



Z A T

NO. 25

JUN - JUL

1994

£1.50

ISSN 0968-1841

CONTENTS

3	EDITORIAL: How it all began...
4	ZAT WRITES: Yet more letters..
5	SOAPBOX: A trip down memory lane..
6	MINDGAMES: True Faith reviewed..
7	ADVENTURE ORACLE: More helpful adventure tips..
11	THE SAM COLUMN: With Phil Glover.
13	CHIPSHOP: Its back. With coding routines by Micheal Meyer and useful info from Ross Brown.
17	PLAYZONE: Space Gun, plus SAM games Bombs Away and Invaders reviewed.
19	DEMO AND CO: Spectrum PD demos.
21	MEAN BIZ: SC-Word and the Amstrad NC 100
24	ONE TO ONE: Helpful advice and tips.
26	SHOW REPORT: Gloucester Gathering.
28	ZINE FILE: Zodiac, Crashed, Prism Power, SAM 2 SAM, Spectrum User Club and er Fish!
30	PRISM PD COLUMN

ZAT I.D. INDEX

-  SAM Coupe only.
-  Spectrum only.
-  For both formats.
-  News.
-  Comment.
-  Article.
-  Competition.
-  Reader Services
-  Non-Computer



ZAT No 25. JUN-JULY 1994. ISSN 0968 1841. EDITORS: D. BLACKBURN & M. SCHOLES. SAM TEAM: PHIL GLOVER, DB, TOBY COOLEY, DAVID HAIRE. SPECTRUM TEAM: JON ROSE, MS, JOHN TURNER, ST JOHN SWAINSON, MICHEAL MEYER, MARTYN SHERWOOD. DESIGN/DTP: GEOFF LYNAS, STEVE BERRY & DB. ARTWORK: DB. THANKS TO: Kevin Cooper, SC Greenfield, David Gommeren & Rob Mies, Everglades, SAM PD, Steve Nutting, Ross Brown, Mat Beal, Michael Stocks, Mark Sturdy, John Teare, Thomas Eberle, Jupiter Software, Darkest Knight, Ben Curren and all at SASUS on April 30th. ZAT uses the SAM Coupe via PCG DTP and SC WORD. Any input, send to the main address an' no other! Contributions welcomed on SAM (Outwrite or SC WORD), PCG, TASWORD, +D or PC MSDOS. No part of ZAT maybe copied unless permission gained. (C) ZAT. Views expressed are not necessarily those of ZAT. Any complaints will be looked into. ●

ARCADE ALLEY, PUBLICA DOMINIUS and Jon's Article return next time. **ZAT FACT COMPO 1:** Answers, Richter, Lewis, Yogi, Italy, Neamean, Flares, Dimeter, Ekuele. Key Word, FRIENDLY. Winner is P. BERGMANN. Thanks to all who entered. ZAT FACT 2 COMPETITION next issue! ●

EDITORIAL

Back in 1989, at a training college in Telford, a group of individuals got together to do something that they had never considered doing before. They all had interesting hobbies; one was into CB Radio, another was into comic-strips and another was into hobbies that are best kept a closely guarded secret. Several owned home computers, namely a newly bought SAM Coupe, Spectrum and Atari's. One loved playing adventure games while two of them liked the techie stuff and who spoke about the virtues of programming using all manner of terminology that perplexed members of the group on more than one occasion.

One member of this group had the idea to create a "fanzine" which would feature all their respective interests, for there were many others who shared the hobbies that they did in their "spare time". The term "fanzine" was something new to them, but the idea of writing, and selling a home-produced magazine sounded very interesting. There was no chance that the zine would make them all millionaires, and there was every chance that the zine would be a total flop. After all fanzines it seemed rarely survived after a first issue.

Despite this "fact", they put their heads together and worked out what the fanzine would feature, what it would look like; and having decided all that got to work using their word processors and Desk Top Publishers and created Issue 1. One of the centre's staff, the Health and Safety Officer as it happened, was very interested in the zine, and was invited to contribute to it. Having enjoyed the experience, he wrote another piece for Issue 2 and has been with the zine ever since.

The group member who started the ball rolling had previously run a zine called **ZAT (Z80)**, though it had only lasted one issue. As the new zine covered the Spectrum, and the new SAM Coupe, it was called **Advanced ZAT Programming**. "Advanced" because it was an "improvement" on his original ZAT, and "Programming" because

the zine had a lot of its content geared towards BASIC and Machine Code routines.

Issue one wasn't a full-blown success. Even so, the Z-Team (as the group called themselves), carried on with issue 2. By issue 4 it was clear that parts of AZP's content were not attracting readers, so out went the CB Radio, Science Fiction and the comic strip and in came features, interviews, etc. By issue 6 users were writing in, asking to become writers for **ZAT** (The "advanced and "programming" bits had been dropped as of issue 4). Just as well as members of the Z-Team were leaving for pastures new. With the influx of new writers, reader figures began to increase, and since issue 7 have remained very respectable for a fanzine that should've vanished into oblivion after issue 2.

So here we are at issue 25; 5 years after AZP was launched. Thanks goes to

David Ledbury, Ian Mitchell, Malcolm Seeb, Mick Garbett (sadly missed), **Polly Sheppard, Paul Morris, Matthew Holt, Andrew Vincent?, Ron Metcalfe, and Martin Scholes** (our Health & Safety Officer). Past writers; Joseph Crawford, Steven Kemp, Steven Mullen, David Nickell, Richard Swann, Andy Davis, Daniel Cannon, David Addey, Thomas Vanner, Guy Middleton, Steven Wilson, and to ZAT's new team given credit last issue.

Also thanks to **Madeley People's Centre, Lynsoft**, all the SAM & Spectrum services that have supported ZAT and those who do in the future. To Alan and Bruce for making ZAT a member of Team SAM, and to Sir Clive who we will try to interview one day. But thanks mainly to you, **our readers** who without which we wouldn't be here in the first place. So I hope you enjoy this special issue of ZAT. All the best and see you next time.



ZAT WRITES

Kevin Cooper
Carlisle



Dear Darren

Thanks for ZAT 24. The new look looks good, in fact a nice improvement. Nice and clear but well put together. Well done.

..A good list of new writers you had in the Editorial that will be writing (what else?) for ZAT. Things seem to be going uphill. Just one little thing though. Why are all the lines of text in ZAT wavy? I'm sure you mentioned this at one time but I can't remember exactly. Does it happen when ZAT is photocopied, or is your printer a bit dodgy? Is there a way to sort it out because while the magazine looks good and well laid out, the wavy text sort of lets it down a bit..

..I noticed on page 25 that you had a page about the IEBA and how things were going. Martin said he'd looked back to find what can be done to make it more successful. I'll be honest with you (don't take it personally)(We didn't! DB/MS), the main reason I didn't get interested and send for info was that things seemed too formal. I remember seeing a massive text file somewhere which was all about the Association and I could hardly follow it! It seemed like I was reading some formal legal document or something. What with rules, committees, source books, constitutions, etc, I just thought "Eh?" and didn't bother. Now the, erm, older people reading this will be thinking "Who is this twit?" and are probably quite happy with the list I've just mentioned. Right, time for me to go. Bye for now and best of luck.

Thanks for the letter. I glad to say that many readers have written in commenting on the new-look ZAT and most appreciate the changes made. Now about the wavy lines. Basically I

use PCG on my SAM. When I output files, I use a CANON BJ10sx, one of the best Bubble Jet printers around (and by no means a "dodgy" printer if you mind!). But, PCG's printer codes are archaic to say the least and were not designed to output to a BJ, so somewhere along the line the code gets "scrunched" and as a result text ends up being "wavy".

I hope that by making the IEBA more informal will entice more dedicated users of the SAM, Spectrum and other 8-bits to join to keep the scene going. I will add that despite the "formal" approach, the group hasn't exactly been a flop, but some users may have been put-off by the rules, so with the changes made, lets hope the IEBA grows in 1994.

S.C. Greenfield.
Lincoln

Dear Darren

I have a couple of queries over a couple of articles in ZAT 23. Concerning the MGT Lifetime drive, yes it is very possible to hook-up to a SAM, as is the case with my Lifetime drive which has now sat connected to my SAM since I received my SDinterface from MGT in the Spring of 1990 and works brilliantly as a second drive.

The next concerns Steve Nutting's article on printers titled "What's in a Pin"; the part where he refers to 9 pin printers only actually having 8 pins and NOT 9 as claimed by the manufacturers. Sorry Steve but they DO have 9 pins. Take the print-head off and count them under amagnifying glass if you doubt my source as I've recently replaced my print-head off my STAR LC-10 Colour printer and it HAS 9 pins. What happens is that a printer fires all 9 pins for character formation, but usually only 8 for graphics. These pins are numbered similiarilly to the way SAM'spalette is. I.E.: 0-127=128, with 9 pin printers



its 0-8=9. In fact my LC-10 manual lists a code for 9 pin graphics printing!

He has also named a few best buys at the end of his article in subscript print stating you can buy a 24 pin STAR LC-100 Colour printer. There is NO SUCH MODEL! You can buy a 24 pin MONO version, but no colour option, not even an add-on colour kit is available either. Perhaps he meant a LC24-200 or LC24-300 or an old LC24-10 Colour model, but definitely NOT an LC24-100 Colour. You can also buy a 9 pin LC-100 Colour printer as listed in STAR's 1994 brochure which I acquired from my local Tandy store which is a registered STAR dealer.

One book that appears to have eluded all SAM and Spectrum owners is called GETTING THE MOST FROM YOUR PRINTER by J.W. PENFOLD (ISSN 0-85934-155-0), price £2.95. It's a 100 page paperback pocket book, and was available a year or so ago from MAPLINS Electronics' catalogue. This book lists virtually all the Epson codes with worked examples for the most popular home-micros, including the Spectrum with Interface 1 connected. It also deals with graphic modes and embedded control codes in word-processors, and is in my opinion an excellent source of printer info as it holds top billing in my computer library. The book also comes under the Bernard Babani BP181 book listing. Cheers and happy SAMing for now.

Thanks for the letter, especially the useful information on the MGT Lifetime drive which appears in ONE TO ONE. I must admit that I haven't seen J.W. Penfold's book myself, but it sounds like good reading for all users so go out there and track a copy down. It maybe stocked by your local library. I didn't get a chance to ask Steve over the 8-9 pin point raised in your letter, so perhaps after he reads the above, he'll comment on this next time. Anyway that's it. Do keep your letters coming in as every letter is read. Enclose an SAE if you want a reply. All letters will be considered for print unless you indicate otherwise!

SAM PD and F9 SOFTWARE

D. Morgan: 18 Mill Lane, Glenburn
Road, Old Skelmersdale, Lancs, WN8
8RH or TEL: 0695 31163

What follows is a brief selection of PD and full-price titles available. For a copy of the current catalogue plus order form, write to the above address..

PD WARE (£1.25): CHALLENGERS, EDITION 3, REVIEW 1-4, DEMO DISK (FASTLINE 256K), TURBO 9, TURBO 12, TURBO 16, CONTACT 1, SCPDSA DEMO DISK 1-2, FASTLINE 10, FASTLINE 19, HIGHLANDER FILM DEMO, ROBOCOP 2 FILM DEMO, SPACE HUNTER FILM DEMO, TOTAL RECALL FILM DEMO, LORDS OF INSANITY SLIDESHOW, NO WAY BACK, BLINK DISK 3, SAM SOUND.

PD WARE (£1.50): UTILITY COLLECTION, KAT 1, SAMART, MOUSE DRIVER 2.0, SAM QUARTET 1, LYRA 3, FLEXIPAGE.

PD WARE (£1.99): STAR TREK FILM DEMO, TERMINATOR FILM DEMO, VALIANT UTILITY PACK, SAMSON DISK 1, STAR TREK GRAPHIC SLIDESHOW, ROBOCOP SLIDESHOW.

PD WARE (£2.00): PRIMUS 1A/1B, FASTLINE 3-4, MEGA DEMO'S 1-10, ALIENS FILM DEMO, TOP GUN FILM DEMO, WALKER DEMO, SCREENS\$ 1, BART SIMPSON 1-2, CARTOON, GARFIELD, SCREENS SLIDESHOW, BACKGROUNDS 1-2, PICCY DISK, BEAUTY AND THE BEAST, DINOSAURS, CLIP ART, SAMSCRATCH, SAM TASWORD, FONT DISK 1-5, SAM THE BANDIT, GEMSTONES, LOVEHEARTS.

F9 SOFTWARE (prices vary, check for info): SAM PRIME 5, ENTROPY EXPERIENCE, SAM 2 SAM 2, SAM DISK 10, EXODUS, SAM MIDI SEQUENCER V.3, SOFTRIX 1-2, SAM DISK 1-9, SAM OMNIBUS VOL 1-3, PICKASSO PORTFOLIO, CMS GAMES COLLECTION, STEPMIDI, ENCELADUS 1-9, ADVENTURE CLUB 1-13, WIMP DESK TOP, SAM MOUSE DISK, SOUND DIGITISER, BAKTRAK 1, SNAKEMANIA, DAYS OF SORCERY, OCCULT CONNECTION, and many more titles on offer.



SOAP BOX



WRITTEN BY

MARTIN SCHOLES

Here we are, folks! Yet another edition of Soapbox to (I Hope) entertain and inform you. A special issue of ZAT; it's our fifth birthday and issue 25 in the series.

We have seen a great many changes in the five years that we have been publishing ZAT. Magazines have come and gone, the Spectrum (arguably one of the best, most accessible computers EVER made) was screwed up by Amstrad. If Amstrad had had any sense, the SAM Coupe would never have had a look in, because Amstrad would have probably produced their own "super 8-bit machine". Imagine: a 8-bit machine with double disk drive, hard drive, stereo sound, super high quality graphics and with the capability of running all Spectrum software and CPC software by the use of different programs on the DOS disk which would have come as standard with the computer.

Perhaps it could have been called; "The Amstrum", or "The Amstrad Sinclair Vision" or some such. Do you ever get the feeling that perhaps some companies survive inspite of themselves? Such a computer would have been a world beater and would have given some 16-bits a good run for their money. It is, of course, possible that the Coupe did not fair well as it could have done because it has never had the correct level of financial and marketing support that it needed.

British Telecom are (not surprisingly) miffed by people who break into the cash boxes of public phone boxes and not only steal the money, but more often than not, put the phone out of commission too. They are fighting the problem by installing a special computerised system in phone boxes. Sensors detect when someone tampers with the cash box and a miniture camera (no bigger than a finger tip) relays pictures of the criminal to a computerised central control room where the pictures are recorded.

Experiments with the system (which has sound recording, as well!) in Alton and Basingstoke in Hampshire in 40 phone boxes have detected over 30 attempted break-in's and five arrests have resulted in the first three months of the trial. "LIVE ON T.V., FROM A PHONE BOX NEAR YOU, IT'S BURGULAR BILL!"

Remember the good old days, when programs and spotty 17 year-old programmers drove around in Porches on the strength of a few Spectrum programs they had written in their bedroom? (I bet THAT stopped their parents wishing their son would stop messing about with that stupid little computer!) Back in those good old days, we had a lot of really great software available, often produced by new, up and coming young programmers (Porches optional, please see contract for details). What were these programs? What were they like? Hey! Just draw your chairs a little closer to the crackling log fire, while grandpappy Martin regails you with the stories of what it used to be like, in the days when the BIG software houses used to treat 8-bit machines seriously.

SCRABBLE One of my personal faves, being a big Scrabble fan. Even though the Spectrum was a 48k machine, the implimentation of this top selling word game was first rate. You could play against three competitors, with all or none of these being computer controlled and the computer could play on four levels from easy to club standard. Colours were good and clash was never a problem. The Spectrum version was more user friendly than the C64 version, which was NOT user friendly and looked nowhere as good as the Spectrum version, even though (in theory) the C64 had better graphics. It was published by Sinclair and Leisure Genius.

BOOTY "Shiver me timbers, Jim lad! Avast the mizzen mast!" Yes, Booty was THAT kind of



game! You played the part of Jim the cabin boy who has to search a old galleon for treasure, and who has to be wary of ghostly pirates, poisonous ship's rats and equally poisonous ship's parrots and exploding booby-trapped booty! (Plus a door that when opened causes big problems!). It was highly addictive and was an amazingly low £2.50 to buy when new! Published by Firebird.

FRANKIE GOES TO HOLLYWOOD Weird kind of game! Solve a murder and take some drugs. Yes, bit strange really, but fairly addictive in a way (no pun intended). Although the computer press raved about the game (well okay, Sinclair User liked it), I rather though that perhaps the game could have been a little better. Published by Ocean.

SOUTHERN BELLE A train simulation set in the age of steam. A lovely game, if (like me) you are a fan of steam trains. You take the London to Brighton run and play the part of the driver and fireman. Good "wire" graphics, although I DO wonder if perhaps it would have been sensible for the program to play the role of the fireman, as I tend to doubt the validity of simulation programs where you have to play the part of everyone from teaboy to test pilot all at the same time! Still, this does not detract that Southern Belle was a great game. Published by Hewson Consultants.

LORDS OF MIDNIGHT/ DOOMDARK'S REVENGE Like wow man. Toooo much! These two games have to be the best two adventure games ever programmed. Two adventure games that show how adventure games should be programmed! You play Luxor the Moon Prince, Morkin his son and a host of followers including warriors, priests, etc, fighting against Doomdark. If you find a copy of these games (try MIDNIGHT first), BUY THEM! The map supplied with the game is a little bald, although magazines at the time did publish some first-rate detailed maps. I lent my copy to a friend who threw it away when tidying up his home (ex-friend I should say). This was how adventures should be written and were written by Mike Singleton in 1984. I wonder why so many people who write adventure games today, ten years after the valuable lessons taught by Mike IGNORE them and still churn out adventure games which just don't cut the mustard? Published by Beyond.

HAMPSTEAD A wonderful, fantastic game full of charm and wit and a joy to play. NO IT DAMM WELL HASN'T!! In my opinion it was one of the biggest loads of rubbish ever published for just about any machine. I formed the impression that it was hip to say you enjoyed Hampstead. Well, I Didn't. It was a load of tripe, and that's an end to it! A similiar program was the same company's Sherlock Holmes adventure game. Either a warped sense of humour or more likely bugs and lack of beta testing, gave the rather alarming prospect of Doctor Watson sitting in Sherlock Holmes' lap in their shared rooms! (Whoops! Send for the Thought Police!) I seem to remember similiar loopy events spoiling their otherwise wonderful adventyre The Hobbit which insisted on crashing at the same point in the game. BUT NOT AT THE SAME POINT IN EVERY COPY OF THE GAME! Published by Melbourne House.

TASPRINT A rather nifty program for those of us who use Tasword. It gives you a variety of fonts so would be a good idea to buy a copy, which I will have to do! (My copy of Tasword 2 deserves a treat, I think). Published by Tasman Software.

Anyway those are my faves, and not so favourite, Spectrum software titles of yesteryear. What are yours? Do write in and tell us!

IBM PC Compatible computers are supposed to be much better than their elderly 8-bit relations in the: "Dun Computing" old folks home, right? Well if so, why is it not possible to write your own programs into the bloody thing without having to fork out for a basic interpreter? Which, if you recall, you do not have to do on the Spectrum, SAM Coupe or even the ZX 81! Oh yeah. Progress is SO Wonderful!

An' have you managed to catch BBC 2's new comouter program THE NET? I haven't been able to as yet. Perhaps some kind soul would care to write a review on it? And lastly, TESCO superstores are re-launching it's computers for school kids scheme. Details from any Tesco store.

And that's it for this Soapbox. I hope you enjoyed it and will read it again next issue. You want something commenting on? Either send in your own article for BUBBLESORT or send me a letter via the ZAT address if you have a topic you want me to comment on. HASTA LA VISTA. BABIES! MS



MIND GAMES

TRUE FAITH: ENLIGHTENMENT £5.00

Elyzium Software

Enlightment is the first part of a planned trilogy of adventures under the banner: **True Faith**. You play the role of Marrakhesh, who has recently fought the demon Bai-Ei; a battle whose outcome proved not to be in your favour, as it has left you physically weak, and has also resulted in you losing your arcane powers of the Apocalypse, the only known power which can destroy Bai-Ei and thus save your homeland from destruction. After a period of recuperation, Marrakhesh is approached by The Watcher, who along with other powerful entities; The Father, The Hagwitch, Maiden, Mother and Keeper of Secrets, relate the test of Enlightenment, which upon successful completion will restore the power of the Apocalypse to you. In the Celestial Orb, you see yourself journeying to the land of Bragnone, to find the three items of Faith: the Book of Truths, the Cross of Virtue and the Chalice of Healing. But like all other quests, the task of reclaiming the sacred objects of Faith, and the restoration of your powers won't be a easy one to complete...

Upon loading the game, you find yourself atop a small hill, near to a cave which holds some interesting secrets. In the distance you can see the lay of the land quite clearly; barren shrubland dotted with outcrops of forrest, and there on the horizon, aren't there two tall towers glinting in the afternoon sun? Examining your pockets you find a piece of metal, which you must've picked up some othertime, though why is a complete mystery to you. If only you could remember, but your mind is still a bit hazy to say the least. Perhaps you should've rested for a few more days, but time isn't on your side..

Reading the location descriptions a few times is a good habit to get used to in True Faith 1 as they'll yield useful clues. Within the first 30 moves or so, you can travel to quite a few interesting locations and gather a number of potentially useful objects, though why you need Spider Silk has yet to dawn on me. If you manage to find the twin-towers, do make an effort to read that Medieval graffiti within them as they make interesting viewing.

The game is written on SAS, as was Occult and Days of Sorcery, and author, the Darkest Knight (no relation to Batman methinks) has used the utility well to create a very well written text-only adventure which I'm sure SAM Adventurers will enjoy. True Faith is truly traditional fare, full of wizards, evil beasties and maniac demon-lords bent on havoc, with you the hero intent on stoping the world from plunging into chaos. The puzzles are ingeniously though-out and if you do get stuck you can call on the Keeper of Secrets (presumably) to divulge a few tit-bits of help. The game comes with a very, well written manual, which includes tips for novices, special commands, and a introduction on how to play adventures. All in all, True Faith is a smashing game, and sets the standard for the rest of the series which will follow as soon as the Darkest Knight has a breather from Knight School.

SCORES. Presentation: 88% Sound:N/A OVERALL: 92%

Other games available: Curse of the Serpent's Eye by Martin Freemantle. SAM/Spectrum Tape/+D versions £2.50 from **Dreamworld**. **Legend of Eshan**. SAM only £14.95 from **Revelation**. **The Final Battle** (Final part of the Dragon Slayer Trilogy), and Golden Figurines of Death, Spectrum, £2.50 tape/+D. Both by Martin Freemantle from Dreamworld.



Adventure Oracle

WRITTEN BY

DAVID HAIRE

Greetings once more, adventurers, and welcome to the ZAT Adventure Oracle. This issue, I am concentrating on several of the games to be found on the **Deep Waters** compilation disk produced by Dave Whitmore of the SCAC. I have also thrown in a few hints for other games. Anyway, on with the show.

The Jade Necklace

Lock your door when you leave your office.
Don't go to the other floors without either an invitation or some form of protection.
The upper classes absolutely insist on politeness.
Good deeds often reap unexpected rewards, which you can use to smarten yourself up.
Talk to your friends and they may help you.
A good friend in a position of authority can give you a reference.
Play spot the difference with the contents of Bogie's wallet.
The desk in your office can help you enter the hospital.
When imprisoned, the age-old trick of setting fire to your bed will bring freedom.

The Challenge

To get the shiny object from the monkey, provide him with a more appetising alternative.
A second glance at the stump will reveal that which was previously hidden.
The bats are fond of fruit.
Once you have dealt with the monkey, investigate his haunt for one vital object.
Using the axe on the heavy limb will provide you with another.
Investigating the river bank will uncover a third.
To enter the locked hut, you need the black sack.
The lion is fierce, but he can be scared off.

The Cup

A dying elephant can lead you to a secret place.
The Head Keeper likes a good yarn.
The Grim Reaper needs something to soothe his hands.

Davy Jones Locker

Once on the deck, go fishing.
Insulate yourself before tackling the eel.
Most catfish prefer whiskers, so make sure that you are clean-shaven. Another fish can help, but you also need a polished surface.
The torch needs electricity, but not necessarily a battery.
The dinghy needs inflating. Now, where can you find a pump?
The mermaid wants paying, so give her six quid.
To enter the mound, read the palm.
Visit Herr Mitt for the means to cross the Sargasso.

Realm of Darkness

Don't worry about breaking the necklace, just pick up as many beads as you can find.
The tall grass can help you pass the dog.
The spade under the bush can be used more than once.
Bears are wary of bees, but have you got the bottle to catch them?

Witch Hunt

Push the Welsh Dresser.
The Sorcerer's Apprentice is an alcoholic.

The Enchanted Cottage

Large rocks conceal smaller ones.
Vegetation conceals many things.
Giants are scared of their own reflection.
Working the quarry will prove productive.
Steal some daisies to wrap around the



dog.

The Dark Tower

If you can't get through the archway, you deserve the sack.

Bulbo and the Lizard King

Don't try to steal the donkey, simply lead it away.

Examine the coins in your pouch to find the name of the golden bird.

The Elf can spot magic.

A stolen spade should be hidden away.

Lay the dagger in the depression and remember what the mice told you.

The Price of Magick Spells and their focuses: ESP Crystal Ball, DET Cross, FLY Broom, MAD Grimoire, DED Wheel, ZAP Ashes, SAN Claw, SEE Feldspar, HYP Staff, IBM Blue Box, SPY Candle, KIL Axe, BOM Trumpet, DOW Pendulum, XAM Prism, FIN Silver Mail, ZEN Cut Mirror, FIX Valerian.

As well as providing hints and tips, I also have the solutions to the following games:

Behind Closed Doors, Behind Closed Doors 2, Behind Closed Doors 3, The Blood of Bogmole, Bog of Brit, Buckaroo Banzai, The Dark Tower, Days of Sorcery, The Ellisnore Diamond, Emergem Enigma, Escape, The Final Mission, Five on a Treasure Island, Hampstead, The Jade Necklace, Kobayashi Naru, The Lost City, Pharaoh's Tomb, The Pyramid, The Secret of St Bride's, The Shrewsbury Key, The Sorcerer of Claymorgue Castle, The Temple of Vran, Winter Wonderland.

To obtain one of these solutions, please send an SAE and a second class stamp to cover printing costs to the address given below. That's about it for this issue. Don't forget to write in with your hints and queries.



READER SERVICES

SINGLE ISSUES, £1.50 U.K., or £2.00 Overseas. Both include postage costs.

SUBSCRIPTION RATES: £8.50 for 6 issues or 4.00 for 3 issues (U.K. rates) £9.50 for 6 issues or £5.00 for 3 issues (overseas rates).

If RE-SUBSCRIBING, take 50p off 6 issue rate or 25p off 3 issue rate. IEBA REGISTERED MEMBERS GAIN £2.00 off 6 issue rate or £1.00 off 3 issue rate. When ordering, please quote your I.D. number on your membership card!

BACK ISSUES ARE PRINTED ON REQUEST BASIS ONLY. NOW IN STOCK! ISSUES 6, 11, and 12. Cost £2.00 each! All other back issues cost £1.50 each. IEBA members deduct 50p off above rates. Please add an additional 19p/25p stamp per every 3 issues ordered to cover postage. Issue 18 not available. XTRA NEWS: To celebrate ZAT's 5th Birthday, a limited special edition run of ZAT No.1 will be available as of July 31st. Cost £1.00 plus postage. Readers can reserve a copy NOW. All orders received will be given priority when issue 1 is available.

ADVERTISING: ZAT offers all readers FREE Classified advertising. Categories include: FOR SALE, WANTED, MESSAGES, EVENTS, PEN-PALS, etc. Maximum word count 50 plus contact details. All ad's received will appear in 2 issues.

SERVICES can place 1 FREE AD in ZAT if non-IEBA members. Then the following rates apply: £4.00 (Full Page), £1.50 (Half Page), £1.00 (Quarter Page) per issue inserted. IEBA CORPORATE MEMBERS can advertise for FREE if you quote your I.D. number.

Please make all Cheques, Postal Orders and Eurocheques payable to ZAT c/o D. BLACKBURN or M. SCHOLE. COINS OR BANK NOTES will NOT BE ACCEPTED! ALL ORDERS DESPATCHED WITHIN 21 DAYS.

THE SAM COLUMN

WRITTEN BY

PHIL GLOVER

Welcome to my second SAM column. You may have noticed that my first column was mainly connected with adventures. This was because I was under the impression I was expected to write an adventure column only, rather than a general SAM one. I'll try and cover more SAM subjects this time. (Appologies to Phil from Editor. Hear gunfire in background. DB)

The main piece of SAM news recently was the second SAM and Spectrum Fair which was held in Gloucester on April 30th. I'm sure that there will be coverage of this event elsewhere in ZAT, but I'd like to add that I was very encouraged by it. Well over two hundred people must have turned up, and it was pleasing to see that many of us were buying software and hardware which must help strengthen SAM's credibility.

I bought Steve Nutting's new utility, **SC WORD PRO**. It's one of the most ambitious word processing programs for SAM so far, but it's written for 24-pin or bubble jet printers, although other higher specification printers may be OK. My humble 9-pin Star LC 10 isn't suitable for this package, so I haven't used it much so far. Nevertheless, I'll be buying my planned Canon BJ200 sooner, rather than later, to make better use of **SC WORD PRO**. I think some other ZAT contributor may be reviewing the program soon, so look out for an in-depth review in these pages. (In fact it's reviewed this issue in Mean Biz DB).

David Haire turned up at the fair to sell his newly released SAM adventure, **TRUE FAITH**, and seemed pleased with the number of copies he sold. At the same time, several copies of the **OCCULT CONNECTION** were also sold, which pleased author David Munden, too.

I was amazed how well the SAM compatible version of **THE CURSE OF THE SERPENT'S EYE** sold. It's a 48k PAWed adventure, converted to SAM disk, and seems to have become a modest success among recent

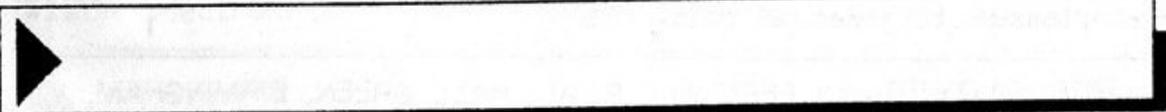
adventures. A few hints and tips should be appearing in ZAT, for anyone who's having trouble with the game. A review of **SERPENT** should be in **FRED** any time at all, and I hope another review will appear in ZAT (Next issue along with **Legend of Eshan DB**).

CURSE OF THE SERPENT'S EYE writer Martin Freemantle, of **DREAM WORLD ADVENTURES**, has just sent me his latest Spectrum adventure called **THE FABLED BLACK ROSE**. I haven't had chance to load it into my Spectrum yet, but I'll attempt a review of it for the next issue. Martin is one of the most prolific adventure writers on the Spectrum at the moment. Laurence Creighton, Spectrum **QUILL** adventure writer supreme, has moved to pastures new, or Computers new. He's now writing adventures for the PC, which is more bad news for the Spectrum.

The all formats adventure magazine called **RED HERRING** has ceased publication, due to a severe decline in subscriptions. If you occasionally buy adventure magazines, please continue to do so, perhaps on a more regular basis. We're in danger of seeing them disappear altogether if readership drops on other magazines.

I was sorry to see that the **SAM SUPPLEMENT** team didn't turn up for the SAM & Spectrum fair. They give great support to SAM, and also produce a lot of low-priced quality games. The latest I've heard about is some form of strip poker game, complete with digitized pictures. I haven't seen it yet, but I hope it doesn't feature some of the characters pictured in **DOUBLE TOP** a few months back! I hope to see the **SUPPLEMENT** team at the May **ALL FORMATS FAIR** in Birmingham, as they are often there, and are always worth talking to.

A new printed SAM magazine is now out. It's called **ZODIAC** and is published and written by Michael Stocks. (See **ZINE FILE** for address). Each copy costs 50p and is produced using **SC DTP**. Although not up to the quality of **ZAT**,





it's a decent read, and Michael seems to enjoy writing it. He's also selling some SAM PD programs under the ZODIAC title, so I hope he makes a success of ZODIAC. **SAM2SAM** issue 2 fell onto my doormat a short while ago, and it has improved greatly since issue 1. It's a double-disk SAM magazine with free games and plenty of material. I only hope they can keep publishing such a large amount of stuff, as it can't be that easy to write a magazine and write games at the same time. At only £2.00 per issue it's a bargain and shows that, along with ZODIAC, there is new talent appearing on the SAM scene all the time.

I spent most of the SAM Spectrum fair by Darren's stall, and didn't talk to as many people as I'd hoped. I regret not finding out more about **WEST COAST COMPUTERS** who were there. Apparently they are now selling SAMs with either bundled software or a built-in printer port, for the same price. This may not be fantastic news in itself, but is certainly a positive approach to SAM. The SAM Spectrum fair helped reinforce my faith in SAM. Given a bit of a push, I think SAM should become more successful financially. The Spectrum is no longer being made, and the Commodore C64 seems to be becoming a rarity, leaving the 8-bit area of the computer market open to SAM. We all appreciate it can't be fairly compared to high-powered PCs or AMIGAs, etc., but it's a superb machine with loads of good features, and could be a perfect first computer for many people. I'll definitely be attending the next SAM Spectrum fair later this year, to see how things are progressing, although I wish it wasn't held down in Gloucester, but somewhere a bit more accessible.

If you bought **MasterBASIC** from Andy Wright quite a while ago it may be worth you while returning your original copy (with SAE, etc.) to get the most recent version. I've just received my copy and found a very useful freebie program on the disk called **TREE**. If you run this, it give a screen list of all the directories, subdirectories and files on a disk, just like the **TREE** commands on MSDOS for the PCs.

One person I was pleased to meet at

the SAM and Spectrum fair was Wayne Coles. He's currently writing an adventure and an arcade shoot-em-up (Gallium) game using machine code. Wayne's adventure program and routines look very impressive, but he's written to me saying he's not too good at thinking up puzzles for such games. Wayne would love to hear from anyone who can come up with a few puzzles for him, or even the structure of a whole game. He'd naturally give full credit to anyone providing puzzles or enter into a profit-sharing arrangement with anyone who could make a major contribution to any resulting adventure. If any ZAT reader has ever fancied creating an adventure, but doesn't feel able to write the actual program, this may be an excellent way to achieve this. For further information, please send an SAE to: **Wayne Coles, 22 Coral Close, Tuffley, Gloucester, GL4 0RG.**

Has anyone ever successfully converted the Spectrum game **URIDIUM** to SAM emulation? All my various snapshots of this game load OK, but it isn't possible to control the spaceship properly.

LEMMINGS: HELP!! Can anyone tell me how to solve **TRICKY** Level 23? I'm completely stumped by this one so far, and I'm sure I'm missing something very obvious, and I'm getting very desperate! Access codes for the **TRICKY** levels of **LEMMINGS**:

1. GGBOSXOK, 2. FHOOTEQE, 3. AHERVAFB, 4. ZGCQVAGG, 5. CGEQVAHD, 6. BGIPVASO, 7. WGKPVALL, 8. VEAOXAEA, 9. YDGMARF, 10. XCIBZAOK, 11. IRABAARN, 12. HRCBAAOO, 13. KRIBAAALH, 14. JJFTSANL, 15. EQEABAJN, 16. DQIABAEA, 17. GQKABAFB, 18. FQMZBASG, 19. AOAYCZJF, 20. ZIHRSZRD, 21. CILRSZQM, 22. BINRSZNL, 23. WIPRSZGO HELP NEEDED !!!

ADVENTURE ORACLE asked how to get through the archway in **THE DARK TOWER**. Enter the black sack, as it has magical powers.

Anyway that's all for this edition of **THE SAM COLUMN**. If you want to write to me or send in any help for Level 23 of **Lemmings**, my address is printed

below. PG



CHIP \$HOP

SPECTRUM TEST PROGRAM by MICHAEL MEYER.

The following routine tests which type of Spectrum a program is running on, and which mode is used. It further checks whether the program is running on a SAM or an Emulator used by a PC, or another machine. It was first thought for the use in Public Domain demos so that the demo routines could be adapted if necessary (e.g. HiRes colour). Or simply to tell the user to change the mode of his Spectrum (if he has the required one). But there could be other possible applications which this routine could be used for.

How does it work? Well, with one exception, it doesn't check any system variables, or ROM values, but the hardware. This is a more safer way as system variables or ROMs can be changed, but the hardware should be the same in most cases. To detect 48K, 128K, SAM or Emulator systems, it first tests the Mhz rate or simply the speed of the machine (e.g. Spectrum 48K, 3.5 Mhz, Spectrum 128K, 3.55 Mhz, SAM Coupe (Screen Mode 1): 3.48 Mhz, etc). If it is a 128K Spectrum, the speed of the video chip (or ULA) is tested to distinguish the "normal" 128K Spectrum's (128, +2) from the Amstrad Spectrum's (+2A, +3). This is possible as the re-built Amstrad ULA is a bit slower when the TV Picture is built up. Even a +2A/+3 with a Fixer Kit (normal 128K ROM) will be detected as a +2A/+3.

To find out the mode (only useful for 128K Spectrums, as the 48K Spectrum will always be in 48K mode) it is tested whether a RAM page can be paged in and out (no values will be destroyed). If this isn't possible you're in 48K mode, otherwise a system variable is checked to test whether you're in 128/+3 Basic in USR 0 mode (USR 0 mode: When you're in 128/+3 Basic enter USR 0 and then you have a 48K editor, but unlike to the command SPECTRUM, you can still use the RAM pages or other I/O addresses of the 128K Spectrum using OUT). Some of you

may wonder about the address where I placed the routine. Now, above 49151 the routine would page itself out when doing the page test, and below 32768, the RAM shares its time with the ULA so the speed tests wouldn't work properly. Some vital points to mention:

1. The routine uses addresses from 48640 to 49092 although the routine itself starts at 48900! The lower addresses are used for the interrupt table so don't have anything important placed there!
2. The routine should not be changed in any way as long as you aren't a very clever guy, otherwise it will crash!
3. On 128K Spectrum's, the first third of the screen is cleared due to the video test but this shouldn't do any problems.
4. After the routine has been called once, you might overwrite or clear it, so that you can use the whole memory as usual.

To use the routine do PRINT USR 48900 to test the Spectrum type and PRINT USR 49030 to test the mode. If you call the routine from a program use a variable to get the mode value (e.g. LET mode = USR 49030) otherwise it might not work due to the system variable check. If you use an assembler, the value is given in the register BC. You then get one of the following results:

Spectrum Type (USR 48900):

- 48 48K
- 128 128K/+2
- 3 +2A/+3
- 4 SAM (in Screen Mode 1)
- 5 Spectrum Emulator or any other Speccy systems from out of space

Spectrum Mode (USR 49030):

- 48 48K Mode
- 0 USR 0 Mode
- 128 128/+3 Basic

Okay, here's the assembler listing:

10 ;SPECTRUM/MODE TEST	530	INC	BC	;BC
20 ;USR 48900->SPEC TYPE	counts number			
30 ;USR 49030->MODE TYPE	540	CP	1	;of loops
40 ORG 48900	per			
50 ENT \$	550	JP	NZ,VID_LP	;interrupt
60 ;	560	DI		
70 ;GENERATE IM2	570	LD	A,C	;Compare
80 ;	value			
90 LD A,I ;Save I	580	CP	248	;of BC
register	->			
100 PUSH AF	590	JP	Z,SP_2A	;new/old
110 INIT LD HL,48640 ;Generate	ULA			
IM 2	600	CP	17	
120 LD BC,191 ;table	610	JP	NZ,EMULAT	
130 LP1 LD (HL),C	620 SP_128	LD	BC,128	;Set
140 INC HL	return			
150 DJNZ LP1	630	JP	RETURN	;value
160 LD (HL),C	640 SP_2A	LD	BC,3	
170 LD HL,FLAGCH ;Copy IM	650	JP	RETURN	
2 Routine	660 SP_48	LD	BC,48	
180 LD DE,49087 ;to	670	JP	RETURN	
49087	680 SAM	LD	BC,4	
190 LD BC,5	690	JP	RETURN	
200 LDIR	700 EMULAT	LD	BC,5	
210 LD A,190 ;Switch	710 ;			
on IM 2	720 ;RETURN TO BASIC			
220 LD I,A	730 ;			
230 IM 2	740 RETURN POP	AF		;restore
240 ;	LD	I,A		;I register
250 ;TEST MHZ-RATE	750	IM	1	
260 ;	760	EI		
270 LD BC,0	770	RET		
280 HALT	780	FILL	DEFS 4	;4 Nop
290 XOR A	bytes (important!)			
300 MHZ_LP INC	800 ;			
counts number	810 ;TEST MODE			
310 CP 1 ;of loops	820 ;			
per	830 MODE	DI		
320 JP NZ,MHZ_LP	840	LD	HL,49152	;Test
;interrupt	RAM page			
330 DI	850	LD	D,(HL)	
340 LD A,C ;Compare	860	LD	(HL),0	
value	870	LD	BC,32765	
350 CP 10 ;of BC ->	880	LD	A,16+7	
360 JP Z,VIDTES ;type of	890	OUT	(C),A	
Speccy	900	LD	E,(HL)	
370 CP 222	910	LD	(HL),255	
380 JP Z,SP_48	920	LD	A,16+0	
390 CP 205	930	OUT	(C),A	
400 JP Z,SAM	940	LD	A,(HL)	
410 JP EMULAT	950	CP	255	
420 ;	960	JP	NZ,MOD128	
430 ;128 OR +2A/3?	970 MOD48	LD	(HL),D	;Not
440 ;TEST VIDEOSPEED	possible			
450 ;	980	LD	BC,48	;-> 48K
460 VIDTES EI	mode			
470 LD HL,16384	990	EI		
480 LD BC,0	1000	RET		
490 HALT	1010 MOD128	LD	A,16+7	
500 XOR A	;Restore page			
510 VID_LP LD	1020	OUT	(C),A	
screen with	1030	LD	(HL),E	
520 INC HL ;0	1040	LD	A,16+0	

```

1050      OUT      (C),A
1060      LD       (HL),D
1070      LD       BC,128
1080      EI
1090      LD       A,(23611) ;Test
susvar,
1100 USRO  CP      205      ;USR 0
mode?
1110      RET      NC
1120      LD       BC,0
1130      RET
1140 ;
1150 FLAGCH LD     A,1      ;IM 2
routine
1160      EI
1170      RET

```

MC : RAM 8192-16383, ROM 0-8191

To disable the Multiface use the following routine:

```

DI          ;Disable interrupts
IN A,(159) ;Page Multiface in
LD HL,OFF  ;Copy protection
LD DE,8191 ;routine into
LD BC,6    ;Multiface RAM
LDIR
IN A,(31)  ;Page Multiface out
EI          ;Enable interrupts
RET
OFF DEFB 0,0,255,82,85,78

```

NOTE: Replace f symbols with a HASH (sharp) symbol!

And for all of you who aren't that familiar with assembler the Basic listing will be printed next time. MM.

+D and MULTIFACE PROTECTION By MICHAEL MEYER.

The following two routines protect your programs to get "snaped" or "multifaced". I don't know whether you'll find this useful, but I don't like to see my programs being rubbished or hacked when they weren't supposed to! To switch off the SNAP function of the +D (only printer options will work) use the following Poke:

POKE @161,201

If no +D is attached this will probably end with an error message, so it is better to use an assembler as it then makes no difference whether a +D is attached or not:

```

DI          ;Disable interrupts
IN A,(231) ;Page in +D
PUSH AF     ;Save A register
LD A, 201   ;Equal to POKE
LD (8353),A ;@161,201
POP AF      ;Restore A register
OUT (231),A ;Page out +D
EI          ;Enable interrupts
RET         ;Return to Basic

```

Note that the +D ROM/RAM are exchanged when you use Machine Code:

Basic: RAM 0-8191, ROM 8192-16383

Note that the Multiface will only get disabled if it is switched ON! To get around this problem the routine should run by interrupt! If the Multiface button is then pressed, the program stops for a second and then continues. The above routine was tested on a Multiface 1 so there maybe other reactions if the routine is used with other Multifaces! MM

"WHAT'S BEST? MACHINE CODE OR BASIC?" BY ROSS BROWN.

BASIC (Beginners All Purpose Symbolic Instruction Code) and Machine Code are both computer languages. BASIC is high level because it incorporates words: e.g. PRINT, AT, IF, THEN, etc which, when writing a program makes it easier to read and/or debug, but, this ease of use comes at a price. Speed. Imagine we want to load a SCREEN\$ into the display file from say Address 50000, we could use:

```

10 LET A=50000; FOR N=16384 TO 23295
20 POKE N, PEEK (A)
30 LET A=A+1; NEXT N

```

This small BASIC program graphically shows how slow BASIC can be. This is because the computer spends most of the time translating the lines of BASIC instructions before executing them and in line 10 where the numbers are stored in the program area in five byte loading form, the computer has to spend time converting these into two byte intergers.

Once line 10 has been initialised, the computer goes on to repeatedly

translate and execute lines 20 and 30, but all the computer will remember are the variables "A" and "N". Each time round the loop the computer must translate each instruction afresh, then act upon the result. The loop being controlled by the NEXT instruction. FOR is only used to initialise the loop. In MACHINE CODE, there is no translation involved. Compare the speed of the MC equivalent below to the program above. It is assembled to address 40000 but it is relocatable and can be put anywhere sensible.

```
10 ORG 40000 : Assembler directive to
place code at 40000
20 LD HL, 50000 : Load from address
held in HL
30 LD DE,16384: To address held in DE
40 LDIR: Load HL from DE until BC=0
50 RET: RETURN to BASIC
```

If an assembler is not at hand then type in and run the following BASIC program:

```
10 CLEAR 39999: FOR N=40000 TO
40011:READ D,POKE N,D: NEXT N
20 RANDOMIZE USR 40000
30 DATA
33,80,195,17,0,64,1,0,27,237,176,201
```

The first BASIC example used a FOR-NEXT loop, the Machine Code routine is based around the LDIR instruction which stands for Load with Increment and Repeat (There is also LDDR: Load with Decrement and Repeat). The effect of this instruction is to load one byte of data from the address held in the register pair HL to the address held in the register pair DE, increment the contents of both HL and DE, the decrement the contents of BC which is used as a counter. When the contents of BC reach 0 the loop is completed and the computer then passes to the next instruction, RET, and RETURNS to BASIC.

In Machine Code you are speaking the same language as the Z80 chip, you have control. There are no error report codes here if anything goes wrong. If the RET instruction was omitted in the above program the computer would plough on through the memory trying to execute each none zero number that it finds. This will almost certainly result in a crash, sometimes very pretty (but annoying) ones. RB

G.I.G.O.

WANTED: Any old platform and ladder titles. Send details to JOHN TURNER, 58 BURNSIDE, PARBOLD, LANCS, WN8 7PE

FOR SALE: Spectrum software. Many classic titles no longer available. Send SAE for titles and prices to JON ROSE, "THE ANNEXE", 26 BARRACK LANE, BOGNOR REGIS, WEST SUSSEX, PO21 4DA.

FOR MORE HINTS AND TIPS for virtually ANY Spectrum game title, enclose 50p plus SAE to JON ROSE, C/O above address.

FOR SALE: The following Spectrum game titles: The General: Warfare in the Napoleonic Era £4.60, Invasion Force £4.60, Lords of Chaos £4.00, The Armageddon Man £1.50, Dragon Ninja £3.00, Arcadia Compilation: Operation Thunderbolt, The New Zealand Story, Chase HQ and Cabal £5.00, Turrigan 1 £4.60, Total Eclipse 1 and 2 £5.20, Chase HQ 2 £5.00, Shadow of the Beast £4.80, Red Heat £3.40, Match Day 2 £2.50, Predator 2 £4.60, Oriental Games £6.50, Leader Board Par 3 £6.50, Nigel Mansell's Grand Prix £2.50. All games are full-price versions. Contact MARK BENNETT, 5 ROMILEY CRESCENT, BRIGHTMET, BOLTON, LANCS, BL2 5AT.

SOFTWARE WANTED: Shrewsbury Key, Urquhart Castle, Warlock, Golden Baton, Castle Blackstar adventure games. Contact JIM FINNEY, 5 THORGANBY ROAD, CLEETHORPES, DN35 0HR.

FOR SALE: Spectrum +3 with PSU, Kempston Interface and Cheetah Joystick, leads and manual. All in good working order. Both disk and tape. £45.00 inc postage. Contact A.J. HARDING, 25 CHURCHDOWN LANE, HUCCLECOTE, GLOUCESTER, GL3 3QH.

IF YOU HAVE ANY MESSAGES, ITEMS TO BUY OR SELL, WANTS, ETC. Send in your FREE classifide advert/s (max 50 words plus contact details) to the ZAT ADDRESS. Pirated/illegal items will not be included!



PLAY ZONE

BY John Turner, ST. John Swainson & Compatriots

SPACE GUN By Ocean
From Software City
Tape Only/Spectrum
R.R.Price. £10.99

I loaded up Space Gun with a view to reviewing a game I didn't like. However, instead of deciding on the reasons for disliking it, I actually found it quite addictive but it's still nowhere near as good as the three glossy Speccy mags said it was though when first reviewed. (average mark was 90%)

You are led through a space ship crawling with aliens to rescue the crew who have been taken hostage. These hostages are saved by simply not shooting at them, and a extra life can be gained if all the hostages are rescued on each level. The aliens must be shot before they can inflict any damage on you. Just centre your target on a alien an' fire away. They require several shots to kill but extra weapons like flame throwers and grenades can be picked up which can destroy them with one shot but can be only used once. Their sheer size (some almost cover the entire playing screen) make them easy targets even though they move around. Because the graphics are so large and colourful, they are poorly animated and lack detail. Things deteriorate when more than one alien appears simultaneously as sprites merge into a mess on screen and the action is slowed down severely. The best graphics are those of the background which scroll smoothly across the screen.

Each level I've reached (five so far) is the same except level 3 which is set on the surface of a planet. There is some variety in the aliens on each level (and at the end of some levels) but not enough considering the game is 128k and is a multi-load. About half of the multi-load is taken up by a picture with accompanying storyline. The graphics on this are good and it adds to the atmosphere, but multi-loads are bad because they destroy any tension or excitement built up by the game and are annoying as you sit there doing

nothing. However, this can be off-set if they give greater variety or depth in gameplay and graphics. Space Gun's multi-load's don't take long, so are tolerable.

The title tune is original but repeats itself every 30 seconds and the game effects are average. Unfortunately, because 128k sound is quieter than the 48k loading noise, to hear the tune you have to adjust the volume for each multi-load. Very annoying.

Space Gun is a faithful conversion from the arcade game: similiar sound and graphics and pictures in-between levels, bit I would only give the original version 76%. The slow speed of the Spectrum version and the multi-load means that it looses playability points. Despite that and the low amount of skill involved (firing continuously waiting for an alien to die) the game is somehow addictive. You want to get that bit further even though you feel luck plays a considerable part as to whether you do or not. This lifts the game above average. On disk, I'd give it nearer 70%, but if you want a game of this type on tape, **Operation Wolf** and **Cabal** are far superior. SJS

PLAYABILITY	56
Sound	57
Graphics	72
OVERALL	62

BOMBS AWAY
By Jupiter Software
SAM COUPE (512k only)
Price. £6.50

It's a lovely, sunny day and you decide to take your kids to the local park to while away the afternoon..but tragedy strikes when masked miscreants kidnap your offspring and hold them hostage in a dank, dismal cave. Despite contacting the police, you decide to



take matters into your own hands.. Enter **Shuffles**, and his spouse **Wobbles**, who you "hire" to rescue your children, and they come up with an excellent solution to save the day. They decide to use a bomb which will blow-up the cave (?) and thus release your children. Unfortunately, the bomb has been broken into three parts and so the daring two-some must hunt high, and low, (avoiding birds, bees and other obligatory nasties which are deadly to the touch) for the parts to make the bomb. Will they find the missing pieces? Will the children see their parents ever again? Who wrote this plotline, and do we really care how absurd it is? (Not)

Bombs Away is a lovely Graphic Adventure game with colourful, simple graphics and smooth gameplay (best played using the cursor key option). **Shuffles** and **Wobbles** are a throw-back to those Spectrum symbiots, **Heads** and **Heels**. You can "swop" between them (though you can only do this 50 times) which is useful in order to solve the puzzles that bar their progress. There are lots of useful objects to find and use, some of which can be used against the deadly enemies they encounter. Take care to avoid contact with these menacing apparitions as you may lose one of the characters' three lives. **Bombs Away** isn't overtaxing so will appeal to most arcade adventurers who like a good sprinkling of well-drawn, animated graphics thrown-in to add extra spice to their game-play. A good effort all round. Can't wait for a sequel. **DB**

First off, this **isn't** a "run of the mill" conversion of the classic **Space Invaders** format to SAM. Most **Invaders** games just have endless rows of aliens zooming up an' down an' left an' right, and just occasionally firing their anti-matter, sub-atomic disruptor rays at the lone Terran Fighter who squats behind protecting force-fields? at the bottom of the screen, dodging enemy fire, and firing his own anti-matter, sub-atomic disruptor rays back at the alien hordes when any opportunities arise. Ho-hum, how very interesting!

However in **Invaders**, there are five different attack formations, lots of missiles and end of round super-aliens. All the attack formations are completely random so you don't exactly know how each alien force will react. Once you've slaughtered 2 screen-fuls, you face a end of level super-alien; destroy him and you gain a reward; a power-up, extra life, etc. After you've faced all 4 super-aliens (each one separately 5 times), you battle the super, super alien guards on their home world. Destroy them and you win the game. During the game you can collect smart bombs which will destroy entire alien fleets. You can play the game via joystick or keyboard (joystick's best) and select from three skill levels. **Invaders** is well put-together and is a bargain for £4.00. So if you want to blast alien hordes on the SAM, buy **Invaders**, or would you prefer to play **Sphera** for the rest of your life? **DB**

PLAYABILITY 	78
Sound 	76
Graphics 	79
OVERALL 	78

PLAYABILITY 	81
Sound 	80
Graphics 	84
OVERALL 	80

INVADERS

By Jupiter Software
SAM COUPE (512k/256k)
Price. £4.00

Coming soon: SAM LEMMINGS (finally), LEGEND OF ESHAN, MUNCHER, LABYRINTH, JUPITER SHAREWARE PACK, plus more Spectrum titles being re-released as budget/EDOS titles.

DEMO&CO

Part 3

David GommerEn & Rob Mies

Finally the time has come to really talk about the things this column should be about: demos.

When did the first demos start on the ZX Spectrum? Truly, we don't really know. One thing that's almost completely sure is that there are no real ZX81 (or ZX80) demos available, at least as programs that we can recognise as demos. If there are people who think they know or own some early demos, please give us a note. We are sure a lot of people would like to know when, and whom, started the demo-boom on the Speccy.

What do we mean by 'early' demos? Well, we think somewhere around the beginning of 1987 is quite early. Commodore 64 demos were widely and readily available by then, and it was becoming a big part of the computer hobby. Why did it take so relatively long before the same happened on the Spectrum? The CBM64 and the ZX were almost alike in terms of games, ideas and popularity. We all know the advertisements where they would constantly misplace CBM64 screens for ZX Spectrum screens and visa versa. Not to mention the fact that when a game was launched, it was for ALL formats, meaning: CBM64, ZX Spectrum, Amstrad, MSX, ENIAC1 and so on and on.

We think the explanation for the fact that there were very few (if any) demo writers before and in 1987 on the Speccy was that the Spectrum didn't have a disc-drive. It is very important for a demo (and really for almost anything humanity produces) that it has to move around. It has to be copied, it has to be seen and passed on to friends or relatives. Who cares if you've got the most brain-splitting computer program in the world if there's nobody, except you, to see it?

So what travels faster, a cassette or a disc? We think the answer is quite obvious. A disc is easily formatted and copied upon. Even if a program stinks you'll still say: 'Well, give it to me anyway. I will look at it again later.'

A cassette is a different matter altogether. A normal Speccy program would take a couple of minutes to load. If you want to copy it, if you liked it, you'd load a copy program and copy the program. So all in all, you would be spending a lot of time loading and reloading a program before you finally had it on your tape. This is, of course, the slow method. Many people would just audio-dub the cassette but you don't do it for just one program. Often demos would only be copied because they were placed upon tapes containing 'official' software. Of course, this is all to the advantage of a demo-maker, but we would like to stress that duplicating copyrighted software is illegal and we are against it.

So, the scenario was always set against people using cassettes. They were too slow to copy programs that weren't interesting (i.e. not games). The only thing to do on the Spectrum was to find a way to make it easier for a demo to 'travel'. And the obvious choice was to build a tape-copier inside the demo itself. It's a practice that's still being done by most demo-makers. We think it was this option that allowed Spectrum demos to go from hand to hand and be copied quite fast whereas, otherwise, people wouldn't give them a second glance.

Because we don't really know who started the practice of writing programs for the Spectrum that were unlike anything that had ever been seen on a computer outside the CBM64, We will not write down that this-or-that guy or this-or-that group started the demo-boom. We will stay on the safe side and talk about demos we know best, for the moment. We will discuss some Lords' demos for a while, not to place ourselves upon a pedestal or advertise ourselves, but to have a beginning.

Early in 1987 'The Lords' were born. In the beginning it consisted of just 2 guys, namely Lord Insanity (a name based on real-life experience) and SCRUNK. To be honest, we never thought that our first programs would ever be viewed by people outside The Netherlands (some people say it's a pity they were EVER viewed anywhere). The first demo we ever did was 'The Art Of SCRUNK', abbreviated as 'SCRUNK ART' because the Spectrum only handles files with a maximum of 10 characters.

In fact the demo started with an idea of Rob to make two balls move, without using animation. But that's mostly what it takes to write a demo: a good idea (We are not saying that moving balls is exactly earth-moving but, hé, it was our first demo).

The balls are still there, they move up and down underneath the scroll-text. Nobody ever noticed that it's just a solid ball which is being XORed quite neatly to make it appear as if it is been made of glass. Who cares? Just a damaged ego, we s'ppose.

The music was lifted from the game 'ZUB' for the reason that David Whittaker music was (and still is) quite popular on the Spectrum/SAM and, most importantly, the music was put in a separate file from the game so



to crack it was a piece of cake. A little parallax scroll, a silly screen, some sampled words and voilà, one of the first Spectrum demos was born.

The guy who speaks at the beginning of the menu by the way, is David. It doesn't sound too good because we didn't sample it with an ordinary microphone. Nope, didn't have one. We only had a little loudspeaker, so we shouted into it. Glamorous, isn't it? The part which gives us (and other people too, if we are to believe what they say) a lot of pleasure is the writing (and reading) of a scroll-text. Even on the CBM64 it was mostly just a simple text saying who did what and why.

The Spectrum added a new flavour to it. It became complete nonsense (also a nice subject for a column: Why do mentally unstable persons choose the same computer?). Every Spectrum scroll-text becomes, after a little while, completely silly. It may take 10 minutes, it may take an hour, it even may take as few as 5 words, but sooner or later the programmer will start to babble. Babbling becomes the most important ingredient of life. Nations may come and go, mountains crumble to the sea, trees wilt and leaves turn brown, and still the text goes on and on. About the programmer's life, his goldfish, the right toilet behaviour and the fact that there are still some 20 Kbytes to fill up with more mental drooling.

Is this fun? Yes, it sure is. You don't always read the complete text but if you do you are left with a very satisfied feeling (actually the whole room is spinning around because the human eye wasn't build to read a fast moving text from right to left, but you were to stubborn to quit). We really wonder who ever completed the complete text in 'Rhaa Lovely I+II' or the disturbingly slow 'Collected Works Part II'?

Not all scroll texts are that funny. A couple of years ago, the world was being flooded with Polish demos. Sometimes they were written in English (or something remotely similar to it) or in their native language. Whatever the language, the most used words were of the four-lettered kind (i.e. 'f*ck', 'sh*t', '****', etc.).

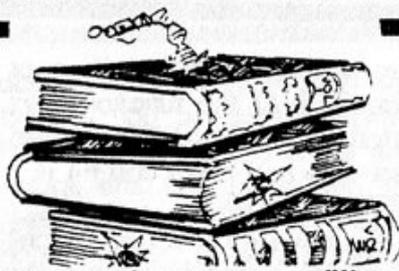
Fair is fair, it has to be said that some of the best Spectrum demos nowadays come from Poland. But that's something for a future column.

Finally on the right track again. The next part will contain a lot about the rest of the 'The Lords' demos and giving a complete list of them. If anyone has got questions or ideas for this, or about, this column, please let us know. The more souls, the more pleasure...

EVERGLADE
SPECTRUM & C64 GAMES

64 TELFORD ST, INVERNESS, IV3 5LS
TEL/FAX 0463 240168

Here's a selection of what's in stock (subject to availability). All prices include Postage and Packaging. All titles cost £1.99, and are compatible with 48k/128k +2/+3 Spectrums Super Sprint, Jet Bike Simulator, Hacker 2, Star Raiders 2, SDI, Race Against Time, Ace of Aces, Dragon's Lair 1/2, Galvan, Shackled, Lazer Tag, Never Ending Story, Cobra, Fernandez Must Die, Ghostbusters, Sakworm, Desolator, Double Dragon, Blood Brothers, Crazy Cars, Fighter Pilot, Tomahawk, Northstar, 10th Frame, Football Manager 2, Trivial Pursuit (Baby Boomer), Tin Tin on the Moon, Alternative World Games, Fist 2, OOPS, Downtown, Miami Vice, Ninja Rabbits, Shinobi, Death Wake, Hobgoblin, The Great Escape, Crystal Castles, 750cc Grand Prix, Space Harrier 2, Moon Torc, Combat School, Daley Thompson's Super Test, Licence To Kill, Ikari Warriors, Continental Circus, Night Runner, Roy of the Rovers, Guadalcanal, Green Beret, Charlie Chaplin, Talos, Mini Office, Tengen Trilogy, Metrocross, BMX Simulator, Yogi Bear, International Karate, Gunslinger, Rambo 3, Cavemania, Chuckie Egg 2, Basil the Great Mouse Detective, Hercules, Desolator, Frost Byte, Pole Position, Buffalo Bill's Rodeo Games, Football Manager 2 Ext Kit, Compendium, Real Ghostbusters. **Plus the following Compilation Sets £1.99 each:** 5 Computer Hits, LucasFilms Prestige Collection, Action Double, The Home Entertainment Centre, Frank Bruno's Big Box, World Cup 90 Compilation, Pack of Aces, Go Crazy, 4 Game Pack, Story So Far 2, SummerTime Specials, Power Pack. **PLUS MANY MORE TITLES NOT LISTED ABOVE.** For a copy of the Spectrum or C64 catalogue, write to Everglade OR PHONE/FAX 0463 240168. Prop: RICHARD WEST.



MEAN BIZ

COMPILED BY

Darren Blackburn

Welcome to another edition of Mean Biz. First up we have a review of SC_WORD PRO, the upgraded version of SC_DTP which was launched at the Gloucester show. Then to round off, Phil Glover takes a look at the NC 100 Notepad computer. But first...

SC_WORD PRO is the new upgraded version of SC_DTP which was launched over a year ago. The copy I've obtained, kindly donated to ZAT by author Steve Nutting, is a restricted working version (1.0), though the next version will be available sometime in the Autumn.

Unlike SC_DTP, SC_WORD PRO can only be used with either 24 pin or Bubble/Inkjet printers like my Canon BJ 10sx. This will obviously put-off many SAM users buying the utility at present, but take my word for it, it is worth considering buying a BJ or a 24 pin for using SC_WORD is a positive dream especially since the asking price is currently set around the £30.00 mark. Compare that to say a similar word-processor/Desk Top Publishing package on any PC or 16-bit, say the Amiga's Final Copy which retails at £90.00 or more and you'll see that buying SC_WORD Pro is a bargain. So what do you get? When you buy a copy, you'll receive 3 data disks plus a very well written and easy to understand manual, which was written on SC_WORD Pro so you automatically get a good chance to see what the package is capable of. You need to make a working copy of the utility, so format 3 blank disks with either MasterDOS or Basic: one for the actual program and 2 for the fonts you gain with this version, namely San Serif and School.

When you make your back-up copy of Pro, you're asked whether you own a 24pin or BJ and whether you have a SAM Mouse. Using the package with the mouse will be easier, but I've found that using it with the cursor and designated control keys (Q,S,I,O) doesn't impair how easy to handle Pro is.

Once you've made your working copy, just boot up with ye-olde F9 and away you go. Pro works very well with 512k memory, but like it's sibling, 1Mb owners will gain more from the package, especially when the Ascii, Graphic Dump and headline fonts are added into the next version. Also I'll add that this version doesn't have the border or page tones programmed in as yet, but when they do..well if you seen some of Steve's Software's ad's in recent issues of Format or SAM Prime, etc, you know what's coming.

Once loaded, you're presented with the main screen layout which is easier to understand than the one featured in SC_DTP. Basically it's divided into 3; Far left is the page layout, which is set to A5 first, though you can load in a preference file with a A4 layout in. In th' middle are the options. Top of the pile is the built-in Word processor, then Preferences, Dump, Ascii, Graphics, Load, Save and finally Install fonts. They are accessed by pressing the relevant Capital letter; W, P, and so on. Far right shows the first 300 letters of your intended word processed document. Below that is a counter showing how many pages your text will fill-up and opposite are page dimensions.

The first thing you need to do is load in your font. That's achieved by Install. Just press I, insert your font disk and press any key. Then you need to go to Preferences by pressing P. The Preferences' menu shows quite a bit of info to digest. Mainly it shows how to customise you page layout. You can set paragraph indents, margins, no of copies to printer and individual spacing, and linespacing for each font size. To alter the values, use the cursor keys to move around and type in the values. Once done, press Esc and go back to the main menu.

Then you need to go to the 128k Word processor by pressing W. You get another screen menu which shows what fonts are loaded in. Below that you can set text to appear NORMAL or BOLD underlines (which don't work), then text size from 1 to 10. Si 1 is just fractionally smaller than PCG's Mini font, while size 10 is the same size as PCG's Title font. Below sizes are the centre, left, right and full justify options. Once you've set all of that, you press Esc or N and go into the word processor. Press Edit and you get a help menu to explain all the varied functions of the word processor.

There's quite a few useful commands; several delete options to remove words, or single letters, or to delete whole lines at a time to make space if you miss any sentences out. All the function keys are utilised: F1 moves up a screen full of text, while F0 displays the bottom of your text. F6 is insert text, F7 allows you to go back to the menu to alter justification, boldness, size and fonts and F4 is a word counter. You can type 2048 lines of text in total which is roughly 4/5 A5 pages.

Once you've typed your document, it's best to save it before printing. Do save it on an extra blank disk as DTP files do take up a lot of memory. To dump text to the printer, press D. Before the printer can output a document, you need to re-insert the disk which has the font you've used. Also, check that your printer is set in the right mode. I had my BJ on LQ mode and it printed lines on top of each other. Very untidy! But all I had to do was alter my DIP 10 switch to BJ mode and it worked fine. Check your manual for details. By the way, in the next version, you can use the Print to Disc option which will make life easier for those who do multiple copies. Currently you have to wait 10 minutes for a fair-sized document to print out per page, but when this option is available, you'll only have to wait a minute or so. So until then, make a cup of tea though if you drink it, don't place your cup by the printer or on any disks as they don't make good table mats!

It will take a while to get used to using SC_WORD Pro, especially if you're so used to using PCG via Specmaker as I am, as there's a whole load of new keys options to learn and old ones to ignore, but once you've read the manual and played around with a few functions I think most users will handle things well. Overall it's a good, well presented and useful utility to have if you want high-quality, word processed documents and good clear layouts for a very economical asking price. For more details contact Steve's Software. We'll take a look at V.2. when it comes out in November and especially at the new fonts being designed, some of which really impressed me. Loved the dingbats! For more details on SC_WORD PRO, contact Steve's Software. Address in the ZAT Index.

Now we turn our attention to Amstrad's NC 100 computer. Here's a non-technical review by Phil Glover..

The **Amstrad NC 100 Notepad** may seem a strange computer to qualify for any coverage in ZAT, but it can easily claim a right to do so as its processing chip is our old friend, the Z80.

The NC 100 computer has been on the market for 3 years, and still offers many useful features for most people. It isn't in the big high-specification league as are some of the more expensive portable machines, and doesn't have an impressive screen display and hardware. In many ways it's quite a humble machine, but this is no bad thing, as it's remarkably easy to use and should satisfy quite a few computer users.

One good feature about the NC 100 is that it can now often be bought for well under its original £199 price tag. My own machine cost me about £110, although the company selling it knocked a further £10 off just after I'd paid for it (blast it!!). Shopping around and using the Yellow Pages should ensure you can get one at a reasonable price. A work colleague of mine has just bought one from Morgan Computers in Birmingham for £99, not including the dreaded VAT. The modest price of the NC 100 is a major attraction for it, but what do you get for your money?

When you receive your NC 100, it'll be in a large box with the customary polystyrene packaging, and is accompanied by a mains power pack, a carry case, 220 page manual and batteries. One of the batteries is a Lithium long-life (5 years) battery which maintains the in-built memory for data, clock, etc. The other set of batteries is a ordinary 4 pack of AAs, which are very easy to buy. Duracell AAs should give you 24 hours continuous use as these look after the 8-line LCD display. This may not sound great, but few people will be using it away from a power source for long periods. Using the mains adaptor sensibly will conserve your batteries.

The main software strengths of the NC 100 is a very good word-processor (with spell checker), a large display calculator, diary/clock and address book functions. These are all in the ROM memory, and are very, very easy to use just as the adverts claim. Once you switch on, you get large prompts for each of these functions, and you can "step" through these with further prompts. If you make a mistake, or wish to quit, pressing STOP back-steps one level, so making it very friendly to use. If you decide to switch off at any stage, all data is saved in memory, whether you're adding an

address or half-way through typing a letter.

The NC 100 is almost worth buying for the word-processor alone. It's a modified version of PROTEXT, which had some very powerful functions such as mail-merge, block features, headers and footers, etc. Addresses can be called and added to text very simply. The 8-line display may seem off-putting for word-processing, but you soon get used to it, and the keyboard is very responsive. Printer support is very good, as it gives you a menu of printers to choose from, so if you use a STAR LC 10 dot matrix, a Canon BJ 10, or most other well known makes of printer, you needn't set up fiddly commands. Serial or Parallel ports are at the rear, and a simple lead allows you to transfer files to a PC or other compatible computers. I believe that it should be able to communicate with SAM, but I'm still trying to find out exactly how. Both the NC 100 and SAM Coupe seem well equipped for such transfers, but I'm not sure how SAM can "catch" data sent by the NC 100. My quest continues and any help is most welcome.

NC 100 memory isn't very big, weighing in at 48k, but if you transfer files to your main disk-based computer occasionally, this should be adequate. Failing that, you can buy a very slim memory card, up to 1Mb in size. These sound ideal, and are very compact, but beware the price! Dixons charge £69 for 256k so it maybe worth looking around for cheaper sources.

I could go on further about the NC 100's abilities, but you may have seen Amstrad's adverts saying how they guarantee that you can learn to use a NC 100 in five minutes or your money back. This claim is understandable, as the keyboard has a yellow function key on the bottom left, and red, green and blue keys on the bottom right (all other keys are black). Press yellow and red accesses the word-processor; yellow and blue the diary, calendar and address book, and yellow and green the calculator. This lets even the most computer illiterate person to get off to a flying start. The machine also has an in-built version of BBC BASIC for programmers, and you can store resulting programs. Once you start experimenting with the NC 100's talents, you'll be surprised how well it works, and how much thought has gone into the design of it. The makers of more expensive laptops and PC's could learn a great deal from the friendliness of the NC 100, as you need no prior computing knowledge. Its so user-friendly that it makes a perfect entry-level computer for anyone scared of such technology. It gently introduces you to the basics until you gain confidence to delve deeper.

If you can get a chance to try one out, do so. It's possible to buy a NC 100 second hand as it has an excellent routine for testing itself for you to see if all the functions work. Hold down Function and Symbol Shift when you switch on and you get an instant diagnostic routine. You're given simple prompts to check the computer by pressing return. It checks screen display, time/data function, memory, ROM, internal RAM, keyboard, printers ports and both sound channels. If you're interested in a light-weight, portable computer at a low price, the NC 100 is hard to beat.

Incidentally the NC 100 has been superceded by the more powerful and more expensive NC 200. I don't plan to buy one as yet but perhaps if a ZAT reader has one perhaps he/she may like to review it. If anyone else has a NC 100, I'd be glad to hear from them as maybe we could swap tips and ideas.

Next time we hope to bring you a review of SC_MONITOR and TURBOMon, and from Jupiter Software, we have a useful English/French translator for those of you who want to visit gay Paris this Summer and can't understand the local lingo. However before we close, a request. If any Spectrum owners use any well-known utilities like Artist 2, Tasword 2, any programming utilities, whatever, and would like to send in a 500 word or more review into ZAT for inclusion in a future Mean Biz, we'd love to see it. In fact here's a challenge. We have a copy of RDS, a fantastic Spectrum disassembler and workbase plus full documentation. The utility is on tape by the way. If you fancy reviewing it (and you keep it if you so wish), write into us and we'll post it to you ASAP. First come, first served! Anyway that's all. See you anon.



ONE

to

ONE

COMPILED BY

The Z-TEAM

Firstly some answers to last time's queries:

Is Cardex's PCG Desk Top Publishing system still available from any outlet for the Spectrum?

Ben Curren replies, "PCG'S Desk Top Publishing pack and some extra fonts are all available from **FORMAT Publications, 34 Bourton Road, Gloucester, GL4 0LE** or ring **0452 412572** priced at £34.95 to INDUG members. The pack comes complete with manual."

Additionally, **FORMAT** sell the complete PCG DTP pack for £37.50 for non INDUG members, and £52.40 if you want to buy the extra font pack with the above. But please check with **FORMAT** as we've had several prices quoted. Also **FORMAT** sell the brilliant Spectrum art package, **ARTIST 2** for £16.95.

Where can I get in touch with West Coast Computers?

"According to the April **FORMAT**, **WEST COAST** and **BLUE ALPHA ELECTRONICS** HAVE moved from the Abernant site (as of the 17th March DB) **Blue Alpha** have moved to **Ynysforgan Farn, Morriston, SWANSEA, SA6 6QL**, but where **W.C.** have moved to I don't know. A **SAM Coupe 512k** with a single drive fitted will cost you £199.95 (plus £10 Post and Packaging), available via **Format** as they're acting as a **W.C.** distributor. Interesting snippet: the **CITIZEN SLIMLINE** drives that slot into **SAM** have been abandoned, and **Blue Alpha** are instead fitting a more standard 1" drive for an extra charge. **Ben.**

What's the difference between BASIC and Machine Code?

"Machine Code is low level programming and **BASIC** is high level programming. Machine Code is obviously much faster and saves more memory. **Martyn Sherwood.**

That's a good "brief to the point" answer, but if you want to know a bit more, check out **Ross Brown's** article in **Chipshop**.

Is the MGT LIFETIME disk-drive still available?

"The Lifetime drive goes under the **UNIVERSAL** name now and is obtainable from **EEC** at 18-21 **Misbourne House, Chiltern Hill, Chefont St Peter, Bucks, SL9 PUE** or ring **0753 888866**. Prices are £69.00 for 1 Mb, or £89.00 for 2Mb, complete with freebie lead and disk. **ACCESS** and **VISA** cards welcome. Dip switches should be set up as +D/QL drive A in the accompanying manual as follows: 1-ON, 2-OFF, 3-OFF, 4-OFF, 5-OFF, 6-OFF." **S.C. Greenfield.**

Is it possible to connect the GENIUS mouse to the SAM?

"This query has cropped up a few times, most recently in **Format** asked by **ZAT** writer **Jon Rose**. Well I've asked a few people and made a few reference checks and the best answer seems to be **MAYBE**. I spoke to **Simon Goodwin** at the Gloucester show and theoretically it's possible to link the two together, but all the solutions offered require a bit of electrical DIY, and unless you happen to be an expert on **Electronics** then it's advisable not to attempt any kind of link-up at all. For if something goes wrong you could end up damaging your computer, and if the guarantee has expired you may have to pay a lot to have it repaired.

The best thing to do is buy the "official" **SAM Mouse** available from **BLUE ALPHA**. Incidentally it isn't advisable to link the **OCP Art Studio** or **Amiga/Atari** mice to **SAM** either, though the **SAM Mouse** can be used with an **Amiga**, though check with **BA** for more on this." **DB**

Are there any books still available on how to learn Spectrum

BASIC programming?

"One of the best books still available is the **30 HOUR BASIC: SPECTRUM EDITION** (ISBN 0-86082-396-6) published by the NATIONAL EXTENSION COLLEGE price £10.00. If you want to have a crack at Spectrum Machine Code, a book well hunting for at any car-boot or computer shows is **ADVANCED SPECTRUM MACHINE LANGUAGE** (ISSN 0-86161-160-8) by David Webb. If any readers have any other recommended books, write in! **D.B.**

Useful tit-bit...

" I have a Spectrum +2 with PLUS D disk-drive and Epson LX400 printer. If anyone wants to know how to force a form-feed from BASIC on a system like that (I've been trying for ages, although not very hard I admit) it can be done by:

```
POKE @ 8, 1: POKE @ 6,1 (If you have a Plus D)
LPRINT CHR$ 12
POKE @ 6, 0 (If you have a PLUS D)
```

I should think, although I haven't tried it, that by searching through the printer manual you could find the control codes for special formatting effects like italics and emphasised, although this may not work from BASIC if the Spectrum character set uses the code for something else". **Ben Curren.**

Just exactly what is an emulator?

" To "emulate" is to equal or imitate, so an emulator in the computing sense is a program that makes one type of computer run programs from other computer formats by tricking a computer to think like another computer, when of course it isn't! Got that?

Spectrum Emulators are quite prolific these days on other formats, namely the Amiga, Atari and PC, mostly obtainable as Public Domain ware. As many SAM/Spectrum owners are also Amiga users (including myself), one of the best Spectrum Emulators is available from Strictly PD, 11 York Place, Bristol, BS1 5UT. Recently Zenobi

Software started selling Spectrum adventure games for Amiga users which come with a custom-made emulator.

Although Spectrum emulators run Spectrum programs well, they tend to slow things down to a snail's pace so to enjoy Spectrum games best, stick to using your trusty Spectrum **DB**

And here's a few queries...

John Garner asks " On my +2A, if I use my +D with G+DOS2a in 128k mode (+3 BASIC), whenever there is a DOS error, it always drops into 48k mode. Say for instance when CATALOGING a disc and I have forgotten to put a disc in the drive. Is there a way to cure this, and also what is the difference between G+DOS versions 2a and 3d?"

S. Morris asks " I have Tasword 2 on Microdrive. Can I use it if I connect a Multiprint (Romantic Robot) to the interface 1, for my centronic printer, or would I need to load Tasword 2 on tape to the computer without interface 1 but just a multiprint? And. Can any AMSTRAD Monitor be linked to a Spectrum (48k, 128k 04 +3) and if so how?"

What ARE the differences between a 48k, 128k, +2, +2A and +3 Spectrums?

What's the best external disk drive for a Spectrum?

Do SAM Coupe users prefer MasterDOS to MasterBASIC?

How do you run Spectrum utilities (PD, etc) on SAM? What utility do you need and are there any limitations as to what kind of Spectrum titles will run on a SAM (256K or 512K)?

That's all. Send in any queries, or answers, or any useful titbits of information to ONE TO ONE c/o ZAT. If you want a personal reply, as we'll pass them onto anyone who may know the answer, enclose an SAE!



A DAY OUT IN GLOUCESTER

DARREN BLACKBURN

I travelled down to Gloucester on the 8.10a.m. train from Birmingham with Phil Glover and David Munden. We all had missed the November show due to one thing or another so we were eager to see whether the hype surrounding the first SASUS was exaggerated or not. Was it going to be a good day out or not?

We arrived at Quedgeley Village Hall at 9.30a.m.; an hour before the show started. Inside the hall, it was a hive of activity. I sort-out organiser Bob Brenchley to find out where our stand was and he pointed to one of the tables up on the stage. Phil and David helped to set-up the stand, and while we did our "next-door" neighbours turned up in the form of David Ledbury's (nice suit, shame about the tie) **SAM Prime/ Phoenix Software Systems**, and new SAM zine **Zodiac**. Already up there was Derek Morgan's **SAM PD**. Derek was assisted by **FRED PD** author Ian Slavin, and fellow SCAC member Dave Whitmore who wore I.D. labels which no one would fail to see.

After all the copies of ZAT, SCAC disks, had been laid out, I left Phil and David to chat with David and Dave (confused?) while I had a quick walkabout before the show started. I spoke to Dave Wornham of **Flexibase Software** who showed me his latest release, **Safe Travel**, one of Flexibase's new Spectrum titles. Quite a lot of Flexibase's utilities are used by schools to teach pupils the dangers of traveling to an' from school, as well as try to get the message across that "crime doesn't pay". I had a go with **Safe Travel** an' scored 58%. A fair rating though I'll try to do better next time.

Next "door" was **Steve's Software**. Steve Nutting was demonstrating **SC-WORD** pro, the upgrade to **SC-DTP** (reviewed this issue), which amazed this SAM user as the quality of the printouts were way up there with what you can get with most expensive PC's or Apple Macs. I think many

Amiga, and PC owners, will be surprised to find out that an 8-bit, 280B computer can produce such documents.

It had gone 10.30a.m. and so I made my way back to the ZAT/SCAC/IEBA stand to await the on-rush of SAM/Spectrum enthusiasts. Phil, David and I took-turns to "man the stand" so we all got opportunities to mingle with the crowd and see what other participating services had to offer. On the **SAM PD** stand, I met Wayne Coles, an up an' coming SAM game author who is working on a shoot-em-up called **Gallium** which looks pretty good even at the prototype stage. One of SAM PD's latest releases is **SAMart**, a PD alternative to **SAM Paint**. I wonder if Grahame Burtenshaw, who was at the show, compare the merits of **SAMart** with **SAM paint**?

Another "newcomer" to the SAM scene is **Jupiter Software**, who kindly donated a set of their wares for review. Most of their games I believe use the Gamesmaster arcade utility as well as **SAM Paint** and were quite enjoyable to play on their stand while I had a chat with them, especially their version of **Space Invaders**.

SAM PRIME 6 was a bit of a shock as the zine has become paper-based with a supplementary disk full of demos and utility programmes. Maybe the format change will mean the zine comes out more regularly. Meantime, **PSS** were showing off a number of things, one of which was a prototype video-digitiser called **Midget** which displays recordings from any hand-hold Video Camcorder. Dave Whitmore tried to film me eating a chicken leg, but as luck would have it, I was saved from having my culinary habits displayed for all to see by Joe public who descended on the stand and soon started by copies of ZAT and SCAC disks, including **Curse of the Serpent's Eye** which is a really good adventure game from **Dreamworld**.

Later on in the day, David Haire joined the crew to sell a few copies of his first text adventure **True Faith**, which is also highly recommended. So to is **Legend of Eshan** which was previewed on the **Revelation, Format** stand. **LOE** proves that SAM programmers are capable of writing other game formats

and not just churn out endless puzzle games, the bane of the SAM game player. My brother is an avid Role Playing Game fan and has quite a few titles for his Amiga and Sega Mega Drive, but even he was impressed by the LOE screen shots featured on FRED 43.

Speaking of whom, Colin Mc Donald and Co were opposite the Revelation stand next to **West Coast Computers**. Yes indeed, W.C. were there selling SAM Coupe's with the new disk drive as well as other SAM hardware. On the **FRED Publishing** stand, I caught a good glimpse of SAM lemmings. I've played Lemmings on many other computer formats (Atari, Spectrum, Gameboy and Amiga) and compared to them, the SAM version is up there with the Amiga version in both graphics, music and playability. I did notice that the sprites moved slower than those on the Amiga but that didn't detract how good a game it is. Maybe FRED will release the sequel, Lemmings Tribes?

I met a number of ZAT readers and contributors on the day. I talked with S.W. Swainson (who I hope managed to find some new/old Spectrum games for his collection), Toby Cooley (who I hope enjoys the copies of SAM PD ware which would have dropped through his letter box by now), and all the way from Germany Thomas Eberle who has taken on the running of the **Spectrum User Group** fanzine and Club. Thomas told me that quite a few Spectrum (and SAM) shows are being organised in Europe which he will be attending. Maybe Thomas will write a report on them for a future issue of ZAT?

Thomas' stand was in a back-room behind the stage which was being used for a computer "bring and buy sale" which I thought was a really good idea. There were quite a few games on sale including I think The Great Space Race, probably the worse Spectrum game ever programmed (unless you know otherwise). In one corner, two SAM's had been set-up and were running a few demonstration programmes, organised by Format's Carol Bruckshank. In another corner was something quite interesting; a chap had designed his own Spectrum

emulator for his PC and was enjoying a game of Knightlore. I wanted to know more, but Phil came in the room and told me that I had a visitor. It turned out to be Simon Goodwin who wanted to arrange his prize (he won the ZAT 4th Birthday competition) so I gave him a complete set of ZAT's 1993 issues which he was very pleased to receive. Simon maybe writing a few articles for ZAT so keep your eyes peeled for them.

I managed to recruit a few more members to the IEBA. Both SAM PD and Thomas' Spectrum User Club have joined. Another potential member is a BBS called The Land That Time Forgot for Atari 8-bit owners.

As the day drew to a close, I had a chat with Nigel Kettlewell who has put his version of SAM Space Invaders on-hold, and I finally (after several attempts) had a chat with Bob Brenchley and Colin Mc Donald. Bob was very pleased with the way the show had turned out and was already planning the third show for October (though I hope it doesn't clash with the Adventurer Convention in B'Ham). Colin was over the moon with the sales of Lemmings. Currently Colin is looking for a new FREDitor as current ed, Brian McConnel is leaving, so if you fancy co-ordinating a disk-zine like FRED, why not drop him a line? (Though a replacement may have been found by time you read this).

Phil, David and myself had to leave at 3.00 p.m for our train back to home and hearth. Overall it had been a good day out. Bob's wife organised refreshments throughout the day and I must say she makes the finest cup of rosy-lee I've tasted for a while. Maybe next time I'll try one of those lovely looking sausage rolls. Considering how far-out from the city-centre the hall was, the show attendance was good. At least 400 or more must've turned up. Transport was easily available. We clubbed together and hired a taxi to and from the hall but bus services passed by every 20 minutes and there was ample car parking. we're all contemplating on going to the next show. If you were there, I hope you had a good time too. If not, well don't miss the next one! Perhaps we'll see you in Gloucester in October. DB



NEW ZINE SCENE ZINE SCENE Z

The first of an occasional look at other SAM and Spectrum fanzines available. This time: NEWish ZINES

FISH C/O Mat Beal: 3 Station Road, Birch Vale,
Stockport, Cheshire, SK12 5BP. Tel: 0663 743397 25P

Editor Mat Beal and contributors hold no delusions of grandeur as some Editorial teams like to do, for the warning on the cover openly describes FISH as follows: "some readers may find parts of this fanzine offensively unfunny, poorly written or factually inaccurate".

How honest can you be, for like Your Sinclair (its obvious role-model), FISH, a A4 size, bi-monthly paper-zine, positively revels in being as crap as Mat and Co define the word. And yet despite the blurred DTP and annoyingly stapled pages, FISH is a good rib-tickling read as YS ever was, full of well-written articles sprinkled with a heavy dose of "off-the-cuff" humour.

The best FISH-bits in this review issue were the promising A-Z on the Spectrum, and the hilarious 101 things to do with a kettle, closely followed by the OFISHal Guide to Beat-Em-Up's. A page is devoted to the SAM wherein the elusive SAM Lemmings is reviewed. There's also a tech-page for ZX Spectrum BASIC and a well put together news page.

FISH is mainly aimed for game players, rated by the highly amusing, and maybe smelly, Fishometer; in fact FISH seems to have a fetish for our scaly friends; I mean there's even a section called Haddock.. For 25p, you'll enjoy FISH better than buying a copy of the Sun, and I suppose if FISH continues their current direction, FISH should inherit YS's crap crown hands down. There's also a tape or +D Disk supplement available FREE? if you send the correct media plus a SSAE, or 75p if you send a SSAE only. 7/10

PRISM POWER C/O Martyn Sherwood:
13 Rodney Close, Bilton, Rugby, CV22 7HJ.
£2.00 Non-Members. £1.50 Members.



PRISM POWER, like FISH, is also a A4 size, paper based bi-monthly. Its mainly produced for members of PRISM PD's club, but non-members can buy a copy to. Unlike Fish, which uses a PC DTP system, PP uses Cardex's PCG system as does ZAT. PP is well produced with a very eye-catching cover of a disgruntled Spectrum user hitting a 16-bit user (though I would prefer it to be a Game Gear user myself).

Despite the fact that its produced by a Spectrum PD library, PP only has a few pages devoted to PD ware; most are aimed for programmers or varied software reviews. In the review issue, there's a good look at Kobrosoft's SAM DICE, de-bugging Artist 2, a look at joysticks and also BASIC/+3 sections, one of which is apparently written by Albert Einstein's ghost! A section unique to PP is Linda Barker's club column who happens to be PRISM PD's honorary club president. Its nice to see a familiar face from Future still supporting the ye-olde ZX Spectrum. Overall PD is a good read, though it could do with a few more info pages and less adverts. 8/10

ZODIAC C/O Michael Stocks:
New House, Holbear, Chard,
Somerset, TA20 2HS Tel/Fax: 0460 62118

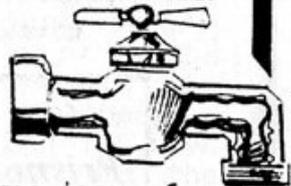
Zodiac had been going for 4 months and is still in the early stages of development, but give it time and it could turn out to be another ZAT in the

making. Presently it's 16, A5 pages per issue, done on SC-DTP. Issue 3 (For Aries, as each issue reflects a different house of the Zodiac, very novel) contained reviews on Waterworks, Legend of Eshan and SCAC 13. There's a section on game tips, a page devoted to hardware and the fanzine also has a small but growing PD library. It's well written though some of the pages are badly photocopied, but despite that it's a good, yet brief (at present) read.

6/10

CRASHED c/o Mark Sturdy:

Pear Tree Cottage, North Deighton,
Weatherby, W. Yorks, LS22 4EN. Tel: 0937 582837



Issue 1 should be out now, though I wrote this piece using a promo issue for reference; kindly sent in by Editor Mark Sturdy. Crashed, as the name applies, pays homage to the much-missed CRASH. Produced using PCG, Crashed contains a variety of stuff; obligatory game reviews and tips, news, and sections which have very familiar names like Tech Niche and Mark's Playing Tips. Issue 1 also has a interview with Johnathan Nash.

Mark is looking for writers (as is every zine, new or old) as well as readers, so if you want to harken back to the glory-days when the mag from Ludlow reigned supreme, buy Crashed, or if you wish, write for it too. Every little helps (as the man from Tesco would no doubt say). 7/10 Provisional Marks

SPECTRUM USER CLUB C/O Thomas Eberle:

Gastackerstr. 23, 70794, Filderstadt, Germany.

Spectrum fanzines crop up all over the place, and Spectrum User Club is one of the best-looking European Spectrum zines around. The only draw-back with SUC is that it's all in German, and unless you speak or read German fluently, then SUC isn't for you. But it is a good source of info if your a Spectrum user who wants to write to fellow users over the English Channel and as the zine has a PD library (currently being re-vamped), there's a potential source of new software for users overhere to look at (provided you can speak or read German that is). It's professionally laid out and well worth investigating.

7/10

SAM 2 SAM C/O John Teare:

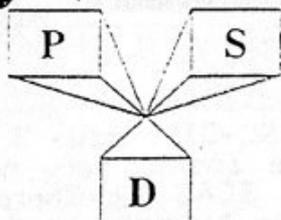
The Mount, May Hill, Ramsey,
Isle of Man, IMB 2HG £2.00



The latest in a long-line of SAM Diskzines, SAM 2 SAM is very well put-together; visually inventive and offers you the opportunity to listen to a few well-written ditties while you read the varied sections. You get 2 disks; the first is the actual zine which has sections aimed mainly for SAM game players with tutorials on Gamesmaster, PROdos, SAS, as well as reviews and previews and obligatory tips. Like FRED, there are also non-computer related tit-bits covering music, sci-fi, sport and television. There's also a section devoted to would-be short-story authors, and if you like Ozzie soap-opera's, well SAM 2 SAM is definately for you.

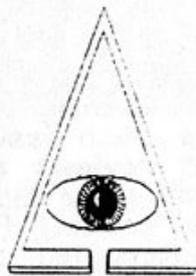
The second disk features a number of games written by the Editorial team and from Jupiter Software. I hope SAM 2 SAM lasts for a long-time as it covers a gap left by the closure of SCAC and gives support to covering SAM game ware in general, something which many other zines don't give in-depth specialised coverage towards in many a case. 9/10

Next time we'll take a look at the well-known fanzines that have been around since the first protoplasmic organism first crawled out of the primeval soup, all those years ago.



PROFESSIONAL STANDARDS OF
DISTRIBUTION ENDORSED BY
COMMODORE U.K.

PRISM PD COLUMN MAY 94



WATCHDOG-8

NEW ERA FOR PRISM PD

Prism PD is now affiliated to the PSD (Professional Standards for Distribution). They are an official watchdog organisation endorsed by Commodore U.K. As a member, we must adhere to high standards and in return we are allowed to display their logo. They have agreed for us to work alongside them to cover the 8 bit industry. Therefore we announce the formation of Watchdog-8. This will run along the same lines as the PSD, and customers can write to us if they have problems with any service. Services can write for an application form, in order to display the Watchdog-8 logo. For full information, send an SAE for our fact sheet to 13 Rodney Close, Bilton, Rugby CV22 7HJ.

NEWS ITEMS

FISHY TALES?

According to Mat Beal of FISH magazine, Robocod has now been released on the Spectrum by the budget label "KIXX". However, as we all know, software can be promised, but eventually never appears, so keep your fingers crossed. This should obviously be a budget priced game, and we will be writing to them for a copy of the game to do a review in PD POWER.

NEW LOOK SAM

The SAM Computer has undergone a change. West Coast Computers have announced two packages, both priced at £199.95. One contains some games, while the other comes with a printer interface.

AYRTON SENNA TRIBUTE

Most of us will have seen the dreadful incidents involving Roland Ratzenberger and Ayrton Senna, the best GP driver of all time. As a tribute to this great man, Prism PD will be doing a feature on him, his career and will review his game - "Ayrton Senna's Monaco GP". This will be in the June issue of our magazine PD POWER.

NEW ISSUE OF "PD POWER"

PD POWER issue 6 is now out at a special intro price of £1.50 (mention this article). It contains a cup feature + reviews of classic football games + a feature on modems, a report on +D software, the history of prism PD, news items, Linda Barkers column + if you send an extra 50p you'll get a tape with 3 t'zines + software.

A "BRIEF" WORD FROM THE EDITOR.

Up until now I've had ample time to do my varied Editorial duties for ZAT, and the IEBA, and cope with all those daily chores that plague everyday existence. But that's about to change. As of September I'm going to college to try and gain my BTEC degree in Art, Design and Information Technology with the open-ended possibility of going to University afterwards. I'm looking forward to the course (as there's no homework!), but as you've guessed, it will mean the time I "currently" have for ZAT will be greatly reduced. In fact my time has already been halved hence why this issue of ZAT is out later than normal for which I apologise for.

I don't intend to leave ZAT (as yet), but what with College coming up and all the varied prospects and projects that I still want to do I am nearing a "crossroads" of sorts in my life, and one option I have to fully think over is the inevitable time when I do part company with ZAT (and also with the IEBA) for good. I am committed to stay on as Editor (or in some capacity) until issue 30, but after that.. I will make my decision very soon, and I will obviously notify you all on what decision I make when I make it. Even though I "may" end up leaving in a few months time, it doesn't mean ZAT should fade-away and that I would cut all my links to the SAM/Spectrum scene..I could end up doing the odd game or two or even writing/drawing for another zine. Therefore I want to announce the following.

I'm looking for a few good men (or women) to take on the position of SUB-EDITOR (or Sub Editors; maybe one person for the Spectrum and SAM respectively?). Martin was obvious first choice, but as he now works full-time for the Shropshire Star and has other commitments, he has declined to take on extra work. So the search is on..If any ZAT writer, or reader, is interested then this is what you need to know:

Foremost doing ZAT, or any zine, won't earn you lots of dosh as ZAT is a

non-profit making zine. I do ZAT voluntarily for nowt while contributors earn a free sub or a discount. Every cheque and postal order received goes towards keeping ZAT in-circulation. So if you take on the challenge, be prepared to devote your services for free. So what will you do? As far as handling orders, compiling the issues for printing and distribution go (the mundane jobs every editor loves and loathes), I intend to do that side of ZAT for now. What I want to tender-out are the DTP and word Processing sides of ZAT; typing up, proof-reading, organising sections, cover artwork, etc.. Maybe even writing the odd guest Editorial? I don't expect anyone to take up every hour of the day to do ZAT as everyone has other tasks to do..one or two hours a week is all that's required. Those of you who maybe interested in working in the publishing field as a career may find the experience of doing a fanzine worthwhile in a small, yet frantic sort of way.

So if you are interested, write to me ASAP. All that's required is good English, that applicants either use Cardex PCG DTP, Tasword 2 (Owning a PLUS D drive would be beneficial for converting Spectrum files to SAM) Outwrite 2, SC-DTP or SC-WORD, and enthusiasm. And please if you are choosen, I don't want anyone to have second-thoughts a few weeks later. I want to appoint a sub-Editor/s ASAP (hopefully before ZAT 27 is due out). I'll give as much aid as able to the lucky person (or persons) choosen, but above all I'll be letting the appointed individual/s have free-hand to suggest any ideas that may make ZAT even better.

I do have other options in mind, possibly reducing the number of issues produced, OR if circumstances dictate closing down ZAT at a specific issue (the same way the SCAC closed with issue 13) but obviously I don't want to do either unless the above option fails first. Again I'll notify you all if any decision is made. So the gauntlet is down. I look forward to hearing from anyone out there! DB

DARREN BLACKBURN: 33 DAWLEY BANK, TELFORD, SHROPSHIRE, TF4 2LQ

DB 16.4.94

