectrum @ £4.95



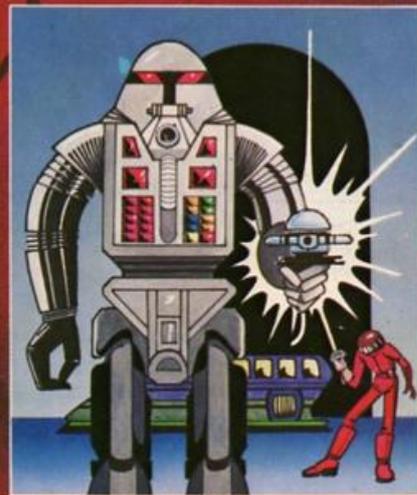
ZX-81 COMPENDIUM

Alien Intruder, Wumpus Adventure, Numerology, Hangman, Hieroglyphics, Movie Mogul.

The ideal software package for all 16K ZX-81 owners. Six major programmes on two cassettes for only £6.50.

"Alien Intruder/Hieroglyphics — Both programs make good use of graphics and words to make a very entertaining package." (Sinclair User, Aug '82)

"Alien/Hieroglyphics/Wumpus/Movie — A varied mix from Carnell, all featuring imaginative responses and graphics and all of them good games for all ages (Hieroglyphics is particularly good for children)." (Popular Computing Weekly, Aug '82)



STARFORCE ONE

Take on the robot guardians of the central computer in a superbly stylised three dimensional battle game. 48K Spectrum £5.95.

(100% MACHINE CODE ARCADE ACTION)



THE DEVIL RIDES IN

I uttered the last incantations as the clock struck thirteen. All fell silent except for a faint rustling in the corner. From out of the shadows they came, all Hell's fury against me but I was not defenceless until the Angel Of Death, astride a winged horse, joined the battle. Avoiding his bolts of hell fire, I took careful aim. My chances were slim, but if my luck held . . . 48K Spectrum £5.95.

(Fast moving, machine code, all action, Arcade game)

RANGE FROM CARNELL SOFTWARE



COMING SOON "THE WRATH OF MAGRA"

The first born has been destroyed. The Black Crystal of Beroth has been banished. The alliance of Evil has been defeated by the armies of Lord Fendal. So ends the Third Age. Now we invite you to write your name in the history of the Fourth Age of the Third Continent.

You will meet friends and enemies, old and new, in the long awaited sequel to Volcanic Dungeon. Using high resolution graphics and combining the best qualities of "Black Crystal" and "Volcanic Dungeon", we will allow you to become part of this tale of revenge.

"The Wrath Of Magra" comes as three, 48K programs on cassette, boxed with instruction manual and book detailing the history of the Third Continent and the many spells you will be using throughout the game.

NOTE: "The Wrath Of Magra" is a complete adventure. You need not buy "Volcanic Dungeon" or "Black Crystal" to play it.

Available through most good computer stores or direct from:
Carnell Software Ltd, North Weylands Industrial Estate, Molesey Road, Hersham, Surrey KT12 3PL.
Dealers: Contact us for your nearest wholesaler.



CARNELL SOFTWARE LTD

FDS

Spectrum

Although there have been many production problems, the FDS keyboard is finally here. It was well worth the wait. Moulded in black plastic, it has grey, black and red keys — and the legends are professionally screen printed so they should not come off for ages. And the FDS keyboard has all the keys you want, too: a full space bar, extra cursor keys, delete keys and extended mode button. Looking a little like the Lynx, it is sturdy and it is easy to fit the uncased Spectrum inside. It will also take Microdrives, the power pack, and other add-ons from Fuller and other companies. All in all, the FDS is the best keyboard for the Spectrum.

£49.95

Fuller Micro Systems

5

ZXR Push-Button Keyboard

ZX81

This keyboard sticks firmly on top of the original ZX81 keyboard providing a Spectrum-like feel. A much-improved design from the company's earlier Button Set, all the rubber-like keys are clearly printed with exact reproductions of the original legends — unlike some other add-ons. It includes an overlay and stick-on labels so you can tailor the keyboard for particular applications, games for example. A good idea and well worth buying if you cannot afford the full-blown, all-singing, all-dancing keyboards mentioned here.

£9.95

Filesixty

5

Keyboard and Buffer

ZX81

The keyboard is not thrilling, but it does have the advantage that you do not have to take your ZX81 out of its case — the unit just attaches via a ribbon cable. Although it is very easy to fit it does mean that you have now got two separate units. The keys, typewriter style and angled, don't feel right but the case design is quite attractive in Memotech's blue house colour.

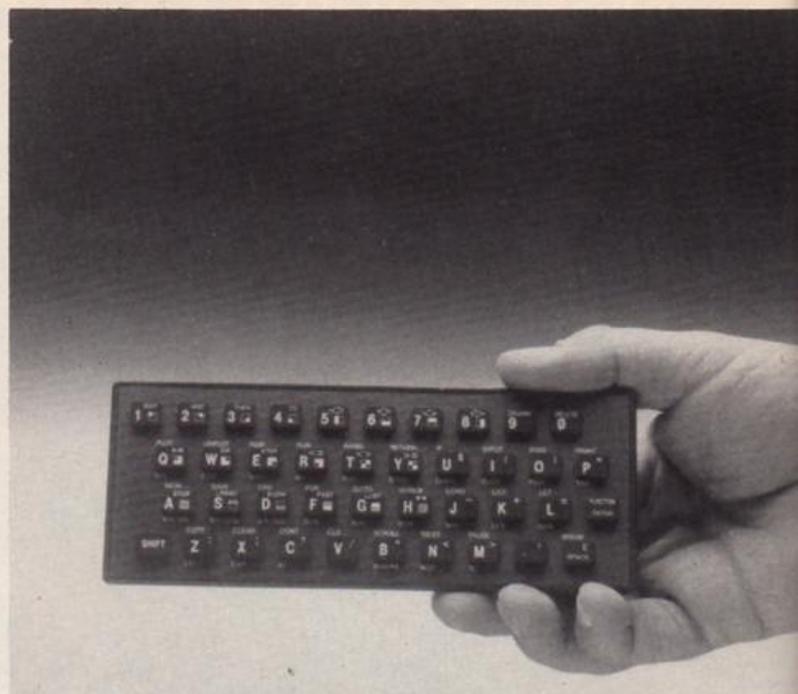
£34.95

Memotech

4



● Memotech's ZX81 Keyboard



● ZXR Push-Button Keyboard for the ZX81

Kick-Key

ZX81

Similar to the ZXR Push-Button Keyboard, but with hard plastic keys and legends in two colours. It sticks on top of the original keyboard, but two ribbon cables have to be plugged inside the computer. The price is a bit high. For a few extra pounds you could buy a "proper" keyboard.

£26.50

Kempston

3

Keyboard overlays Spectrum

Designed for educational software, the Tactile keyframe fits over the Spectrum and takes a series of overlays in several shapes and colours. Tactile produces software to use the overlays.

various

Tactile

Keyboard

Spectrum

Clearly marked keytops — some in five colours — cursor control pad with fire button and four direction buttons are included. Untested, but seems a little expensive.

£53.45

Microtext

3

Keyboard

ZX81

Low-profile keyboard has full-travel keys suitable for touch typing. A full set of legends with clear plastic inserts is provided.

£30.95

Steatite Insulations

3

POLARSOFT

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ZX81 - FORTH ROM

with multi-tasking

Runs more than 10 tasks at once. Schedule tasks to run from 50 times per second to once a year. Ideal for control purposes. Three times faster than fig-FORTH, but fig compatible. Available as a 'fit-it-yourself' EPROM, with an extensive manual for £25 plus VAT. Some ready-converted ZX81's available.

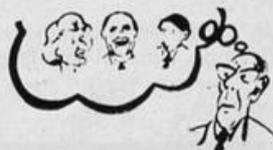
Coming Soon!

FORTH-I/O cartridge for Spectrum £59 plus VAT.
Ask for details

David Husband

2 Gorleston Road, Branksome,
Poole BH12 1NW
Telephone: 0202 302385

DENIS THROUGH THE DRINKING GLASS



Why did Denis Thatcher visit the Pope wearing a truss and a parachute and carrying a lawn mower?
What use is the cherry blossom?
Who is that strange tramp in the woods?

Only you can discover, but first you must deal with Ken Livingstone, Norman Tebbit and lots of other characters in this zany political adventure.

Written in humorous verse. 100% machine code — using the Quill from Gilsoft.

Losing is often funnier than succeeding — don't play it, play with it. — 48K Spectrum £5.50 incl. p&p.

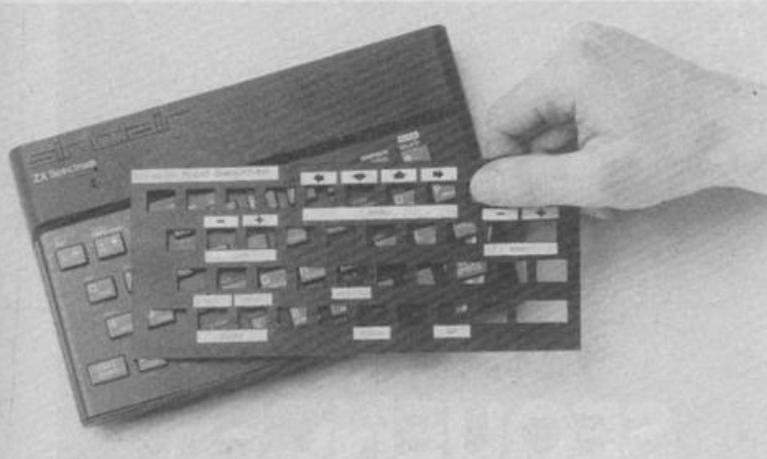
ARCHIMEDES' MAGIC SCREW

Fresh from inventing the camel-driven date stoner, Archimedes is up to his neck in hot water again. Help him make new discoveries — help him discover the secret of the universe — help him find the soap.

Probably the most difficult logic problem you will ever have to tackle.

WAIT FOR THE DENNIS SEQUEL! THE TEBBIT

Applications software specialities
Dept. HCW, 8 St. Paul's Road
Peterborough PE1 3DW



● Fitting Softeach's keyboard overlay

Keyboard overlays Spectrum

A kit to guide you to the right keys for playing games and so on. Ten overlays are provided with two sheets of sticky labels, one already printed and the other left blank for your own labels.

£3.95

Softeach

4

Keyboards ZX81/Spectrum

A special series of keyboards for physically disabled people includes a model with large keys.

various

Possum Controls

Joysticks and joystick interfaces

KRAFT

A squat, oddly-shaped joystick which works quite well. Finished in black, red and silver, it has a fire button on the base. A little expensive, perhaps?

£18.95

Consumer Electronics

3

Competition-Pro

Although it's starting to age, the Competition-Pro is still a very good joystick. Sturdy and accurate, it has a tapered black shaft and two large red fire buttons on the base.

£14.50

Kempston

4

Starfighter

Short, stubby and easy to use — that sums up this joystick. Similar to the KRAFT model, it is in black with a single fire button on the base.

£13.95

Consumer Electronics

3

Interface 2

Spectrum

This is likely to become the standard joystick interface. It can take two joysticks and operates on keys 1-0. A ROM cartridge slot is on top and there is a selection of good quality software available on ROMs. A snag is that only the ZX Printer will fit on the rear edge connector because of the size of the slot.

£19.95

Sinclair

4



● Interface 2 from Sinclair with ROM cartridge game plugged in

Intelligent Interface

Spectrum

A programmable interface which will work with any joystick. Unfortunately the program has to be loaded from tape and the keys selected every time you switch on or use a game which uses different control keys. It makes things time-consuming. The design isn't wonderful, but the price isn't too bad for a programmable joystick.

£24

with joystick £29.90

Cambridge Computing

3

Joysticks

Spectrum

These two are mentioned together because they are so similar — the price is the same too — and you may find others of the same design. Both clamp on top of the keyboard and the short joystick moves buttons underneath which depress the cursor keys. Not tested, so rating based on price and supplied details.

£9.95

E.E.C.
Grant Design

3

A NEW, IMPROVED ZX81 KEYBOARD AT THE SAME OLD PRICE. £9.95.



There's only one thing wrong with the ZX81. Its keyboard.

Or rather its lack of one.

Since it's flat your fingers don't feel as if there's any response to the pressure put on the keys.

ZX81 KEYS

FILESIXTY KEYS

In other words, you're not quite sure which keys you've pressed until the screen actually tells you.

Our new, improved push button keyboard changes all that.

It matches the ZX81 perfectly. And the keys give a real calculator-type feel.

To set it up all you have to do is peel off the adhesive backing and stick it on top of the ZX81 touchpad.

Because no tampering or soldering is involved the guarantee is not affected. And it will last for up to 3½ million operations.

Filesixty Ltd., 25 Chippenham Mews, London W9 2AN, England. Tel: 01-289 3059. Telex: 268 048 EXTLDN G 4087.

But our keyboard doesn't just come loaded with features. With it comes a separate overlay and a set of coloured stick-on labels to make game playing easier.

It's yours for the original price of £9.95.

Whichever way you look at it, we think you'll agree that it's a keyboard that's quite outstanding.

Orders to Filesixty Ltd., FREEPOST, London W9 2BR.
Cheques/PO made payable to Filesixty Ltd.
Please send me _____ (qty.) Keyboards at £9.95 each
(including VAT and P&P).

Total £ _____

Name _____

BLOCK CAPITALS

Address _____

HCW50

FILESIXTY

JoySensor

A touch sensitive rockable disc similar to the one used for Intellivision video game units. Includes fire button. A nice design, but an expensive luxury.

£29.95

Consumer Electronics

4

Quickshot

A very popular joystick, well designed and now available in the High Street chain stores. Black with two red fire buttons — one on top and one on the base. Suction pads hold it firmly while you play, but it is also designed to be comfortably hand held. I found it to be not particularly accurate.

£12.95

Protek

4

Atari joystick

The original. Very cheap but not very good. The inner plastic shaft does not last and there is one red fire button — which is too small — on the base.

approx £7.50

Atari

3

Programmable Joystick Interface Spectrum

The best joystick interface now on the market, in my opinion. Programming is done by holding down a key and moving the stick to instal. Very easy to program for different games, particularly as the software is on an EPROM and not on cassette.

£24.95

Stonechip Electronics

5

Interface II/Programmable Spectrum/ZX81

Not very easy to program and the add-on itself looks messy. It involves wiring up to pins in the interface according to which keys your game uses. The advantage is that, being "hard wired", it does not forget when you switch off. Ideal only if you are playing the same make of game all the time. Individual software houses tend to use the same keys for most of their programs.

cursor £20.95

programmable £33.95

Kempston

3

Kempston Interface

Spectrum

One of the first interfaces and therefore it has become the standard for which most games have an option. Well designed in a neat unobtrusive black case. Tricky to use if you have put a new keyboard around your Spectrum — you will then need an extender board.

£15

Kempston

5

Master Unit/Fuller Box/Amp Stick Spectrum

All three add-ons include a joystick which works on port 127. An amazing amount of these units has been sold and commercial houses are just starting to realise this. See other sections for more details of individual units.

£54/£29.95/£19.95

Fuller

5

Joystick interface Spectrum

Untested, but this interface is probably the cheapest on the market. Kempston compatible, it comes with a two-year guarantee. Ram Electronics says that, unlike some others, its model will allow rapid fire with the new Quickshot II joystick. Offered through mail order and retail.

£9.95

Ram Electronics

4

Joystick interface Spectrum

New and untested, this model contains a CMOS RAM, powered by a trickle-charge battery, which can store the names and keyboard details of up to 16 games for three months, say the makers. It can also be used as a pseudo-ROM for regularly-used routines. Accepts Atari-type nine-pin joysticks. Rating based on price and supplied details.

£28.50

Fox Electronics

4



Can you meet Laserwarp's infinite Challenge?

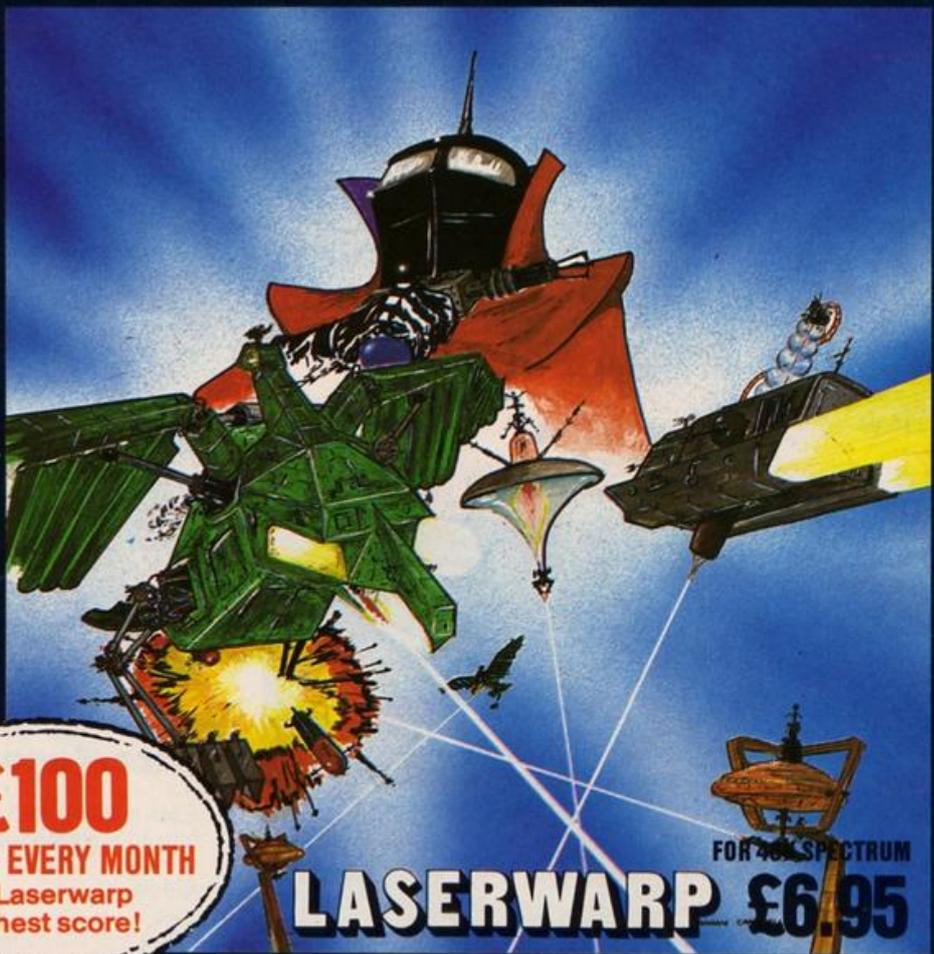
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High scorers names will be published in a Hall of Fame in the computer press – and they will be invited to join in a Battle of the Champions.

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MIKRO-GEN

44 The Broadway, Bracknell, Berks RG12 1AG Tel: 0344 427317

Programmable Joystick Interface ZX81/Spectrum

AGF's interface is compatible with all software because you program it with clip-on connections to define which of the keys you wish to use. It attaches to the rear edge connector and provides another so it need not be removed. Two sockets for Atari-type joysticks. There is a free demo program called Video Graffiti, a quick reference card (extras are available), and AGF joysticks are £7.54 each. Untested.

£33.95 AGF Hardware

4

Triga Command joystick Spectrum

An import from America, the Triga Command is shaped like a pistol butt with the fire button operated by your trigger finger. Moving parts are of nylon, not plastic. Complete with interface unit. Untested.

£19.95 Datel Electronics

4



- Triga Command joystick — use your trigger finger

Joystick/Interface ZX81/Spectrum

A new and inexpensive joystick and programmable interface. Untested.

interface £24
both £27.50 Voltmace

4

Addpac JS11 Spectrum

The package from Addpac Electronics comprises joystick, interface and a demonstration program at a reasonable price. Untested.

£18.99 Addpac Electronics

4

Pickard Controller ZX81/Spectrum

Allows any Atari-type joystick to be connected to ZX81 or Spectrum and choose your keys. Untested.

controller £20.45
joystick £7.50 Success Services

3

Joystick

Close to arcade-style joysticks, this has three large push-button controls and 2K of RAM and plugs into the edge connector. Untested.

£43.70 Electrotech

3

Interface Spectrum

Reasonably-priced interface for Atari-type joysticks, plugs into edge connector. Untested.

£14.95 Protek Computing

4

Interface kit Spectrum

Plug-in device which arrives as a kit and can accept two joysticks. Untested.

£22.95
joystick £7.99 Midwich

3

Trickstick Spectrum

There are only two mechanical parts — the small fire buttons — in the Trickstick, a novel replacement for joysticks. You hold it in your fist and move your thumb over two photo-transistors on the top for left-right and your index finger over two more for up-down. Untested, but East London Robotics says it allows proportional speed control and greater accuracy. Kempston compatible, and up to eight can be used simultaneously.

£28 East London Robotics

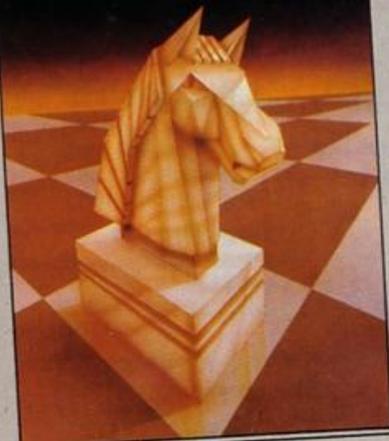
4

From CDS, the ultimate challenge **'COLOSSUS CHESS 2-0'**

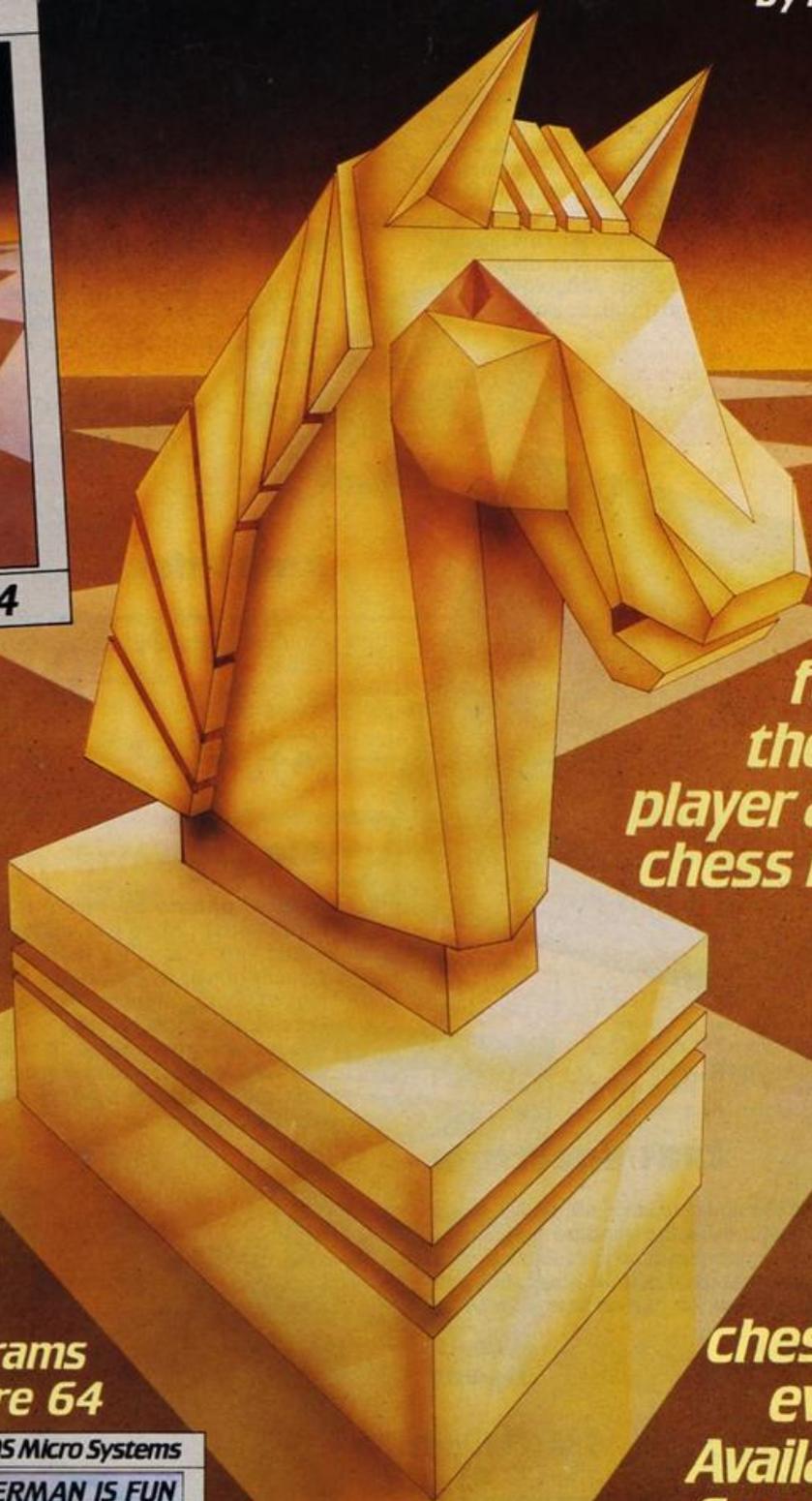
by Martin Bryant

CDS Micro Systems

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(Trade enquiries welcome)

Sound amplifiers, programmable sound generators and speech units

U Speech

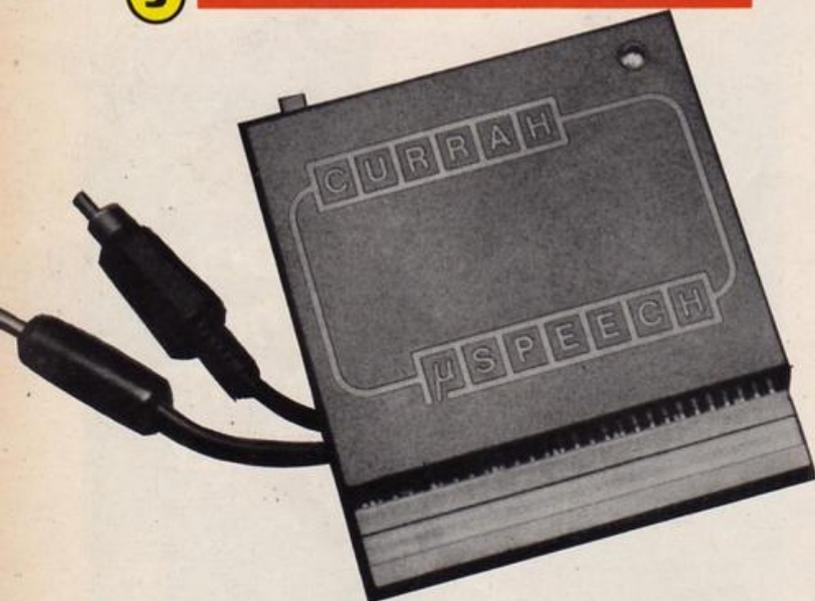
Spectrum

One of my two favourite units, mainly because it is so easy to use. It "speaks" the letters and the BASIC keywords as you type them in. SS will hold anything you want the unit to say. It is simple to use with your own BASIC programs, by handling the sound in a form of allophones. So you would write hello as HE(LL)(OO). Upper and lower case decide intonation. Some commercial software makes use of U Speech for games. A recently-released example is Bug-Byte's Birds and the Bees. Shaped a little like a black cassette case — and packed with circuits inside — the U Speech unit just plugs into the port. Its one big problem is that you cannot plug anything on the back apart from the speech unit and, possibly, Microdrives. The sound comes out of the TV speaker, so if you use a monitor this will not work with it.

£29.95

Currah

5



- Currah's speech system — a favourite

ZXS

ZX81/Spectrum

Shaped like a large RAMpack and cased in black plastic, this is a standard type of speech unit using the standard speech chip from Texas Instruments, which means it is controlled with allophones. It needs an external speaker to be heard, but also works by connecting the AUX socket of a cassette recorder or a hi-fi unit.

£32.50

Timedata

3

ZXM

ZX81/Spectrum

Just like the ZXS, except that this provides three-channel sound through an internal amplifier. There is also a joystick socket and volume control. Sound is average and volume good.

£29.95

Timedata

3

Fuller Box

Spectrum

A very attractive design, the Fuller Box plugs in flush with the back of the Spectrum and looks as if Sinclair Research had designed it. It adds a joystick interface, cassette interface and the all-important three-channel sound. This sound feature is used by software from Fuller and a few other software companies. However, the sound is rather tricky to use in your own programs. It includes an amplifier with volume controlled by using a screwdriver. The Fuller Box can also be upgraded to the Master Unit (see below) which adds speech.

£29.95

Fuller

5

Master Unit

Spectrum

Exactly the same as the Fuller Box (above), but with the addition of fairly smooth speech. It also has a socket for an external amplifier, if needed. The price should be a little less, though.

£54.95

Fuller

4

Amp Stick

Spectrum

Again, the same box as the Fuller Box. But this one contains just the sound amplifier and joystick interface. Good value for money.

£19.95

Fuller

4

Big Ears

ZX81/Spectrum

A friend of mine has one of these units and says he is quite happy with it. Mind you, after paying more than £50 for it he would look a bit silly if he said it was rubbish! What the unit actually does is recognise your voice so you can speak instructions to your computer. It has to be "trained" to your voice. Possible uses include acting on the word "fire" in your games or controlling peripherals. It won't talk back, of course. The software supplied is hardly good enough to justify buying this unit and it requires a port to use it, I understand. I don't recommend this one.

£55

William Stuart Systems

3

- Timedata's ZXM sound system



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1 PRINTER INTERFACE 1
Centronics Interface for the Sinclair Spectrum. £34.50 inc. VAT. Comes complete with approx 1 metre of cable, centronics plug and software.

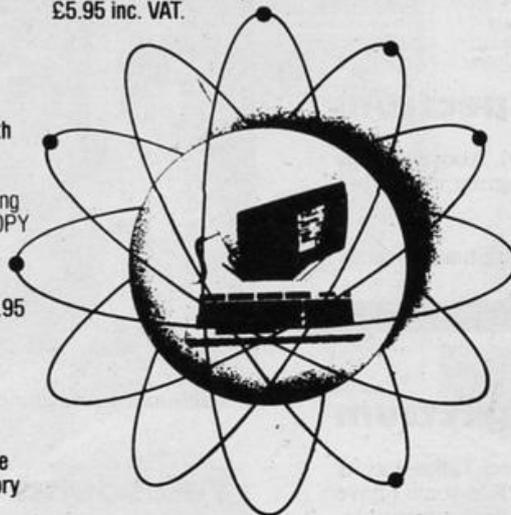
- Software recognises LLIST and LPRINT enabling Print-outs direct from Basic. Also adaptable COPY routine for graphics printers.

2 PRINTER INTERFACE 2
Centronics Interface for Jupiter Ace. £39.95 including VAT and Software. Same unit as the Spectrum Interface but with adapter card.

3 PERIPHERAL INTERFACE 3 — ZX ACE
Package Using the adapter card and the Software supplied, the Sinclair ZX Printer can be connected to the Jupiter Ace. Special Introductory Offer £9.95 inc VAT.

4 PERIPHERAL INTERFACE 4 ZX BBC Adapter £24.95 inc. VAT.

Enables the connection of Sinclair Peripherals to the BBC Model B. First Software package included gives an amazingly cheap entry into printing on the BBC model B by allowing you to use the ZX Printer — ideal for listings. Please allow 28 days for delivery. Unit requires 1.2 Amp power supply: either the ZX P.S.U. or the equivalent available from us at £5.95 inc. VAT.



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- GP 100 A — £197
 - GP 100 VC — £206
 - GP 250 X — £246
 - GP 700 A (colour printer) — £399
 - TEC BUSINESS PRINTERS — P.O.A.

- MANNESMAN TALLY
- MT 80 with Parallel Interface £270
 - MT 80 with Serial Interface £312

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1.2 Amp P.S.U. £5.95 inc. VAT

ZX BBC Adapter Unit £24.95 Inc. VAT and Software

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Britannia Software

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Chatterbox ZX81/Spectrum

Another add-on in the sound line from William Stuart. But this time instead of understanding your speech, it speaks to you through its own speaker. It uses allophones which are acceptably easy to program. Chatterbox is equipped also with two external amplifier sockets — one stereo and one mono — and has an edge connector for other peripherals. Pretty good, really, but the price is a bit too high.

£55 William Stuart Systems

4

Soundbox ZX81/Spectrum

The sound version of the Chatterbox (above). Above average three-channel sound and quite easy to program. Nice, but needs an external amplifier.

£27.95 William Stuart Systems

3

Sweet Talker Spectrum

One of the simplest speech units to use, Sweet Talker has its own speaker. But the speech is not as smooth as some I have heard and the price is a little high. Not Microdrive compatible.

£34.95 Cheetah

3



- Cheetah's Sweet Talker — one of the simplest to use

Add-On Spectrum

A very nice add-on from Micro-Power, including a programmable sound generator, amplifier and joystick interface. The sound is easy to set up and the amplifier is very powerful.

Micro Power

5



- Telesound sends sound to your TV speaker

Telesound Spectrum

A small device which means opening up the case and attaching a couple of wires, reckoned to be a five minute job. An advantage is that it leaves the edge connector free. It then can be used to send sound to the TV speaker for far better quality than the Spectrum beeper. A friend of mine found it tricky to tune to the TV.

£9.95 Compusound

4

Specsound Spectrum

At only £7, this is pretty good value for an amplifier. It plugs into the load/save sockets, leaving the edge connector free. It has a volume control and an on/off switch and the power is from a battery. It might have been a better idea to take the power from the computer to avoid buying batteries.

£7 Kelwood

4



- Michael Belk, of Kelwood, with his Specsound



Stell Software

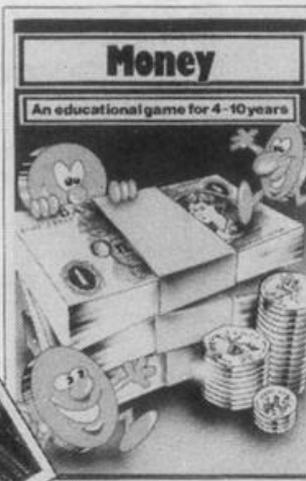
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Maths Invaders - answer the questions correctly or the invaders will land on you. 4-12 yrs. (Spectrum 16/48k, rs BBC B, Electron, & Commodore 64.)



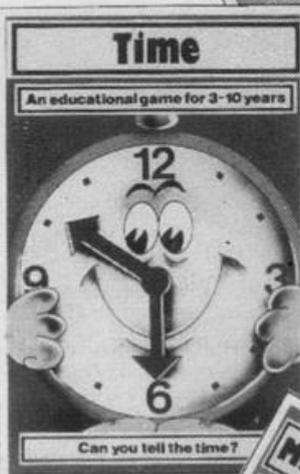
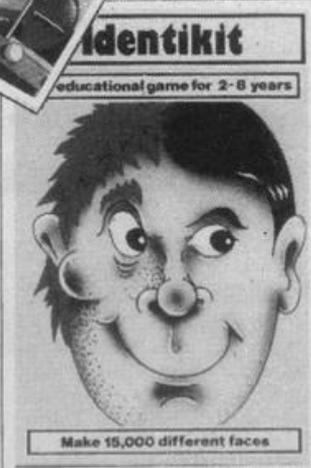
Money - an introduction to coins and notes and their use in shopping. 4-10 yrs. (Spectrum 48k.)



Missing Words - watch the train move forward when you type in the right word. 4-10 yrs. (Spectrum 48k.)



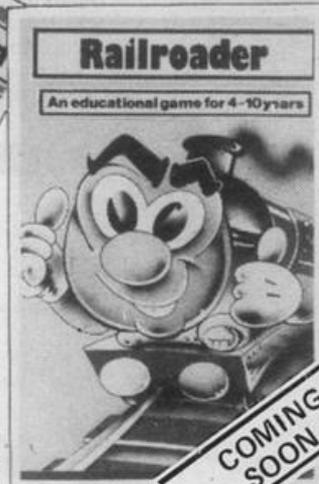
Identikit - choose from a range of features and build up a face on the screen. 2-8 yrs. (Spectrum 48k, BBC B, Electron & Commodore 64.)



Time - learn to tell the time with this simple step by step guide 3-10 yrs. (Spectrum 48k, BBC B, Electron.)



Micros for Children 1, a set of four educational games for children of 3-8 yrs. Excellent value. (Spectrum 16/48k.)



Railroader - lay track on the screen in any layout you want. 4-10 yrs. (BBC B, Electron.)



Spectrum programs only **£6.95** BBC, Electron & Commodore 64 only **£7.95**

Ask for Stell Software at larger branches of Boots, John Menzies, and all good computer shops, where most titles are available.

In case of difficulties order direct from **Stell Software**.

Dealers should contact their regular distributors.

No. 1 in Education



● ZON X from Bi-Pak

ZON X ZX81/Spectrum

The first sound unit I ever owned was the ZON X for the ZX81 and it's still one of my favourites. A very easy unit to program once you get accustomed to the instructions which, although very good, need to be read a couple of times. There is also a volume control knob on the unit.

£25.95
Spectrum adaptor board £6.80 Bi-Pak

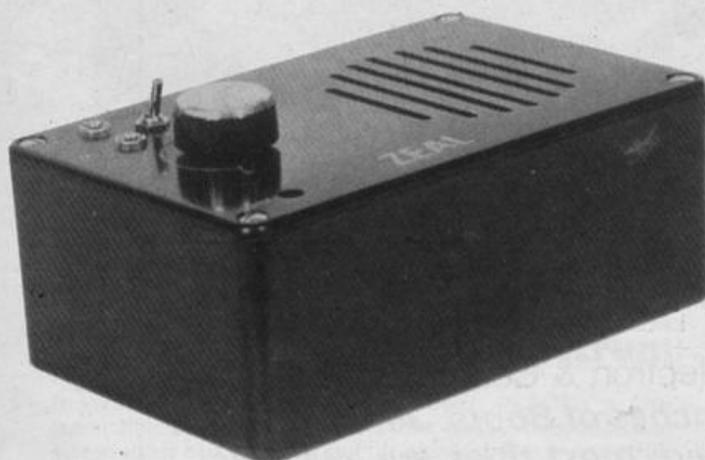
5

Sound Booster Spectrum

Not tested, Zeal's Sound Booster has a 3in loudspeaker, load/save feature to avoid plugging and unplugging plus a volume control knob. Plugs in externally and requires no batteries. Mail order. Rating based on price and supplied details.

£14.99 Zeal Marketing

4



● Compact Sound Booster from Zeal

Trichord ZX81/Spectrum

Plugs in for music and sound and incorporates a PROM which contains routines to create many effects. Untested.

ZX81 £26.95
Spectrum £24.95 Petron

4

S-Pack Spectrum

You can call from BASIC programs a total of 71 built-in words, phrases, numbers and letters. And there are three more Word Pack ROMs, at £14.95 each, on sale. Untested.

£49.95 DCP Microdevelopments

3



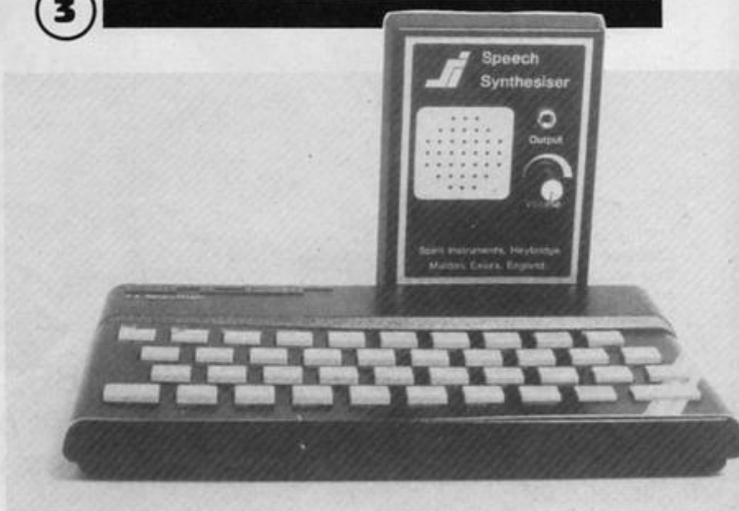
● S-Pack, from Microdevelopments, has a built-in vocabulary

Speech Synthesiser Spectrum

Small unit, with speaker, external output and volume control, which works by building up individual sounds until you have complete sentences and words. Includes a how-to-do-it guide.

Spirit Instruments

3



● Spirit Instruments Speech Synthesiser stands upright when plugged into a Spectrum edge connector

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Manoeuvre your patrol craft over giant moon craters avoiding boulders and mines. Keep an eye on the hovering alien craft bent on bombing you out of existence.

J.S. £7.95

3D TIME TREK



A star trek game with a difference. 3D graphics, real arcade action and a game of strategy against marauding space pirates. Additional features.

K.B. AND J.S. £5.95

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Enjoy the hilarious antics of the Comical Mouse as he overcomes all dangers to win the heart of the lovely princess by collecting her lost diamonds. He must climb ladders, slide down the chutes, use transporters and trampolines to jump across divides to escape and outwit his pursuers. You will be enchanted by the smooth pixel movement of multicolour sprites. Six screens with three levels of difficulty.

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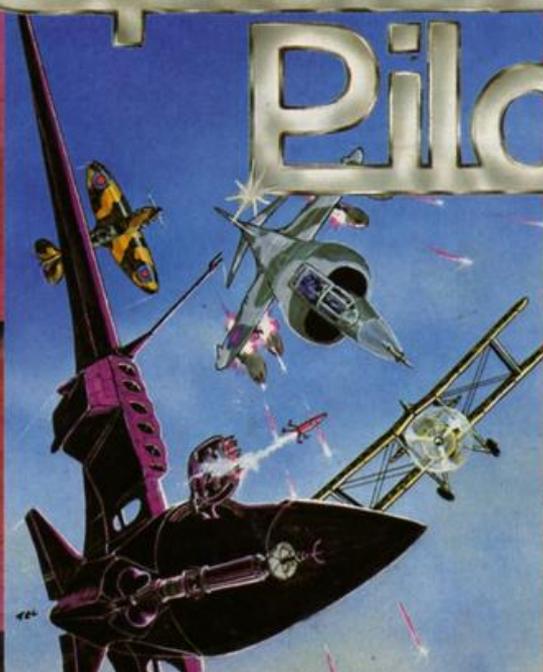
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All the thrills of the arcade game brought to life by the stunning animated graphics. Four screens including pie factory and collapse of KONG'S lair.

K.B./J.S. £7.95

GALAXY



As alien fighters zoom into formation to attack you, the mother ship manoeuvres to capture your craft with her traction beam. One hundred screens of smooth moving pixel graphics. Two player option.

K.B./J.S. £7.95

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Join the action packed safari on a twenty screen journey through the lush jungles and swamps to an ancient Aztec temple. The gorillas, the pirahna fish, the crocodiles, the snakes and the spiders not to mention the voodoo man leave very little time for you to collect the clues that will open the temple gates leading to the treasure.

J.S. £7.95

STAR BASE DEFENCE



A galaxian-type game. Shoot the alien craft as they swoop down on you. You cannot shoot them while they are protected by the force field.

J.S./Stack Light Rifle £5.95

INDIAN ATTACK



Your party of six is under attack. As Indians gallop round the cabin, some try to sneak through the roof or window. Aim true or yours will be the last scalp lifted.

J.S./Stack Light Rifle £5.95

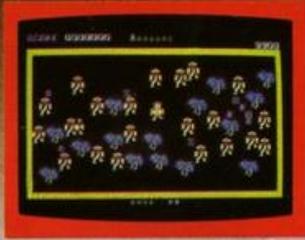
COSMIC COMMANDO



The commandos have been sent to destroy your ammunition dumps. They weave intricate patterns as they advance. There is an extra hazard of target snatchers to hamper your aim.

J.S./Stack Light Rifle £5.95

CYBOTRON



Robots are marching relentlessly towards you from all directions. Attacking in wave after wave, they are determined to wipe out the human race. There are twenty levels including three special waves - BRAIN WAVE - GRUNT WAVE and TANK WAVE, with powers to mutate the humans, create pulsars and quasars and fire plasma bolts.

J.S. £7.95

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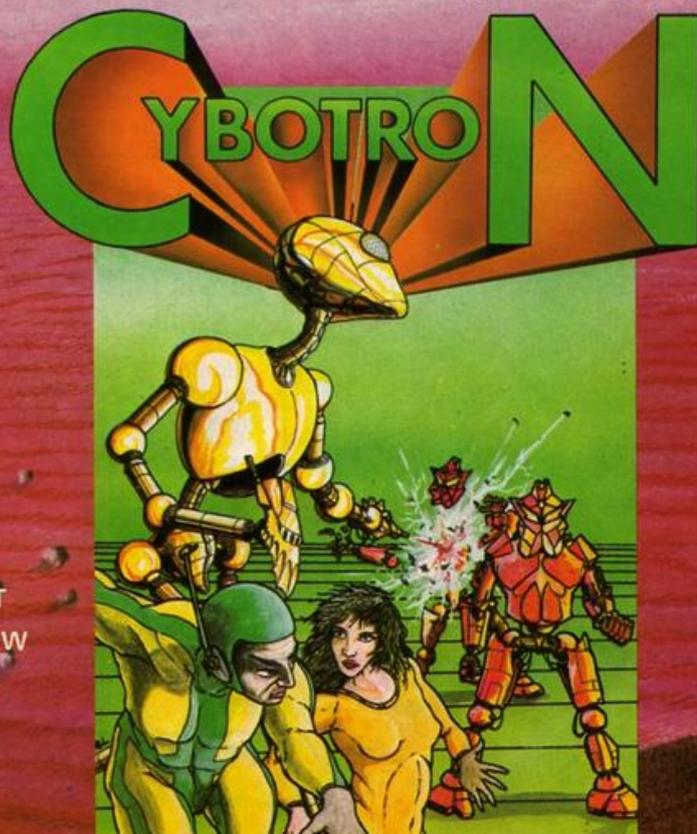
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OUR CASSETTE GAMES WILL NOW
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GAMES NOT TURBO

IN DISC £9.95



Sound Synthesiser Spectrum

Plug-in module for three-channel sound with envelope control, amplifier and speaker plus two input-output ports. Untested.

£28

Signpoint

3

Sound/Power Base ZX81/Spectrum

Sound Power Base has an amplifier, on-off switch, load/save switch, all cables and angles for the Spectrum and is said to save wear on connections. Power Base omits the amplifier and is also for the ZX81. Untested.

Sound Power Base £19.95

Power Base:

Spectrum £13.50

ZX81 £13

4

BEEP Amp Spectrum

Mains operated, this unit plugs into the MIC socket and has an eight watt amplifier with a 10 watt woofer and tweeter in a small speaker unit.

£23.95

Hypnotech

3

Memory



● Basicare's add-ons for ZX81 and Spectrum are finished in grey and are easily stackable

Basicare makes a wide range of RAM packs and other add-ons for both Sinclair computers. It includes Pericon B, a unit for the Spectrum with 24-line output to drive relays. Untested.

Pericon B £30.15

Basicare

Upgrades 16K Spectrums to 48K of RAM — for issue two Spectrums only. Untested.

£24.50

Fountain

A RAM board fits inside issue one Spectrums to upgrade from 16K to 48K of RAM. Issue two Spectrums require 12 ICs which replace existing ICs. Same price for both. Untested.

£42.50

JRS Software

Specspanion plugs into rear edge connector to give a four-slot motherboard and a 24-line bi-directional programmable port board. A cassette is provided to give programming aid. Makers F. B. Tronics plans to make a range of additional cards for use with its board. Untested.

£30 approx

F. B. Tronics

RAM kits to upgrade issue one or issue two 16K Spectrums to 48K. Both include Delta Chipchek, a memory diagnostic cassette providing testing of 16K and the 32K extension. Untested.

Issue one £37

Issue two £31

Delta Research

Model SP48 expands the 16K Spectrum to 48K of RAM and the SP80 takes the computer to 80K of RAM. Both are in versions for issues one or two. Untested. Free with SP48: Beyond Horizons tape for advanced programming.

Issue one SP48 £35

Issue two SP48 £23

Issue one SP80 £50

Issue two SP80 £46

East London Robotics

dk'tronics makes 16K and 48K RAM packs for the ZX81 and upgrades for the 16K Spectrum to add 32K of RAM.

ZX81 16K £22.95

ZX81 48K £52.95

Spectrum issue one 32K £35

Spectrum issue two 32K £30

dk'tronics

Computer Add-Ons has a 16K RAM pack and a 64K model, both for the ZX81, and upgrades to 48K for issues one and two of the 16K Spectrum.

ZX81 16K £22.95

ZX81 64K £52.95

Spectrum issue one 32K £35

Spectrum issue two 32K £30

Computer Add-Ons

Finished in shiny black, Indescomp's ZX81 memory expansions for the ZX81 give an additional 16K, 32K or 64K, and there is a 32K version for the Spectrum.

ZX81 16K £16.95

ZX81 32K £21.70

ZX81 64K £32.69

Spectrum 32K £28.50

Indescomp

Cheetah says its 32K upgrade for the 16K Spectrum has been specially designed to avoid wobble.

£39.95

Cheetah Marketing

NO INTERFACE!!! SPECTRUM-STICK

ONLY £9.95 inc. VAT. P&P

- Operates cursor keys directly
- Simply clips onto case
- Leaves rear socket free for accessories
- No wiring
- 8 axis control
- One hand operation
- Essential for all flight simulation games
- Ideal for plotting & drawing
- Tough Maranyl Nylon moving parts



READ WHAT THE PRESS SAYS:
"an ingenious low cost joystick".
POPULAR COMPUTING WEEKLY

"Robustly made & handles well" PERSONAL COMPUTER GAMES
"an ingenious device... found it to work well" ZX COMPUTING
"the best feel joystick... produces 8 directional movement with perfect accuracy... a worthwhile investment"
CRASH MICRO GAMES ACTION

Now that most modern programs offer user-defined or cursor key choice, Spectrum-Stick is being used more and more, even by owners of interface type joysticks who prefer the light one-handed control plus the freedom to plug in other accessories to the Spectrum rear sockets.

We cannot list all the programs suitable for Spectrum-Stick, but here are a few:

| | | | |
|----------------|-------------------|---------------------|--------------------|
| Atic Atac | Fighter Pilot | Nightflight | Knot in 3D |
| Apple Jam | Flight Simulation | Paratroopers | Vu 3D |
| Airliner | Froggy | Paint Box | Wheelie |
| Bedlam | Gold Digger | Robot Panic | 3D Desert Patrol |
| Bonkers | Gold Rush | Scuba Dive | 3D Maze of Gold |
| Bubble Trouble | High Rise Harry | Splat | 3D Tunnel |
| Caterpillar | Maze Death Race | Super Digger | 3D Vortex |
| Chopper Rescue | Maziacs | Spectrapede | Last Sunset... |
| Cybertanks | Mined Out | Harrier Attack | Corridors of Genon |
| Earth Defence | Missile Defence | Morris meets Bikers | Etc. Etc. Etc. |

CLIP-ON AND TURN ON TO SPECTRUM-STICK

To: Grant Design Ltd. Bank House, Reepham, Norfolk NR10 4JJ
Please rush me a Spectrum-Stick controller.

I enclose Cheque/PO for £9.95. (Payable to Grant Design Ltd)
CREDIT CARD HOTLINE 0603 870852 (24 hour)

Please charge my Access Visa Credit card No.

VISA
 ACCESS
 MASTERCARD
 OTHER

NAME HCW50

ADDRESS

POST CODE

CHRISTINE COMPUTING Ltd

6 Florence Close, Watford, Herts.
(0923) 672941

TI-99/4A HARDWARE

| | |
|-----------------------------------|-------|
| 32K Stand alone ram | £125 |
| Arcade quality joystick | £22 |
| Cassette interface leads - single | £5.40 |
| - dual | £6.90 |

UFO, Cass File, Sir Slurp A Lot, Fruit Machine. As reviewed in Home Computing Weekly. All £4.95 each.

| | |
|---|-------|
| Atari/Commodore to TI joystick interfaces | |
| single | £6 |
| dual | £8.50 |

SOFTWARE

We are able to offer our own range as well as selected items from Stainless Software, Tomputer, Fantasia 99 and many more.

For full list send 50p (refund 1st order) or cheque/PO with order to above address.
Please add 50p p&p to any order under £10.

THANK YOU.

"IT LOOKS NICE BUT WHAT THE HELL CAN I DO WITH IT?"

Every ZX SPECTRUM Print'n'Plotter Jotter has 100 pages of finely printed screen grids.

50 for the high resolution screen. 50 for the normal character screen.

With these at your disposal you can plan practically any graphics print-out to program into your computer.

The high-resolution PLOT grid shows every one of the 45,060 pixels! Every one printed. Every one with its co-ordinate numbers. This gives you enormous graphics power to DRAW, PLOT, CIRCLE, PLOT OVER and so on in any position or screen building up graphic drawings, charts, maps... In fact anything without the complications of guesswork, integer out of range, or wrongly positioned pixel colours which change PRINTED INK characters!

The normal character PRINT grids on the other hand will allow you to be specific about PRINT AT, TAB, PRINT OVER, SCREENS and INK / PAPER in direct co-ordination with PLOT... you see every page is printed on high quality tracing paper... Ideal to overlay on to illustrations and 'copy' or co-ordinate.

And there's another bonus, because each page contains 24 User-definable grids - 2400 per pad!

With 50 pages of PLOT grids, 50 pages of PRINT grids 2400 user-definable grids, a set of colour pens, a printed PIXEL RULER and our Special Offer of demo programs, IT'S THE BEST VALUE IN ZX GRAPHICS PROGRAMMING.



Post today to Print 'n' Plotter Products, 19 Borough High Street, London SE1 9SE or phone: 01-403 6644 (General) or 660 7231 (Credit Card Sales).

Name:

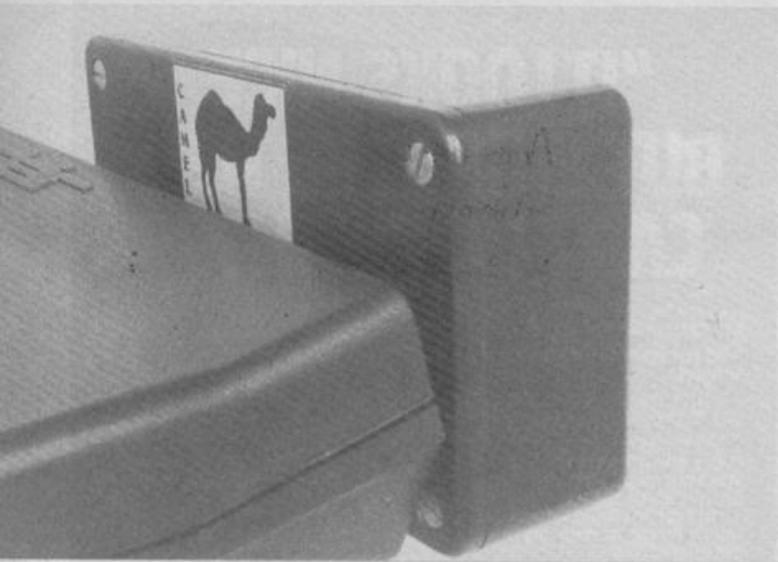
Address:

- ZX SPECTRUM JOTTER @ £9.00 each
- ZX SPECTRUM KEYBOARD OVERLAYS @ £2.95 per pack
- ZX PRINTER PAPER @ £12.50 per five rolls
- ZX SPECTRUM DEMO CASSETTES @ 95p each
- ZX81 JOTTER PADS @ £3.50 each
- ZX81 FILMS @ £2.25 each
- ZX81 GRAPHICS PROGRAMMING GUIDE @ £1.50 each

Remittance enclosed. Please bill my Access / Barclaycard / Visa / Mastercard No:

All prices include VAT, P&P.
Overseas orders please add 25% for additional surface mail.

**Print'n'plotter
Products**



- Camel's memory expansions for the ZX81 offer other features too

Camel's 64K Dream-81 expansion for the ZX81 has an LED to show when power is on, a link option to disable the 0-16K area of RAM and is designed to accept an EPROM as an alternative. ROM-81, a memory expansion unit for the ZX81, enables you to read useful routines and commonly used data stored in an EPROM.

Dream-81 £80.44
ROM-81 £17.20

Camel



- Memotech's high-resolution graphics Memopak sandwiched between Memotech's 32K expansion and a ZX81

Memopaks are a range of ZX81 RAM units which fit neatly along the back of the computer and can be stacked. There are also Memopacks for hi-res graphics, and Centronics and RS-232 printer interfaces.

16K £29.90
32K £49.95
64K £79
Others £39.90

Memotech

The ZX Panda, adding 16K, has a power-on LED but no edge connector at the back, but a further 16K can be added inside with a RAM board. Stonechip also makes a range of Spectrum add-ons, including light pen, keyboard, programmable joystick interface and echo amplifier.

£19.95
RAM board £14.50

Stonechip Electronics

16K and 32K RAM packs for the ZX81.

16K £28.95
32K £29.95

Data-assette

16K RAM pack from Audio Computers incorporates feet to bring it up to the same height as the computer and a plastic grip to hold it in place.

£19.95

Audio Computers

Printer interfaces



- Rear view of Sinclair's Interface 1, fitted to a Spectrum

ZX Interface 1

Spectrum

Screws to the underside of the Spectrum, tilting it forward. It controls up to eight Microdrives, has an RS232 interface for full-size printers, joystick interface, and can network up to 64 Spectrums at 100K baud. I would be more impressed if they were more readily available.

£50
if bought with Microdrive **£30**

Sinclair

4

TMS

ZX81

An RS232 interface enabling the use of "real" printers with the ZX81. Not very easy to use.

£32.20

Cobra

2

RS232

Spectrum

The Spectrum version of the TMS (above).

£33.50

Cobra

3

BBC Microcomputer System

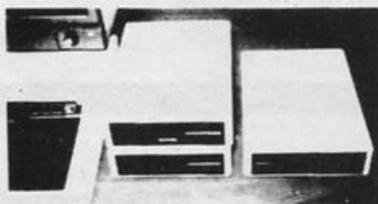
OFFICIAL BBC COMPUTER DEALER



This is the best microcomputer currently on the market. 32K RAM, 32K ROM, 8 modes of operation, full colour, full-size keyboard, internal expansions such as disc interface, speech synthesizer, Econet interface - in short, it is a personal computer capable of expanding into a small business system.

| | | |
|---|------------|---------|
| BBC Microcomputer Model B | £348 - VAT | £399.00 |
| BBC Mod B - disk interface | £409 - VAT | £469.00 |
| BBC Mod B - Econet interface | £389 - VAT | £447.35 |
| BBC Mod B - disk and Econet interfaces | £450 - VAT | £517.50 |
| BBC 100K disk drive | £230 - VAT | £264.00 |
| BBC dual 800K disk drive | £699 - VAT | £803.85 |
| Torch 280 disk pack including 780 2nd processor, 64K RAM and CPN operating system + Free Perfect Software | £699 - VAT | £803.85 |
| BBC Teletext receiver (Aug) | £196 - VAT | £225.40 |
| BBC cassette recorder and lead | £26 - VAT | £29.90 |
| Disk interface kit (free fitting) | £86 - VAT | £96.60 |
| Mod A to Mod B upgrade kit | £50 - VAT | £57.50 |
| Fitting charge for A to B upgrade kit | £20 - VAT | £23.00 |
| 16K memory upgrade kit | £20 - VAT | £23.00 |
| Games paddles | £11 - VAT | £12.65 |
| 12" Monochrome monitor incl. cable | £89 - VAT | £102.35 |
| 16" Colour monitor incl. cable | £208 - VAT | £240.35 |
| User guide | £10 - VAT | £11.00 |
| Econet interface (free fitting) | £60 - VAT | £69.00 |
| Speech interface (free fitting) | £47 - VAT | £54.05 |
| BBC disk manual - formatting disk | £30 - VAT | £34.50 |
| Parallel printer cable | £10 - VAT | £11.50 |
| BBC word processor (view) | £52 - VAT | £59.80 |
| BBC Fourth language cassette | £15 - VAT | £17.25 |
| BBC Lisp language cassette | £15 - VAT | £17.25 |

100% BBC COMPATIBLE MITSUBISHI AND TEAC SLIMLINE DISK DRIVES



These drives are supplied ready cased with all the necessary cables, formatting program and user disk system guide.

There are some useful utilities included: e.g. Epson Screen Dump Program, Memory Dump, Free, Duplicate, Merge and Relocate. Power consumption of these drives is very low (0.2A typ. at 12V, 0.4V typ. at 5V per drive). Power is taken from the BBC computer.

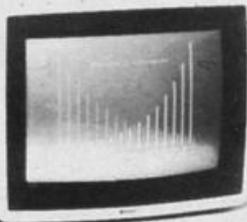
| | | |
|---|------------|---------|
| Single drive 100K 40 tracks | £169 + VAT | £194.35 |
| Dual drive 200K 40 tracks | £329 + VAT | £378.35 |
| Single drive 400K 80 tracks | £239 + VAT | £274.35 |
| Single drive 400K 40 tracks switchable | £259 + VAT | £297.85 |
| Dual drive 800K 80 tracks | £449 + VAT | £516.35 |
| Dual drive 800K 40 80 tracks switchable | £369 + VAT | £439.35 |

COMPLETE WORD PROCESSOR FOR ONLY £1,099 + VAT

This package consists of BBC Microcomputer, View wordprocessor, 400K Slimline disc drive, High resolution 12" Green monitor, Juki 6100 18CPS Daisy Wheel printer and all the necessary cables and documentation. The above package can be supplied with components of your own choice, e.g. 800K disc drive or a different printer. Please phone us for a price for your particular requirement.

Special package deal £1,099 + VAT = £1,263.85

PROFESSIONAL MONITORS



GREEN MONITORS

12" Green screen monitors with composite and sync. input. Suitable for most computers.

| | | |
|--|-----------|---------|
| ★ 18 MHz band width, high resolution | £89 - VAT | £102.35 |
| ★ 15 MHz band width, normal resolution | £69 - VAT | £79.35 |

COLOUR MONITORS

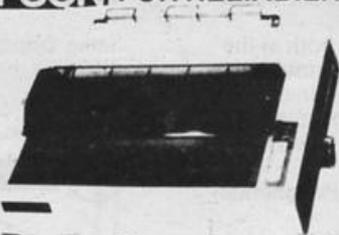
★ MICROVITEC RGB input 14" monitor supplied with RGB lead for BBC £209 + VAT = £240.35

★ SANYO SCM 14" Normal res. 14" 400 dots, RGB input supplied with RGB lead £199 + VAT = £228.85

★ SANYO SCM 14M Medium res. 14" 600 dots, RGB input supplied with RGB lead £299 + VAT = £343.85

★ SANYO SCM 14H High res. 14" 800 dots, RGB input supplied with RGB lead £399 + VAT = £458.85

EPSON FOR RELIABILITY



EPSON FX80: 80 column, 160 CPS, normal, italic and elite characters, 256 user definable characters, superscript, subscript, 11 x 9 matrix, bi-directional logic seeking, hi-res bit image printing (960 x 8 dots line), friction and lead 9 international character sets, Centronic parallel interface.

FX80 PRICE £349 + VAT = £401.35

EPSON RX80: 80 column, 100 CPS, normal, italic and elite characters, 11 international character sets, hi-res bit image printing, bi-directional logic seeking, 4 to 10° adjustable pin feed, Centronic parallel interface.

RX80 PRICE £239 + VAT = £274.84

MX-100: 136 column, 100 CPS, friction and tractor feed, up to 15° adjustable carriage, hi-res bit image printing, true descenders, Centronic parallel interface.

MX-100 PRICE £399 + VAT = £458.85

RS232 interface for all above printers

EPSON RX80FT (friction & tractor)

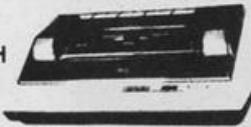
FX100 £269 + VAT = £309.35

Roll holder for FX80, RX80, MX100 £18 - VAT = £20.80

Ribbon for MX80, FX80, RX80 £12 - VAT = £13.80

Ribbon for MX100

SEIKOSHA DOT MATRIX PRINTERS WITH HIGH-RES GRAPHICS



GP-100A: 80 column, 50 CPS, dot addressable hi-res graphics, 10" wide, fully adjustable, tractor feed, 7 x 5 print matrix, Centronic parallel interface.

GP-100A 50CPS PRICE £175 - VAT = £201.25

GP-250X: 80 column, 50 CPS, 10" wide, fully adjustable, tractor feed, true descenders, 64 user definable characters, double height and/or double width printing, 8 x 5 print matrix, Centronic parallel and RS232 (serial) interfaces both included.

GP-250X PRICE £219 - VAT = £251.85

NEW GP-700A 7 COLOUR PRINTER

This latest addition to Seikosha range gives you print in seven colours, 10" wide carriage, friction and tractor feed, 50 CPS print speed, dot addressable hi-res graphics, 4 hammer printing mechanism, 10 CPI or 13.3 CPI, special Quiet printing mode, Centronic parallel interface.

GP-700A SPECIAL INTRODUCTORY PRICE £349 - VAT = £401.35

GUARANTEED LOWEST PRICES

We guarantee that our prices are the lowest on the market. If you can find any item advertised and in stock at less than our price we will match that price.

NEW LOW PRICES ON STAR

ONLY £229 + VAT



The most cost effective quality matrix printers to be launched this year. DPS10 and DPS15 features include friction and tractor feed and roll holders as standard, 100 CPS print speed, bi-directional logic seeking, 9 x 9 matrix gives true descenders, 2.3K buffer as standard hi-res bit image plus block graphics, sub and super script italic printing, auto underlining, vertical and horizontal tabulation, left and right margins set, skip over perforation, back space and self test.

STAR GEMINI 10 10" carriage, 80 columns, 120 cps £239 + VAT = £274.85

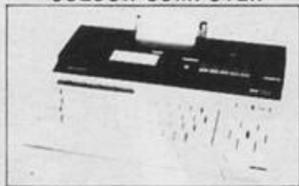
SPECIAL PRICE £229 + VAT = £268.85

STAR DPS15 15" carriage 136 columns £279 + VAT = £320.85

SPECIAL PRICE £259 + VAT = £303.85

RS232 INTERFACE FOR ABOVE £50 - VAT = £57.50

SHARP MZ 700 SERIES COLOUR COMPUTER



The new Sharp MZ 700 has the flexibility to run programs in BASIC, FORTRAN, MACHINE CODE, PASCAL, ASSEMBLER and many other languages. The 64K memory caters for advanced programming, and the MZ 700 gives you access to a wide choice of software.

£60 worth of software FREE — ten games

SPECIAL PRICE £199 + VAT = £228.85

TEXAS INSTRUMENTS TI 99/4A



This microcomputer is based on TMS9900 16-bit microprocessor. It includes 16K RAM, 16 colour high resolution graphic (192 x 256). The screen display is 32 characters, 24 lines TI-BASIC. Full-size keyboard. For Software there are about 1000 programs to choose from. There are a lot of peripherals available, e.g. Disk Drives, Disk Interface, Speech Synthesizer, Extra RAM, Additional Language (PASCAL, TI-LOGO, ASSEMBLER).

TI HOME COMPUTER HARDWARE

| Title | Description | Price inc VAT |
|---------|---|---------------|
| T199-4A | Complete with UHF modulator and power supply + free cassette lead | £89.95 |

PERIPHERALS

Speech Synthesizer When used with selected modules will reduce electronic speech £41.95

Peripheral Expansion System This unit takes all card peripherals and on internal disk drive £79.95

Disk Drive - Internal 92K formatted drive, mounts internally in peripheral expansion system £149.95

Disk Controller Card Controls up to 3 disk drives, complete with disk manager command module £109.95

Disk Drive Double Sided 92K formatted capacity per side acts as 2 drives DSK1 & DSK2 total capacity 184K bytes £219.95

Disk Drive External Complete with own case, power supply & connecting cables £259.95

RS232 Expansion Card Provides 2 serial RS232 ports and one parallel port for interfacing £79.95

RAM Expansion Card Adds 32K extra RAM bringing total capacity to 48K bytes £79.95

P-Code Card Includes the UCSD-PASCAL P-code interpreter £129.95

Matrix Printer 80 column matrix printer printer GP-100A - cable £219.95

Matrix Printer GP250X 80 column matrix printer with RS232 and Centronic parallel interface £273.95

Epson RX80 Printer 80 column, 100 CPS matrix printer £320.85

Please send S.A.E. for software prices

THE AFFORDABLE DAISYWHEEL PRINTER

ONLY £369 + VAT



★ 18 CPS - Bi-Directional Logic Seeking

★ 10, 12, 15 CPI - Proportional Spacing

★ "Drop in" Daisywheel - Triumph Adier Compatible

★ Supports all WordStar features

★ Diablo protocols - IBM Selectric ribbon

★ 2K Buffer as standard - 100 character Daisywheel

SPECIAL OFFER JUKI 6100 DAISYWHEEL £369 + VAT = £424.35

THE CP80 QUALITY PRINTER

ONLY £239 + VAT



★ 80 CPS - Bi-Directional Logic Seeking 80 Column

★ Friction and Adjustable Tractor Feed

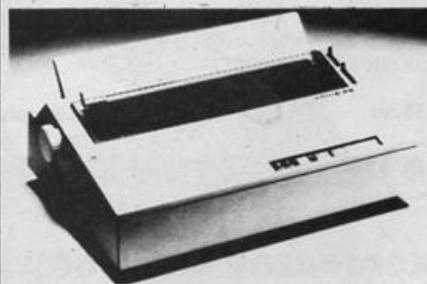
★ Patented Square Needles up to 9 x 13 matrix

★ Hi-Res Graphics and Block Graphics

SHINWA CP80 PRINTER £239 + VAT = £274.85

SPARE RIBBON FOR CP80 £5 - VAT = £5.75

BROTHER HR-15 PRINTER



The Brother HR-15 high specification daisywheel printer RRP is £500

SPECIAL OFFER

3 FREE daisywheels supplied!

4 FREE spare ribbons

ONLY £399 + VAT = £458.85

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TEL: HARLOW (0279) 443521 OR 412639

TELEX 995801 REF — A18

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All orders which accompany a cheque, cash or postal orders are CARRIAGE FREE (UK only). Please make cheques and postal orders payable to 'AKHTER INSTRUMENTS'. A carriage charge of 3% of invoice total is applicable to BARCLAYCARD and ACCESS orders. We accept official orders from Government and Educational establishments. We accept VAT FREE EXPORT orders, please phone or write to check shipping cost.

OPENING HOURS: MON-FRI 9am-5.30pm, SAT 10am-2pm.

We welcome callers, no parking problems.



RS232/ Centronics ZX81/Spectrum

Two interfaces in one box for both computers and both at the same price. Uses the full width of any compatible printer at a selection of baud rates. Spectrum model has a built-in operating system for word processing and software is planned for the ZX81 to allow word processing and graphics. Untested.

£39.95

Morex Peripherals

4



● Spectrum and Tandy colour printer-plotter linked by Softest's interface

Spectrum/Tandy Spectrum

Well-priced and very useful interface allows you to use Tandy's CGP-115 four-colour printer-plotter (£149). It includes machine code software so you can print text, listings, plans, drawings, PCB layouts, charts and a wide range of print sizes. Using the printer's four ballpoint pens — red, green, blue and black — you can overprint in different colours. Additional software, at £5, allows you to dump the screen to the printer. Untested, but well worth the money.

£35

Softest

5

Centronics ZX81/Spectrum

Complete with a yard of cable and plug and a 12-month guarantee, ADS' interface includes software to recognise LLIST and LPRINT for BASIC listings. Can be used with the Jupiter Ace with an adapter card and additional software. Untested.

£34.50

Advanced Digital Systems

4

Kempston Centronics Interface Spectrum

The interface I use in preference to the rest. It is very adaptable and you can easily define your own printable characters. I use it as part of a Spectrum-based word processing system.

£45

Kempston

4

Hilderbay Centronics Interface Spectrum

Same features as the Kempston interface (above), but of a different design. Includes mini-word processor software.

£45

Hilderbay

4

RS232 ZX81

A well-designed, snug fitting interface which holds software in ROM. Finished in Memotech's blue and silver colours, it works very well.

£39.95

Memotech

4

Centronics ZX81

Similar in style to the RS232 version and works just as well.

£24.95

Memotech

4

Printer-face Spectrum

Cased like the Master units and Fuller Box, software is in ROM and the unit is very easy to use. Two models for serial or parallel printers. High resolution screen dump program included.

RS232 £35.75

Centronics TBA

4

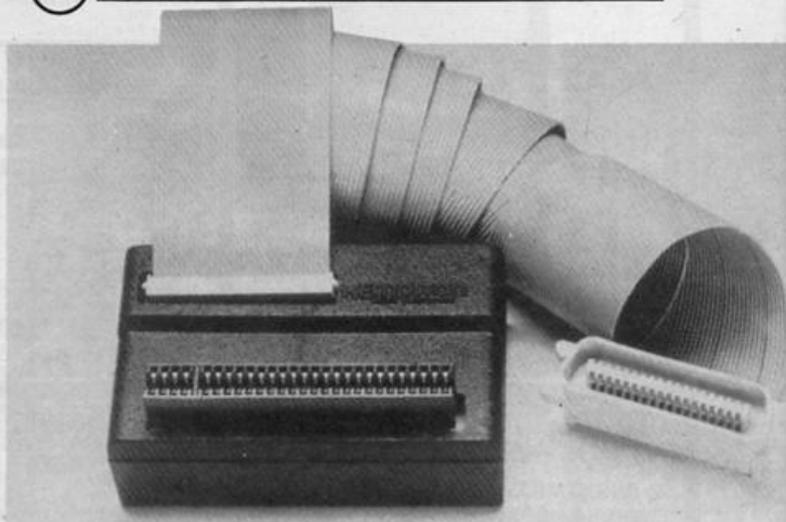
ZX LPRINT ZX81/Spectrum

A very good add-on with ROM-based software. Initialised on power-on. As used by Home Computing Weekly.

£53.48

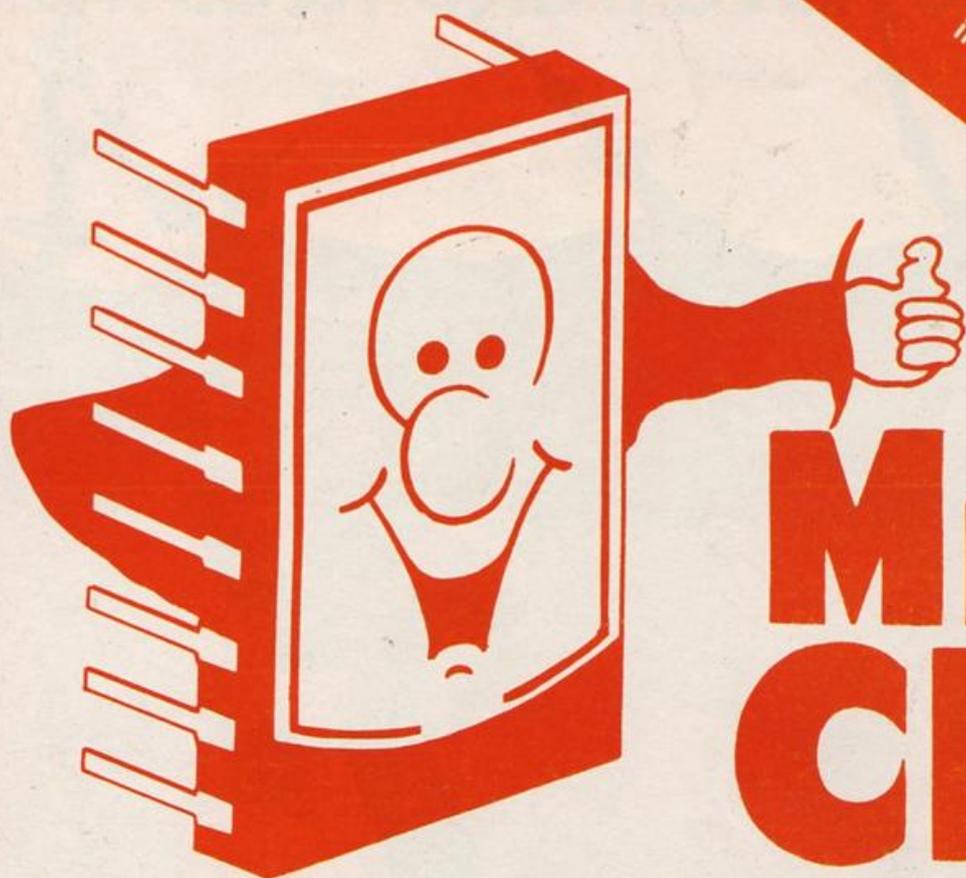
Euroelectronics

4



● Kempston's Centronics interface

Send SAE for colour brochure
inc CBM 64 Business and Utility
Software



Mr. Chip

SOFTWARE



DEPT 9 CAROLINE ROAD, LLANDUDNO, GWYNEDD LL30 3BL TEL: 0492 79026

HAVE YOU BEEN INVOLVED IN A MYSTERIOUS ADVENTURE RECENTLY?

If so, it is quite probable that you are presently suffering from TIS, more commonly known as Total Involvement Syndrome.

TIS manifests itself in a number of ways, one of the most dramatic symptoms being a victim's complete inability to feel at ease in the world of reality. Other symptoms include insomnia, a desperate need to play a Mysterious Adventure, and an overwhelming sense of acute enjoyment.

Experts believe that TIS is usually contracted as a result of prolonged exposure to Mysterious Adventures, this is commonly caused by owning any of the following Home Computers:-

48K SPECTRUM, BBC MODEL A OR B, TRS80, COLOUR GENIE, ATARI 400/800, COMMODORE 64, DRAGON 32, 16K ZX81, LYNX etc.

When questioned about this epidemic, a representative of DIGITAL FANTASIA, a company who are actively involved in research and development work on Mysterious Adventures said, "There is probably no cure for TIS other than mains failure, faulty RAM chips etc. which can be at best only a Temporary solution". "In the absence of a more permanent cure, I would advise TIS sufferers to submit to the Syndrome and obtain Mysterious Adventures from any sources available to them". "TIS is highly contagious and in view of the current Worldwide Epidemic, I would say enjoy it while you can, resistance is futile".

If you have a BBC Computer, Commodore 64, 48K Spectrum, Atari 400/800, or Dragon 32 you can obtain Mysterious Adventures in any of the following dosages:-

- | | | |
|----------------------------|---------------------------|--------------------------|
| 1) THE GOLDEN BATON | 5) ESCAPE FROM PULSAR 7 | 8) THE WIZARD AKYRZ |
| 2) THE TIME MACHINE | 6) CIRCUS | 9) PERSEUS AND ANDROMEDA |
| 3) ARROW OF DEATH (PART 1) | 7) FEASIBILITY EXPERIMENT | 10) TEN LITTLE INDIANS |
| 4) ARROW OF DEATH (PART 2) | | |

Each Dose costs £9.95 including V.A.T. and Postage. Excellent quantity Discounts are available for Pushers.

D.F. MENTAL HEALTH WARNINGS. MYSTERIOUS ADVENTURES CAN SERIOUSLY DAMAGE YOUR SENSE OF REALITY.

For BBC, 48K Spectrum
order from:-

DIGITAL FANTASIA

24 NORBRECK ROAD, NORBRECK, BLACKPOOL, LANCASHIRE
ENGLAND FY6 6DD TEL: 0202 431414

For Atari, Commodore 64,
Dragon 32 order from:-

CHANNEL 8 SOFTWARE

51 FISHERGATE, PRESTON.

Mysterious Adventures

WHAT ARE MYSTERIOUS ADVENTURES?

MYSTERIOUS: (Adjective):- "Baffling, full of mystery, strange or unaccountable".

ADVENTURE: (Noun):- "An enterprise full of risk or danger, an experience of unforeseen events endangering the participants life, a gamble on failure or success".

To start play on a **MYSTERIOUS ADVENTURE** is to take a step out of the world of reality and into the world of dreams. Your computer is your guide on these fantastic journeys in time and space where danger is ever present and solutions to problems seldom come easy.

By typing in simple commands in plain English you can "talk" to your computerised guide and tell it what your next actions are to be.

MYSTERIOUS ADVENTURES bring a frightening reality to the surreal situations in which you will find yourself. You will become involved in these strange worlds of the imagination, you will feel anger when things seem to be moving against you, you will feel elated when you overcome obstacles that are set in your way. Eventually you will feel overjoyed as you reach the climax of your mission and success is yours.

Any **MYSTERIOUS ADVENTURE** is not a mission to be taken lightly, success will never be instant - just as Rome was not built in a day, so each Adventure can rarely be completed in one session. To this end a "SAVE GAME" feature has been incorporated in each of the Adventures. This means that at any given time during play of an Adventure, you can store on tape your precise whereabouts, your equipment carried, and any other pertinent details about your present status.

NEW DEVELOPMENTS ON MYSTERIOUS ADVENTURES

Over the past few years, Adventure programs on Computers have almost always been presented in the classic "Text only" mode. For most Adventure players this has indeed been the way they prefer to play Adventures. The mental imagery generated by such an approach is limited only by the player's own imagination. One of the main reasons for the "Text only" approach has been the lack of hardware capabilities with regard to Graphics resolution - Pictorial Adventures could at best be only very limited in scope.

This situation is changing now however, and Brian Howarth, author of the **MYSTERIOUS ADVENTURES** series, has spent many hours incorporating Graphics into the Adventures. By working in close conjunction with Jon Blacow, a professional Artist, Brian has produced a series of extremely vivid and imaginative Adventures. Each **MYSTERIOUS ADVENTURE** now features, in addition to the Text description, pictorial "views" of your current location and surroundings. As you enter each new location, a high resolution, colour picture is rapidly drawn. The effect of this is to bring much more reality to the Scenario, you can actually see the situation you are faced with and act accordingly. It must be stressed that each picture has been designed so that it will enhance, rather than conflict with your mental imagery. At the single stroke of a key, you can erase the picture and carry on with your Adventure in text only if this is your preference. We are confident that no other Adventure programs can boast such breathtaking realism and imagination combined with the flexibility and ease of play that have made **MYSTERIOUS ADVENTURES** such a phenomenal worldwide success.

In addition, the Adventures now features full sentence decoding as standard. These mean that you are no longer restricted to inputting single or two-word commands. You can now type in whole sentences in more or less plain English. Your computer will quickly analyse the sentence and perform a whole string of your commands. Just another feature designed to maximise your enjoyment of these world beating games!



The "New style" **MYSTERIOUS ADVENTURES** are currently available for the 48K SPECTRUM, COMMODORE 64. More releases are planned this year which will include DRAGON 32, ORIC-1, APPLE II & IIe, ATARI, LYNX, MATTEL AQUARIUS, IBM PC etc. Please write or phone for availability.

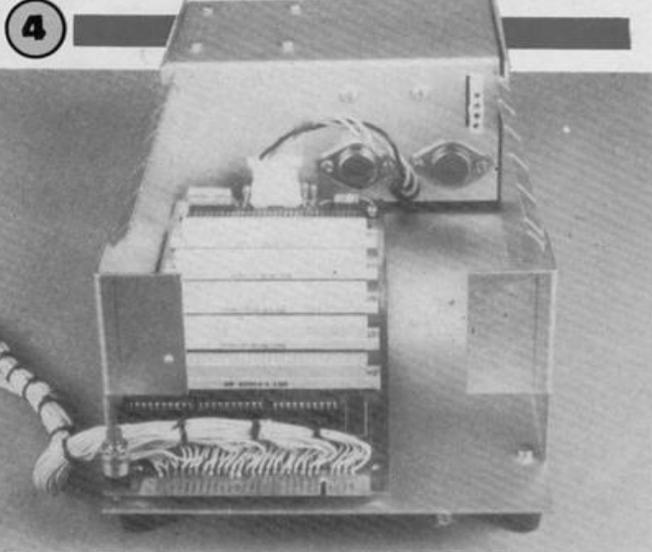
Utilities

EPROM programmers etc. ZX81/Spectrum

ROM-SP plugs into the back of the Spectrum and holds an EPROM with 8-16K of data. Camel also makes EPROM programmers including Bloprom-81 and the low-cost Promer-81, both for the ZX81. There's also a no-frills RAM card. Untested.

ROM-SP £34.44
Bloprom-81 £79.95
Promer-81 £19.95
RAM card £17.35

Camel



● The Microtext MUKBUS Card Frame System

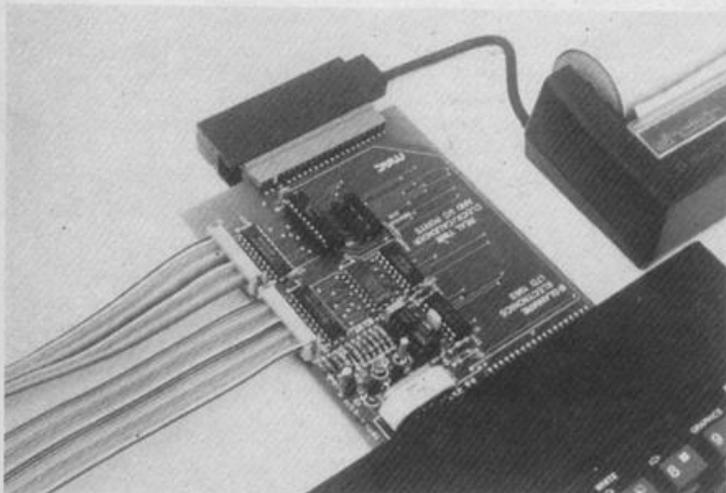
MUKBUS Spectrum

Plugs into the rear edge connector to give a six-slot motherboard to use the range of Microtext interfaces, including a prototyping card. A power supply powers the MUKBUS Card Frame System together with interfaces, Spectrum and two micro floppy disc drives. Cards include floppy disc, RS-232/Centronics, 80-column video, 64K page mapped memory and bar code reader interfaces. Untested.

MUKBUS Card Frame £59.95
Power supply £39.95

Microtext

3



● Time Controller from Glanmire Electronics

Time Controller ZX81/Spectrum

Battery-powered clock for electronic diary with alarm, home controls, burglar alarm, sound effects and process control via eight programmable inputs and outputs. Software is in a PROM. One instruction only is needed to read or write month, day, date, hours, minutes or seconds. Also available: extension connector to add other peripherals. Untested.

ZX81 £34.50
Spectrum £38.50

Glanmire Electronics

4

FORTH ROM ZX81

Plug-in ROM contains 12K of FIG-FORTH, parallel I/O, multi-tasking FORTH operating system, Z80 assembler for machine code FORTH definitions, modem support, crystal-controlled baud rate generator for the RS-232 interface, machine code monitor, RS-232 and Centronics printer routines and 4K of additional ROM for future enhancements. Untested. Spectrum version due soon.

£67.85

David Husband

3



● U-Microcomputers' expansion bus with cards fitted

Expansion bus cards Spectrum

USP-232D card is a dual channel serial interface using Z80-DART processor. Includes software for LLIST and LPRINT and dumb terminal emulator and a 56-page manual. USP-I/O, a general purposes parallel interface, provides 16 output or input lines for uses such as plotters, music synthesizers, digital-analogue-digital converters, printers. Further cards also available, along with expansion bus. Untested.

USP-232D £34.50
USP-I/O £29.90

U-Microcomputers

4

SIMPLY CREATIVE

Now available for
**the BBC Micro
and ZX Spectrum**

The RD Digital TRACER

High resolution colour graphics facilities on micros provide outstanding opportunities for creative presentation of complex or irregular images. Maps, technical drawings, illustrations, even personalities can be accurately reproduced. But full use of these facilities is inhibited by the tedious and time-consuming plotting of individual coordinates.

The RD Digital Tracer solves the problem of tedious plotting by providing genuinely instant transfer from original drawings to display file. But a Tracer does more than that . . .

Unretouched hard copy from ZX printer.



The RD Digital Tracer is supplied with connector/interface, software cassette, and full instructions on use. It is available from Spectrum and other computer shops, or direct from RD Laboratories.

● Instant Full Colour Image Transfer and Scaling

Faithful reproduction of any shape is produced on display file immediately, simply by moving the head of the Tracer over the original outline. Fast PAPER and INK colour change is provided. The software also includes an infinitely variable scaling routine.

● Special Constructions

Circles, lines, angles and rectangles can be rapidly sampled and applied, based on any two Tracer input points. So windows and wheels, bar charts and frames, and so on, can be added to outlines within seconds.

● Colour Fill and Texture

Fast colour fill, or a choice of colour hatching can be added within outlined areas on the display.

● Text and Symbol Positioning

Text, or user-defined symbols, can be positioned as desired, under the control of the tracing head.

● Display, Print, SAVE and Re-trace

Besides colour display, drawings may be printed, and SAVED on cassette (or video recorder). And with the re-trace routine amazing animated presentations can be made.

BBC Micro Tracer

This Tracer version operates with the BBC Micro Model B, or suitably converted Model A computers. It is suitable for all graphics modes including Teletext, and a "colour palette", which can be modified whilst the program is running, relieves the user of complex GCOL colour specification. Accuracy to 1% is achieved over a full A3 tracing area. Software is provided for both serial and parallel printers. The price of £69.95 includes P&P and VAT. (UK only.)

ZX Spectrum Tracer

The ZX Spectrum Tracer (compatible with ZX81) operates with all ZX Spectrum variants and accessories, including Sinclair printer and Microdrive. Original areas up to A4 may be traced with a typical accuracy better than 2%. The price of £55.50 includes P&P and VAT. (UK only.)

Please send me _____ Tracer(s) for BBC Micro at £69.95 each, total £ _____
_____ Tracer(s) for ZX Spectrum at £55.50 each, total £ _____

Name _____

Address _____

Cheque, payable to RD Laboratories Ltd, for £ _____ enclosed.

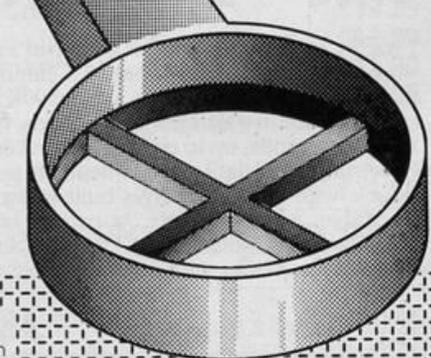
Send to: Dept HCW3 RD Laboratories Ltd 20 Court Road Estate Cwmbran Gwent NP44 3AS. Allow 28 days for delivery.

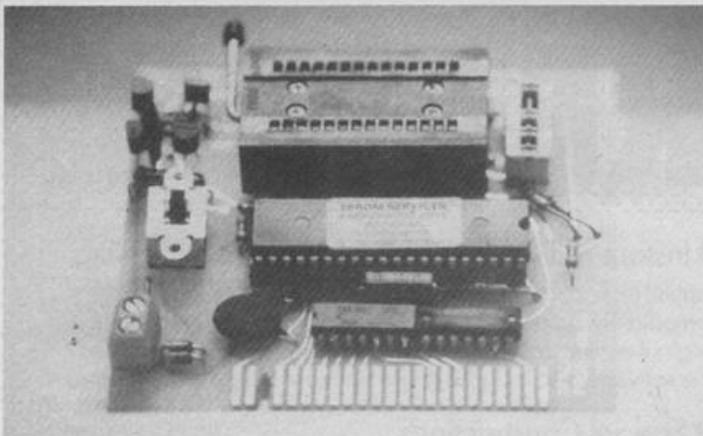


Economic Micro Control

RD Laboratories also supply the RD 81 00 SYSTEM for automatic measurement, test and control. The modular-based RD 81 00 SYSTEM is already widely used in many applications - from scientific experimentation to small-scale energy management systems.

For further product details please send your name, address and postage stamp to RD Laboratories Ltd 20 Court Road Estate Cwmbran Gwent NP44 3AS Tel Cwmbran (06333) 74333 Telex 437240





● This EPROM board for the Spectrum costs £19 from EPROM Services

EPROMs etc. ZX81/Spectrum

Among the range of add-ons from EPROM Services is an EPROM board for up to 8K or 2K EPROM or 2K RAM ICs. Also for the Spectrum is an Auto-Start unit which gives an automatic jump to location FD00 HEX on switch-on. ZX81 EPROMS include rapid load/save, tool kit, disassembler, graphics, character set, monitor and others. Untested.

EPROM board £19
Auto-Start unit £9.95
ZX81 EPROMs £9.95-£19

EPROM Services

4

EPROM - Card Spectrum

Plugs inside to add 10 extra routines, including re-numbering, editing, character moving and variable dumping. Untested.

£9.95

Orme Electronics

3

MX-8 ZX81

Two functions controlled by on-board switch: storage of up to 10 programs to a total of 6K, plus 6K of extra RAM. Software in a 2K EPROM provides a monitor for system status. Untested.

£44.90

Micro-Z

3

Miscellaneous

ZX Micro-drive Spectrum, Interface 1

I hardly need to explain this one; I'm sure you have already drawn your own conclusions. To summarise: uses quarter-inch video-style tape to store around 90K in tiny cassettes, 48K can be loaded in a claimed nine seconds, typical claimed access time 3.5 seconds, up to eight can be linked. Powered from the Spectrum, a red light shows when they are running. Not compatible with the Microdrives built in on the new QL micro. Cartridges are £4.95 each. At present both Microdrives and cartridges are available only from Sinclair. Each Microdrive includes a cartridge with a sample program.

£49.95

Sinclair

4

RD Digital Tracer

ZX81/Spectrum

You can move an arm across a tracing sheet to "trace" your own designs, put them on the screen and save them to tape. Pretty accurate and well designed. But leave plenty of desk space before you start.

£55.50

RD Labs

5

Micronet 800

Spectrum

The VTX 5000 modem, now in the shops and proving popular, connects your Spectrum to both Micronet and Prestel. Micronet can be pretty expensive to run for any amount of time because of phone charge, particularly during office hours, but ROM software is built in to allow you to easily download pages and "free" software to tape or Microdrive.

£99.95 plus local call costs

Micronet 800

3

Zeaker

ZX81/Spectrum

A "buggy" which has more use in schools than in the home. Programmed in LOGO, it can be made to trundle around. A relatively inexpensive introduction to robotics.

£69.95

Colne Electronics

3

Power Supply Regulator and "Buzz" Omitter ZX81/Spectrum

A silver-coloured box about the size of a cigarette packet which fits between the power supply and the printer. It stops the Spectrum "buzz" and cures overheating problems found in the Sinclair machines.

£8.95

P. R. Electronics

4



● Up to eight Microdrives can be linked together



This must be the most spectacular arcade action game, ever to be produced on cassette for the 8 or 16k expanded VIC 20.

As captain of a star ship lost in space, you encounter a miraculous force of winged creatures, known to the galaxy as the COSMIC FIRE BIRDS. They loop the loop. They figure out eight. They swoop. They dive. can YOU survive. Full screen display, 99 progressive levels of play, 5 lives, Bonus ship at 5,000 points, swarms, bombers, leaders, hawks.

This is arcade action like it's never been seen before. 100% M/C. Superb colour graphics and sound.

£7.95

P&P Inc.

Available mail order from
51 Meadowcroft, Radcliffe,
Manchester, M26 0JP
Tel: 061 724 8622

Also available from all good computer outlets.

| Other games available for the unexpanded VIC. | | | | | |
|---|-----|-------|-----------|-----|-------------------|
| Scrambler | M/C | £5.00 | Munch Man | M/C | £5.00 |
| Galaxions | M/C | £5.00 | Gun Fight | M/C | £5.00 |
| Super Breakout | M/C | £5.00 | Asteroids | M/C | £5.00 |
| Cavern Raider | M/C | £6.00 | Galaxions | M/C | £7.95 for Comm-64 |

ALL ORDERS SENT BY RETURN POST, TRADE ENQUIRES TO PCS DARWIN, CENTRESOFT WEST MIDLANDS, LEISURESOFT NORTHAMPTON

At last, the first joystick that puts the firing button where it should have been in the first place.

Extra responsive action

Trigger Fire Button

Diamond Cut 'Arcade' Style Grip

**TRIGA
COMMAND**

IS HERE!

Extra long 4 ft Cord



Rubber Suction Cups for

One Hand Operation

The Top American Joystick is now available in the U.K. . . .

To fit your **SPECTRUM** ONLY **£19.99** + £1.50 P + P

- Including Interface to plug straight into the Spectrum.
- The first Joystick to give you "Arcade" feel and control.
- "Jet Style" heavy duty, diamond cut grip.
- Fire Trigger placed under your index finger . . . the finger with the fastest reflex action.
- Self centring, 360° action.
- Compatible with most of the latest Software including:

- | | | | |
|-------------------------------------|---|---------------------------------------|---|
| <input type="checkbox"/> Jetpack | <input type="checkbox"/> Slippery Sid | <input type="checkbox"/> Brain Damage | <input type="checkbox"/> Frogger |
| <input type="checkbox"/> Cookie | <input type="checkbox"/> SS Enterprise | <input type="checkbox"/> Last Sunset | <input type="checkbox"/> Blind Alley |
| <input type="checkbox"/> PSSST | <input type="checkbox"/> Nite Flite | <input type="checkbox"/> Mazeman | <input type="checkbox"/> Galactic Jailbreak |
| <input type="checkbox"/> Timegate | <input type="checkbox"/> Meteoroids | <input type="checkbox"/> Galaxians | <input type="checkbox"/> Transam |
| <input type="checkbox"/> 3D Tunnel | <input type="checkbox"/> Galpman | <input type="checkbox"/> ETX | <input type="checkbox"/> Robotics |
| <input type="checkbox"/> Cosmos | <input type="checkbox"/> Cosmic Guerilla | <input type="checkbox"/> Frenzy | <input type="checkbox"/> Armageddon |
| <input type="checkbox"/> Cyber Rats | <input type="checkbox"/> Kong | <input type="checkbox"/> Astroblaster | <input type="checkbox"/> Extremator |
| <input type="checkbox"/> Galaxians | <input type="checkbox"/> Armageddon | <input type="checkbox"/> Knot in 3D | <input type="checkbox"/> Detective |
| <input type="checkbox"/> Spookyman | <input type="checkbox"/> Mission Impossible | <input type="checkbox"/> Joust | |

NOTE: THIS IS ONLY A SMALL SELECTION OF THE MANY COMPATIBLE GAMES

* Also available for Commodore/Atari

| Item | Amount |
|--|--------|
| Spectrum Triga Command | £19.99 |
| VIC/CBM 64 Triga Command | £12.99 |
| Atari Triga Command | £12.99 |
| Interface Unit only* | £11.99 |
| * To use with your own Joysticks with Spectrum | |

ALLOW 7 DAYS

P + P £ 1.50

TRADE ENQUIRIES WELCOME

24 HRS CREDIT CARD LINE



**DATTEL
ELECTRONICS**

27 HOPE STREET, HANLEY,
STOKE-ON-TRENT
TEL: 0782 273815

The
Intelligent
Joystick

At last... A joystick that works!

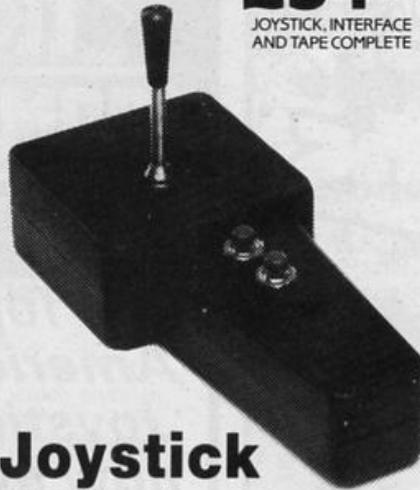
Cambridge Computing bring you the first **programmable** joystick - at a price you can afford.

£34⁹⁰

JOYSTICK, INTERFACE AND TAPE COMPLETE

Interface

- Easy to program
- 1k on board memory
- Own rear edge connector — for printers etc
- Compatible with all standard joysticks



Joystick

- Self centring
- 8 Directional microswitched action
- 2 independent fire buttons

Tape

- Easy to use program enables the interface to work on ALL software
- Keeps a record of all your games — so you only need to tell it about each game once!



Telephone us **now** for your nearest stockist!

CAMBRIDGE COMPUTING

1 Ditton Walk, Cambridge CB5 8QZ Telephone 0223-214451

Please send me:-

Joystick, Interface & Tape at £34.90

Interface and Tape at £27.90

Joystick only at £7.90

Name.....

For Spectrum

HCW

I enclose cheque/postal order for £.....

made payable to

Cambridge Computing Limited

Address.....

FROM FOX ELECTRONICS

SPECTRUM UPGRADES

(ISSUE 2 MACHINES ONLY)

TURN YOUR 16K SPECTRUM INTO A 48K FOR ONLY

£20.99

A high quality kit at a low, low price. This Spectrum upgrade is easily fitted by anyone in approximately 15-20 mins and requires no soldering or alterations to your Spectrum. Simply pushes into existing socket. Full step by step instructions supplied and if for any reason you are not satisfied with the kit return to us undamaged within 14 days and we will refund your money in full.

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A DELUX JOYSTICK CONTROLLER COMPLETE WITH INTERFACE AND

- CONTOURED GRIP
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TOP CONTROL **£19.50**

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CALLERS WELCOME BY APPOINTMENT



ZX-81

THE BEST AVAILABLE EXPANDABLE RAM PACK AT THESE NEW LOW PRICES!!

16K

£19.50

+ 45p P&P



32K

£34.00

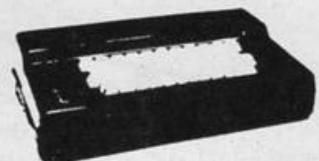
+ 45p P&P

The ZX-Panda a specially contoured unit designed to eliminate wobble and memory loss. House in a very attractive case with red LED on/off indication.

SPECTRUM/ZX-81 FULLER FD42 KEYBOARD

FOR THE SPECTRUM OR ZX-81. A42 KEY FULL TRAVEL, CASED KEYBOARD WHICH YOUR MACHINE SITS INSIDE, PLUGS IN (NO SOLDERING REQ).

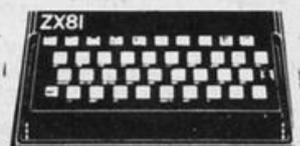
£29.95
INCL



ZX-81

Another replacement keyboard - this one with a calculator type feel. Peel off backing and press to fit. Incredibly low price of

£10.00



Adams adaptors **Spectrum**

These allow ZX81 add-ons to be used on the Spectrum. They are bare boards which plug into the edge connector and provide another. Excellent value considering the number of '81 add-ons around.

16K RAM adaptor,
Adam II and Eve (48K) £9

Stephen Adams

5

Print 'n' Plotter **Jotter** **Spectrum/ZX81**

Excellent and original graphics design pad for the ZX computers. Allows easy drawing of shapes. Two designs included — high and low resolution for the Spectrum.

ZX81 £3.50
Spectrum £9.95
ZX81 film £2.25

Print 'n' Plotter Products

5

QSAVE **ZX81**

Software to speed up SAVE and LOAD on the slow ZX81. Very reliable and useful

£15.95

PSS

4

Inverse Video Module **ZX81**

The best white on black picture in my opinion, although it affects some televisions. Just solder three wires inside the ZX81. A toggle switch on the outside turns it on and off.

fitted £7.50
kit £4

D. Fritsch

5

Cables **Spectrum**

A range of ribbon cables, 9-12ins, with 56-way connectors which could be used, for example, to separate RAMpack from the computer. Also paddle board to convert female connector to male. Untested.

£4.99-£9.49
paddle board £1.99

Hawnt Electronics

4

Monicon **ZX81/Spectrum**

Designed for reliable and easy loading and saving to tape, both models feature an on-off switch and the Spectrum version has a built-in amplifier. An enhanced Spectrum model has a 2 watt amplifier and socket for external speaker. Untested.

£15.95
enhanced £16.75

MacQuillan Electronics

3



● Plug in for high resolution with Digital Integration's unit

High Resolution Graphics Pack **ZX81**

Contains a 2K EPROM holding the hi-res BASIC monitor to control a 256 by 192 pixel screen, with every pixel accessible. Commands like PAGE, PLOT and SCROLL can be used to define characters, draw and plot. There is also a complete lower-case character set for word processing — but you would be well advised to buy an extension keyboard to use this feature. Compatible with ZX Printer. Schools discount. Untested.

£38.95

Digital Integration

4

Battpack **ZX81/Spectrum**

Said to eliminate problems caused by varying voltage, Battpack comprises a rechargeable nine volt battery and transient suppressor. Untested.

£13.95

Adaptors and Eliminators

3

Masterplug **ZX81/Spectrum**

Allows four devices to be connected — for example, TV, recorder, computer, printer — to one mains outlet. Supplied with 1.5m mains lead with plug and four other plugs. Inexpensive. Untested.

£10.99

H & K Supplies

4

Arab RAM **ZX81**

Fits between the ZX81 and a RAMpack to give a complete set of characters, keywords and functions in an Arabic version of BASIC called Saudia. Writing and evaluation of decimal numbers is from right to left. Includes instruction booklet and keyboard overlays are available.

n/a

Autoram



- Arab RAM gives an Arabic version of BASIC

Light pen Spectrum

Easy to use and inexpensive. Plugs into the ear socket and uses 16 commands, chosen from an on-screen menu. Among the features: change colour — border, paper and ink — draw circles, boxes, lines, fill, insert text, draw freehand. Five screens can be stored on the 48K Spectrum and used to simulate a sort of animation.

£19.95 dk'tronics

4

Floppy disc card Spectrum

Card which, says Technology Research, will work with any Shugart standard disc drive or Micro Disc 1 drives.

n/a Technology Research

High-resolution board ZX81

Fits between computer and screen to give a fully-programmable 256 by 192 resolution on screen, says Digital Integration. Uses 6.5K and has its own 2K EPROM. Untested.

£38.95 Digital Integration

3

ZX Tape Loader ZX81/Spectrum

Small box with a meter and three-position switch for Load, Off and SAVE plus an LED which indicates when the switch is in Load position. Needs a PP3 battery. It can be left in position permanently. In tests by an HCW reviewer, it loaded and saved perfectly several old tapes previously put aside as unloadable.

£14.99 Elinca

5

Floppy disc controller ZX81

Analogue says its floppy disc controller is compatible with single or double density Shugart 5¼in drives, the Japanese 3in drives and the 3in MCD Hungarian drives.

£40 approx Analogue

3

Printers

ZX Printer ZX81/Spectrum

Quality leaves a lot to be desired, but the ZX Printer needs no power supply — it plugs straight into the back of the computer — and is very cheap. It works by spark erasure on metallised paper 4½in wide.

£39.95 Sinclair

3



- ZX Printer — the original

Alphacom 32 ZX81/Spectrum

Faster, quieter and clearer than the ZX Printer — but at £20 more. The Alphacom 32 is imported from America where it is used with the Timex version of the ZX81. Unlike the Sinclair model, it uses its own power supply (supplied). It supports all the Sinclair commands and prints in blue on white paper in slightly thinner and taller characters. The paper is much cheaper: £1 for a 25m roll. Untested.

£59.95 Dean Electronics

4



- From America, the Alphacom 32 printer

Transform your Spectrum now!



Transform your Spectrum now with the FDS Keyboard, the best selling Spectrum keyboard in the U.K. The Fuller FDS Keyboard with its stylish, slim-line appearance gives you the look and feel of a real microcomputer keyboard and helps you enter data with lightening fast accuracy.

The keyboard contains all the graphic characters of your ZX Spectrum plus additional function keys. It has 4 cursor control keys, an auto rub-out key, a separate key for full stop and comma, a full length space bar, shift keys either side and 2 function keys for direct entry into green and red E modes.

The microdrive is easily adapted to go inside along with the power supply. Fixing is simplicity itself, no soldering or technical knowledge is required. For the user who is reluctant to install his Spectrum circuit board inside the FDS, a buffer is available (£8.75 + 80p p&p) which simply plugs into the expansion port and connects directly to the FDS Keyboard, allowing the whole cased Spectrum to be installed inside.

£49.95
+ £2.50 p&p

Fuller MICRO SYSTEMS

Fuller Micro Systems
The ZX Centre, 71 Dale Street,
Liverpool 2. Tel: 051-236 6109.

At Fuller Micro Systems we strive to maintain the highest quality in both research and development, ensuring our products are the very best. We have now built a brand new mail order department to ensure our service is also the very best. Our stock includes a full range of components and kits that will make the most of your Spectrum; all our products enjoy an excellent reputation for reliability and carry a world-wide one year guarantee.

Please supply me with..... FDS Keyboard(s).
I enclose a cheque/PO payable to
Fuller Micro Systems foror debit my credit card.

Card No. Barclaycard
 Access Card

Signature

Name

Address

Fuller Micro Systems, The ZX Centre,
71 Dale Street, Liverpool 2. Tel: 051-236 6109



AZ

A

Advanced Digital Systems, 9 Bonchurch Road, Portsmouth, Hants SO5 8LA
AGF Hardware, 26 Van Gogh Place, Bognor Regis, West Sussex PO22 9BY
Adapac Electronics, 22 Watling Street East, Towcester, Northants NN12 7AF
Adaptors and Eliminators, 14 Thames Street, Louth, Lincs
Autoram, P.O. Box 147, Jeddah, Saudi Arabia
Atari (UK), Atari House, Railway Terrace, Slough, Berks SL2 5BZ
Steven Adams, 1 Leswin Road, London N16 7NL
Audio Computers, 87 Bournemouth Park Road, Southend, Essex

B

Basicare, 12 Rickett Street, London SW6 1RU
Bi-Pak, P.O. Box 6, Ware, Herts

C

Camel (Cambridge Microelectronics), 1 Milton Road, Cambridge CB4 1UY
Cobra Technology, 378 Caldeonian Road, London N1 1DY
Computerlock, 2 Wychperry Road, Haywards Heath, West Sussex RH16 1HJ
Computer Keyboards, Glendale Park, Firmbank Road, Ascot, Berks
Consumer Electronics, Failsworth, Manchester M35 0HS
Colne Electronics, 1 Station Road, Twickenham, Middx TW1 4LL
Computer Cases, 4A Waters Edge, 148 Wellesley Road, Chiswick, London
Currah, Greythorp Industrial Estate, Hartlepool, Cleveland TS25 2DF
Cheetah Marketing, 359 The Strand, London WC2
Compusound, 32 Langley Close, Redditch, Worcs B98 0ET
Ricky Caplan, 87 Granville Park, Lewisham, London SE13 7DW
E. R. Cameron & Son, H/O 9 The Vineries, Enfield, Middx EN1 3DQ

D

dk'Tronics, 23 Sussex Road, Gorleston, Great Yarmouth, Norfolk
Dean Electronics, Glendale Park, Fernbank Road, Ascot, Berks SL5 8JB
Digital Integration, 22 Ash Church Road, Aldershot, Hants GU12 6LX
Delta Research, 15 Church Street, Basingstoke, Hants RG21 1QG
Data-assette, 44 Shroton Street, London NW1
DCP Microdevelopment, 2 Station Close, Lingwood, Norwich NR13 4AX

E

E.E.C., ? Whitehouse Close, Chalfont St Peter, Bucks SL9 0DA

Euroelectronics, Monteller Street, Retreat, Cheltenham
Electrotech, 2 Heath Close, Winston Hill, Luton, Beds
East London Robotics, Gate 11, Royal Albert Dock, London E16
Elinca Products, Lyon Works, Capel Street, Sheffield, South Yorks
EPROM Services, 3 Wedgewood Drive, Leeds LS8 1EF

F

Fountain Computers, Darvill Road, Ropley, Alresford, Hants
F. B. Tronics, Unit 2, Park Brook Industrial Estate, Park Street, Lye, Stourbridge, West Midlands DY9 8SS
Filesixty, 25 Chippenham Mews, London W9 2AN
D. Fritsch, 2 Station Road, Thelwall, Cheshire
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Fuller Micro Systems, 71 Dale Street, Liverpool 2
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David Husband, 2 Gorleston Road, Branksome, Poole, Dorset BH12 1NW
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Petron Electronics, Courtlands Road, Newton Abbot, Devon TQ12 2JA

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Ram Electronics, 106 Fleet Road, Fleet, hants GU13 8PA

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Technology Research, 57 Brockley Rise, London SE23

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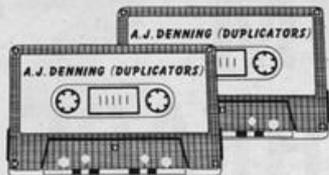
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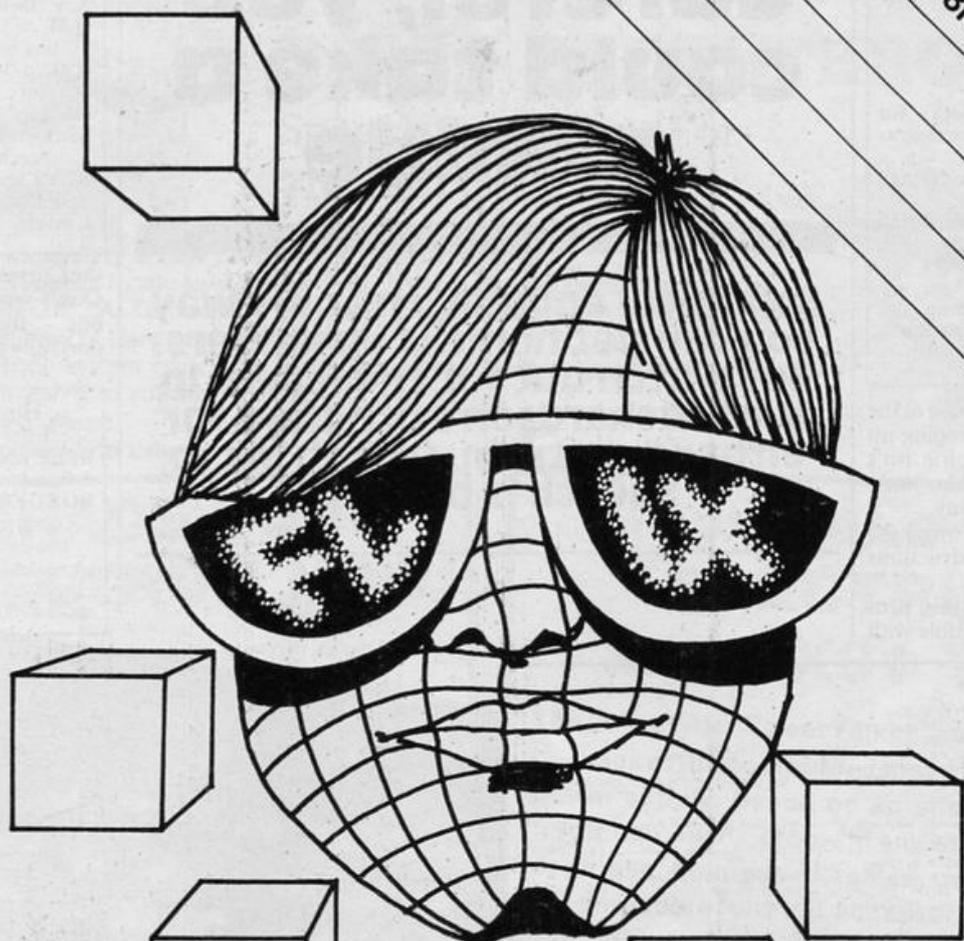
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SPECTRUM PROGRAM

Careful, you could take a tumble

Strangely enough, the only way you can get home is up ladders. But watch out for the leaves in Mark Richardson's program for either Spectrum. Currah Micro Speech is optional

How it works

- 1 set high score, turn off key-voice (speech)
- 10-90 display instructions etc
- 100-105 initialise variables
- 110-150 screen display
- 200-700 main loop: checks for jumping, moving, accidents etc
- 1000-1070 set up user-defined graphics
- 2000-2040 routine for completion of each screen
- 3000-3050 end of game
- 6000 tune
- 7000 says "help" if man has fallen off the platforms (only with Currah speech system)

You must reach your house at the top of the screen by jumping up the ladders. But, alas, life isn't that simple. You must also jump over the leaves on the way.

You can choose your own keys for movement — the instructions are in the game.

Another feature of this program is that it is compatible with

Variables

- X,Y co-ordinates of man
- Q,W co-ordinates of leaf travelling horizontally
- R,D co-ordinates of falling leaf
- SC score
- HI high score
- SS reserved variable for Currah speech system
- KEYS also reserved for Currah unit
- L level

the Currah Micro-Speech system. Don't worry if you haven't got one... the program will still run normally on any Spectrum.

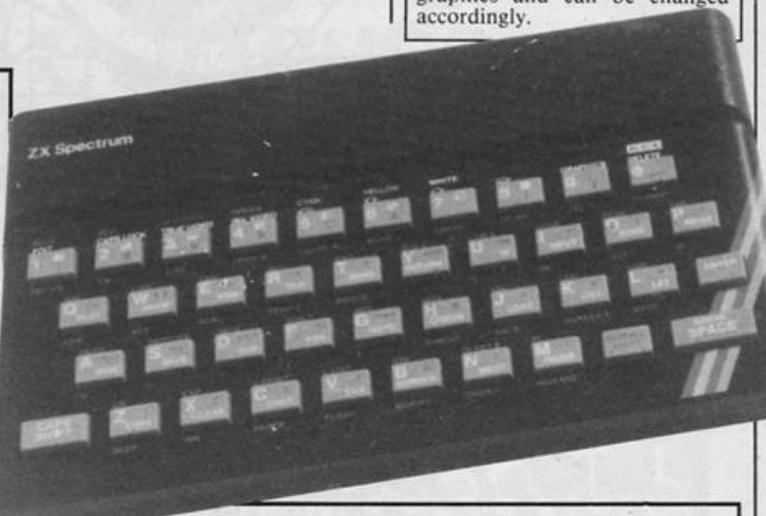
Hints on conversion

- Spectrum commands:
- BEEP sound
- AT screen co-ordinates (32 by 22)
- BORDER, PAPER and INK commands
- The data in the program is used to create the user-defined graphics and can be changed accordingly.

```

1 LET HI=0: LET KEYS=0
10 BORDER 4: PAPER 4: INK 7: CLS
20 PRINT AT 1,10: PAPER 7: INK 0: "LEAF WALK"
21 LET S#="": (KEYS) WALK: PAUSE 1
22 LET S#="...b(1) s(a)R(K f) (ch) (ar) (dd) (uh) n": PAUSE 1
25 PRINT AT 4,6: PAPER 7: INK 0: "By Mark Richardson"
30 FOR T=10 TO 10: PRINT AT 1,1: PAPER 7: INK 0: OVER 1: " " BEEP .01,T: NEXT
T
40 PAUSE 50
50 PRINT AT 7,0: "It is a windy day and you must get to your home and dodge the
leaves as they come at you."
60 PRINT AT 12,0: "Input keys for movement 1: INPUT AT 0,0: "Left >": 1: INPUT
AT 0,0: "Right >": 2: INPUT AT 0,0: "Jump >": 3:
65 LET S#="...p(ESS) E(tee) k(ee) y (tt) (ouu) (bb) (EE) (GG) i(n)": PAUSE 1
67 IF LEN 1 <> 1 OR LEN 2 <> 1 OR LEN 3 <> 1 THEN GO TO 60
70 PRINT " " " Press any key to begin."
80 PAUSE 0
90 CLS
100 GO SUB 1000
101 LET SC=0
103 PRINT AT 1,10: PAPER 2: INK 6: "LEAF WALK"
105 LET R=7: LET D=10: LET Q=20: LET W=1: LET Y=20: LET X=30: LET P=1: LET L=1
110 PRINT AT Y,X: OVER 1: FOR T=1 TO 10: NEXT T
120 INK 0: PLOT 15,130: DRAW 0,-15: DRAW -15,0: DRAW 0,15: DRAW 15,0: PLOT 0,13
0: DRAW 7,7: DRAW 7,-7
125 PLOT 3,127: DRAW 3,0: DRAW 0,-3: DRAW -3,0: DRAW 0,3: DRAW 7,115: DRAW 0,5:
DRAW 3,0: DRAW 0,-5: PLOT 7,115: DRAW 6,-6: DRAW 3,-2: PLOT 10,115: DRAW 6,-6:
DRAW 3,-2
127 INK 7
130 FOR Q=21 TO 10 STEP -1: PRINT AT Q,2: " " NEXT Q: FOR Q=10 TO 15 STEP -1: PR
INT AT Q,30: " " NEXT Q: FOR Q=15 TO 12 STEP -1: PRINT AT Q,21: " " NEXT Q: FOR Q=
2 TO 9 STEP -1: PRINT AT Q,30: " " NEXT Q
135 PRINT AT 0,2: " " AT 9,2: " "
140 FOR F=3 TO 29: BEEP .02,F: PRINT AT 21,F: " " AT 10,F: " " AT 15,F: " " AT 12,F:
" " AT 9,F: " " NEXT F: PRINT AT 21,30: " "
150 GO SUB 6000
200 REM *****
204 PRINT AT 0,20: "Hi-Score": HI
205 PRINT AT Y,X: C
206 PRINT AT 0,0: "Score": SC
207 LET Q=1: LET W=D
209 LET R=F: IF R=21 THEN PRINT AT 21,D: " " AT 20,D: " " LET R=7: LET D=INT
(RND*27)+3
210 IF INKEY#18 AND X>1 THEN LET X=X-1: PRINT AT Y,X: " " AT Y,X+1: " " LET C#="
" BEEP .01,5
211 IF D# AND R# THEN GO TO 3000
212 PRINT AT R,D: OVER 1: " " AT R-1,D: " "
213 PRINT AT R-1,D: " "
214 PRINT AT 21,D: " " PRINT AT 10,D: " " PRINT AT 15,D: " " PRINT AT 12,D: " " PR
INT AT 9,D: " "
215 PRINT AT 21,K: " "
220 IF INKEY#18 AND X<31 AND X>1 AND Y=20 THEN BEEP .01,10: PRINT AT Y,X: " "
" BEEP .01,5
230 IF INKEY#18 AND X<31 AND X>1 AND Y=20 THEN BEEP .01,10: PRINT AT Y,X: " "
PRINT AT Y-1,X: " " PRINT AT Q,W: " " LET W=W+1: PRINT AT Q,W: " " FOR T=1 TO 40:
NEXT T: PRINT AT Y-1,X: " "
231 IF INKEY#18 AND X<31 AND X>1 AND Y=17 THEN BEEP .01,10: PRINT AT Y,X: " "
PRINT AT Y-1,X: " " PRINT AT Q,W: " " LET W=W+1: PRINT AT Q,W: " " FOR T=1 TO 40:
NEXT T: PRINT AT Y-1,X: " "
232 IF INKEY#18 AND X<31 AND X>1 AND Y=14 THEN BEEP .01,10: PRINT AT Y,X: " "
PRINT AT Y-1,X: " " PRINT AT Q,W: " " LET W=W+1: PRINT AT Q,W: " " FOR T=1 TO 40:
NEXT T: PRINT AT Y-1,X: " "
233 IF INKEY#18 AND X<31 AND X>1 AND Y=11 THEN BEEP .01,10: PRINT AT Y,X: " "
PRINT AT Y-1,X: " " PRINT AT Q,W: " " LET W=W+1: PRINT AT Q,W: " " FOR T=1 TO 40:
NEXT T: PRINT AT Y-1,X: " "
234 IF INKEY#18 AND X<31 AND X>1 AND Y=8 THEN BEEP .01,10: PRINT AT Y,X: " " P
RINT AT Y-1,X: " " PRINT AT Q,W: " " LET W=W+1: PRINT AT Q,W: " " FOR T=1 TO 40: N
EXT T: PRINT AT Y-1,X: " "
240 IF INKEY#18 AND X=2 AND Y=20 THEN PRINT AT 20,2: " " AT 20,2: " " AT 19,2: " "
LET Y=Y-3: LET Q=Y: LET SC=SC+1
241 IF (X<2 AND Y=17) OR (X>30 AND Y=17) OR (X<2 AND Y=14) OR (X>30 AND Y=14) O
R (X<2 AND Y=11) OR (X>30 AND Y=11) OR (X<2 AND Y=8) OR (X>30 AND Y=8) THEN GO T
O 7000
250 IF INKEY#18 AND X=30 AND Y=17 THEN PRINT AT Y,X: " " AT 17,30: " " AT 16,30:
" " LET Y=Y-3: LET Q=Y: LET SC=SC+1
260 IF INKEY#18 AND X=2 AND Y=14 THEN PRINT AT Y,X: " " AT 14,2: " " AT 13,2: " "
LET Y=Y-3: LET Q=Y: LET SC=SC+1
270 IF INKEY#18 AND X=30 AND Y=11 THEN PRINT AT Y,X: " " AT 11,30: " " AT 10,30:
" " LET Y=Y-3: LET Q=Y: LET SC=SC+1
280 IF INKEY#18 AND X=2 AND Y=8 THEN GO SUB 2000
290 PRINT AT Q,W: OVER 1: " " FOR T=1 TO 10: NEXT T
295 IF X=W AND Y=Q THEN GO TO 3000
300 IF Y=20 THEN PRINT AT Q,W: " " AT 20,2: " " LET W=W+1: IF W=31 THEN LET W=
1
310 IF Y=17 THEN PRINT AT Q,W: " " AT 17,30: " " LET W=W+1: IF W=31 THEN LET W=31
320 IF Y=14 THEN PRINT AT Q,W: " " AT 14,2: " " LET W=W+1: IF W=31 THEN LET W=1
330 IF Y=11 THEN PRINT AT Q,W: " " AT 11,30: " " LET W=W+1: IF W=31 THEN LET W=31
340 IF Y=8 THEN PRINT AT Q,W: " " AT 8,2: " " LET W=W+1: IF W=31 THEN LET W=1

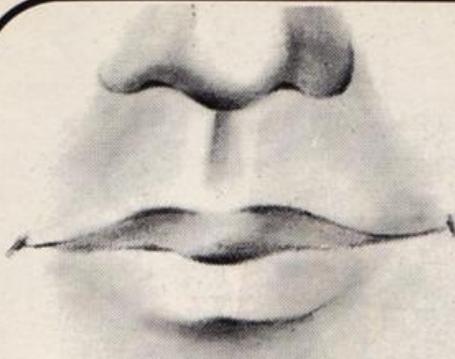
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700 GO TO 205
990 REM *****
999 PAUSE 0: STOP
1000 REM
1010 FOR N=0 TO 47: READ A: POKE USR "a",N,AS NEXT N
1020 DATA BIN 0001000,BIN 0011000,BIN 00001000,BIN 0011100,BIN 0101010,BIN 0
001000,BIN 00101000,BIN 01000100: REM
1030 DATA BIN 0001000,BIN 0001100,BIN 00010000,BIN 0011100,BIN 0101010,BIN 0
001000,BIN 00010100,BIN 00100010: REM
1040 DATA BIN 0011100,BIN 0011100,BIN 1001100,BIN 0111110,BIN 0011100,BIN 0
011100,BIN 0100010,BIN 10000001: REM
1050 DATA BIN 00000000,BIN 0001110,BIN 00110010,BIN 0101110,BIN 01000100,BIN 0
1001000,BIN 01100000,BIN 10000000: REM
1055 DATA BIN 00000000,BIN 1111111,BIN 10000001,BIN 01000010,BIN 00100100,BIN 1
111111,BIN 00000000,BIN 00000000: REM
1067 DATA BIN 0100010,BIN 0111110,BIN 01000010,BIN 0111110,BIN 0100010,BIN 0
111110,BIN 0100010,BIN 0111110: REM
1068 LET C#=""
1070 RETURN
2000 FOR T=0 TO 20: BEEP .02,T: NEXT T: PRINT AT 2,10: BRIGHT 1: FLASH 1: "You Di
d It": PAUSE 10
2001 LET L=1+1
2002 LET S#="(yy)(ouu) (dd) (dd) (tt)": PAUSE 1
2020 PRINT AT 5,7: BRIGHT 1: FLASH 1: "Score Bonus"
2021 LET S#="..sk(or) p(oo)nu(s)": PAUSE 1
2022 FOR F=1 TO 3000: NEXT F
2030 FOR T=0 TO SC+10: LET SC=SC+1: PRINT AT 5,19: SC: BEEP .01,10: NEXT T
2031 IF SC=HI THEN LET HI=SC
2032 PRINT AT 0,20: "Hi-Score": HI
2033 PRINT AT 7,7: PAPER 0: INK 7: BRIGHT 1: "LEVEL " HI
2034 IF L=2 THEN LET S#="(1)ev(1) (tt)(ouu)": PAUSE 1
2035 IF L=3 THEN LET S#="..(1)ev(1) (tt)(ouu)": PAUSE 1
2036 IF L=4 THEN LET S#="..(1)ev(1) (tt)(ouu)": PAUSE 1
2037 IF L=5 THEN LET S#="..(1)ev(1) (tt)(ouu)": PAUSE 1
2038 IF L>5 THEN LET S#="(1) kan(tt) k(ow)(tt) (th)a(tt) h(1)": PAUSE 1
2039 FOR T=1 TO 150: NEXT T: FOR T=1 TO 24: LET L=USR 3502: NEXT T
2040 FOR T=1 TO 150: NEXT T: CLS: GO TO 103
3000 CLS
3005 BEEP .3,-0: BEEP .3,-0: BEEP .3,-0: BEEP 1,-1: PAUSE 20
3010 PRINT AT 1,7: BRIGHT 1: FLASH 1: "You Tripped Over": AT 2,10: "A Leaf And": AT
3,6: "Cracked Your Head"
3011 LET S#="(yy)(ouu) (tt)ripd (ool)vier) (ay) (lee) f an(dd) k(raid) (yy) (or) (th)
e(dd)": PAUSE 1
3015 IF SC=HI THEN LET HI=SC: PRINT AT 10,2: INVERSE 1: "You have the new high s
core": LET S#="..(yy)(ouu) (hh)av (dth)u ny(ouu) (hh) (1) sk(or)": PAUSE 1
3017 LET S#="..p(ess) e(tee) k(ee) (tt)(ouu) p(lay) u(iggle)n": PAUSE 1
3020 PRINT AT 20,2: "Press any key to play again"
3030 PAUSE 0
3040 CLS
3050 GO TO 10:
5000 PRINT AT Q,W: " " LET Q=17: LET W=31: LET P=1: RETURN
6000 BEEP 1,10: BEEP .2,13: BEEP .2,5: BEEP 1,10: FOR T=1 TO 3: NEXT T: BEEP .2,
13: BEEP .2,5: BEEP .2,13: BEEP .2,5: BEEP .2,5: BEEP .5,10: RETURN
7000 LET S#="(0)EEEEEE(1)P": PAUSE 1: FOR H=1 TO 21: PRINT AT H,X: " " PRINT A
7,-H-1: " " NEXT H: FOR T=1 TO 3000: NEXT T: GO TO 3000
8000 CLS

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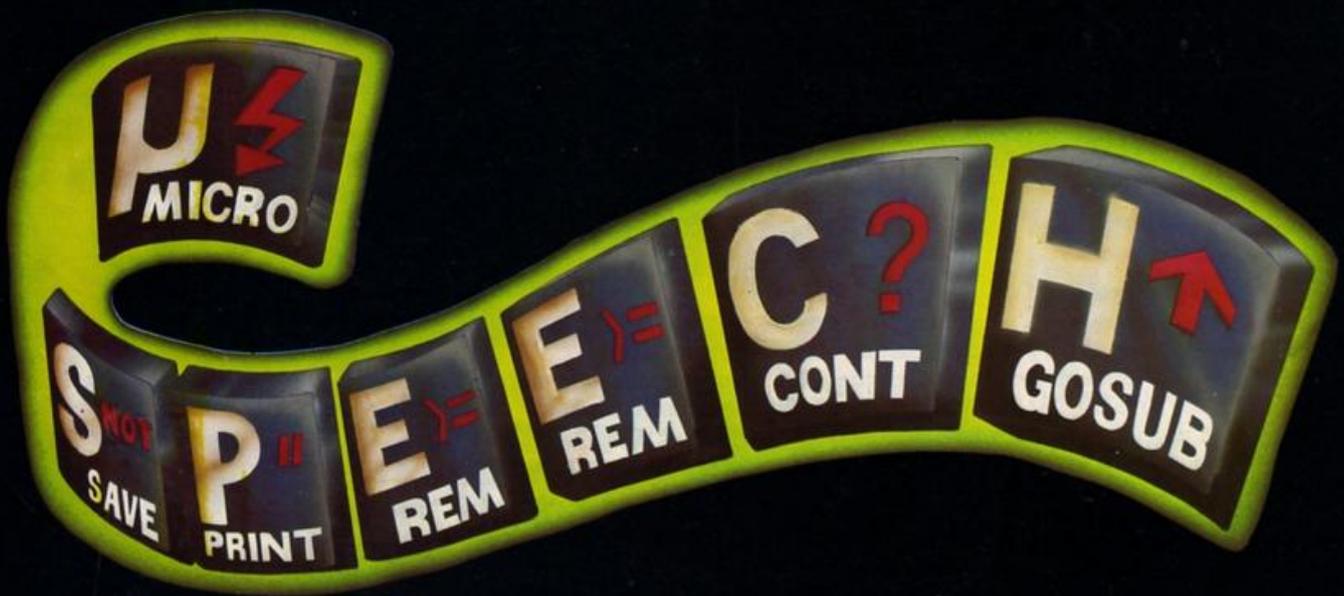
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