

# PAGE 6

## ATARI USERS MAGAZINE

### XL/XE

Type-in  
**TIME TO KILL**  
**REFLEX**  
**BALLBENDER**  
**JUMBLE CELL**

FEATURES  
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ANIMATION  
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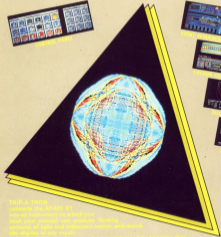


# TRIP-A-TRON

## LIGHT SYNTHESISER



MIRAGE VIDEO



TRIP-A-TRON



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TRIP-A-TRON

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**'The magazine  
for the Dedicated  
Atari User'**

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Issue 35 December/January 1988



**MAD**  
The best type in  
ST listing of all time?

## SUBSCRIPTIONS

Annual subscription rates (6 issues)

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A disk containing all of the 8-30 programs from each issue of PAGE 5 is available either separately or as subscription. Single price £2.95 per disk. Subscription rates (6 issues)

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## SUBMISSIONS

PAGE 5 welcomes and encourages its readers to submit articles, programs and reviews on publications. Programs must be supported on disk or cassette; articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it. Appropriate payment will be made for all published programs and articles.

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## WELCOME BACK!



Issue 35  
December/January 1988

**"The Magazine for  
the Dedicated Atari User"**

ISSN No. 0942-4562

### THE CREDITS

All of the usual stuff is on page 7 but here we have the people who made this issue possible.

See **Williamson** about the editing layout etc.

**Tandy** looked after the advertising

**Henry** did all those things around the office without which we would not survive (especially making the Editor's notebook)

Special thanks to **John Barnaby** who did a lot of the preparatory work for this issue.

The Regular Contributors, who provide the backbone of the magazine and are generally to be relied upon to come up with good articles and reviews, are ...

<b>Garry Francis</b>	<b>Mark Williamson</b>
<b>Matthew Jones</b>	<b>John Williamson</b>
<b>John Davison Jr</b>	<b>John Bennett</b>
<b>Pavel Skusa</b>	<b>Emma Stewart</b>

All other contributors for this issue are individually credited throughout their articles or programs. Thanks to everybody for sharing their work and criticism with other Atari users.

This issue is dedicated to all those committed readers and contributors who write or provide with management and support when this issue did not appear after it should have done and to all those who were happy to wait without ever suspecting this issue may never have appeared. Coming to me today is dedicated to informally, not the best of the world community that Page 6 will carry along about Atari in future unique fashion long after others have left behind, even if it does have its problems!

fandom? how big? but Atari is supposed to be fun so will we'll try!

The next issue of PAGE 6 could feature YOUR article or program, so SEND IT IN!

What it does not do is what you can do with your Atari. With the exception of that support on a (limited) and it's a huge volume for the following issues, the magazine is prepared with your own equipment and software - your own materials or files in right format and software - your own Atari 2600, 400, 500, 800, 1300, 1300C and Atari 2600, 400, 500, 800, 1300, 1300C, 1300D, 1300E, 1300F, 1300G, 1300H, 1300I, 1300J, 1300K, 1300L, 1300M, 1300N, 1300O, 1300P, 1300Q, 1300R, 1300S, 1300T, 1300U, 1300V, 1300W, 1300X, 1300Y, 1300Z, 1300AA, 1300AB, 1300AC, 1300AD, 1300AE, 1300AF, 1300AG, 1300AH, 1300AI, 1300AJ, 1300AK, 1300AL, 1300AM, 1300AN, 1300AO, 1300AP, 1300AQ, 1300AR, 1300AS, 1300AT, 1300AU, 1300AV, 1300AW, 1300AX, 1300AY, 1300AZ, 1300BA, 1300BB, 1300BC, 1300BD, 1300BE, 1300BF, 1300BG, 1300BH, 1300BI, 1300BJ, 1300BK, 1300BL, 1300BM, 1300BN, 1300BO, 1300BP, 1300BQ, 1300BR, 1300BS, 1300BT, 1300BU, 1300BV, 1300BW, 1300BX, 1300BY, 1300BZ, 1300CA, 1300CB, 1300CC, 1300CD, 1300CE, 1300CF, 1300CG, 1300CH, 1300CI, 1300CJ, 1300CK, 1300CL, 1300CM, 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I hope that you are as pleased as we are that the problems experienced in recent months have proved to be only temporary and that PAGE 6 is back on a regular schedule. With a fair wind we should now sail on forever! Regrettably we have had to increase the cover price to \$3.50 not least because the cost of paper and printing has gone up three times since we set the previous price! Hopefully it won't hurt too much!

Your letters and calls of encouragement during the troubled times were certainly appreciated, it's nice to know that those Atari owners we started off with almost six years ago, and those who have discovered Atari in recent years are still as dedicated as always. Without your support I may have decided that all the effort was not worthwhile but, here we are, PAGE 6 is here to stay and will continue to bring you the same sort of in-depth coverage that you may not find elsewhere even though this is not the type of thing that brings the most readers. Judging from the style of many of the successful computer magazines now around it seems that it is not what is said that is important, but rather how colourful the pages are and how up to date it stands the review site. It seems that the recipe for success nowadays is to review something that is not yet out, even if it means cribbing the advance proofreading notes, and drawing the whole thing up with lots of colour. You will know that the PAGE 6 style is far different, indeed we may review software that is six months old or more, but the crucial difference is that in all of our in-depth reviews the reviewer has played the game for a long time and writes from your point of view rather than that of a journalist. If a game is good enough, it will be covered for a long time and we believe that a good review is valid even if somebody else has reviewed the software before. To stick with PAGE 6 for the in-depth stuff, but also let us know what else you would like to see. This issue we have a survey so that you can tell us what it is you would like to see in future issues. I apologise for the waste of a page but we have been putting this survey off for a number of issues and, give the current state of the Atari 8-bit market, I feel that it is important that we discover your feelings. Please take a little time out to complete the survey, it is important.

### SUPPORT

Attention of the current state of the 8-bit market brings me on to another matter that needs to be raised and that is the level of support that you give to those companies who are generally bringing on and producing new 8-bit software. Two such

companies are Zappella Games and Adams Software who remain committed to the 8-bit market and release regular titles. Zappella, in particular, are to be commended in bringing out Demos as a full price title in a market dominated by distributors and retailers who are only interested in selling volume low cost items. To introduce a full price Atari game now is a brave step indeed but it shows that there are people who still care about your machine and it is vitally important that, in turn, you let them know that you appreciate their support. We have not been able to review Demos in time for this issue but if the game is anywhere near the standard of Tynes, then it is likely to be another gem. Look it out, along with all other new Atari software you can find, buy it if you like it, but don't stop there! If you buy the game direct from the publishers they will know of your interest but if you prefer to buy from your local dealer or a mail order supplier they might never know why not drop the likes of Zappella and Adams a line every time you buy one of their games! Tell them that you appreciate their support of your machine and tell them how good (or bad) you thought the game was, believe me they will appreciate the feedback so you.

With a little time and a second class stamp you can ensure that companies continue to support your machine. Without your feedback those companies may assume that the interest is no longer there and may decide, as many others have done, to go over to other machines and that's not what you want is it? Buy the software and then pick up a pen.

### A NEW STYLE

At last the dream appears to have come true! This issue (fingers crossed) will be produced fully on Atari equipment right from conception to typesetting and layout thanks to a typesetting bureau called The Lettering Studio who actually know what they are talking about with regards to the 26 and 8-bit Atari Publishers. What a joy it is to talk to someone in business who actually understands what I am talking about! Desktop Publishing is now part of the "style", with dozens of dedicated and expensive systems around. Thousands of people are now copying the rates from their Florida and producing new "mag" (usually ODP you know) but few have been able to produce work that looks as good as that produced by conventional means. I may be putting my foot on the neck below I haven't actually seen the results as I type this but it looks as if the cheap and beautiful Atari 8-bit machine that can really produce the results.

**PAGE 6**

# ATARI USER

## STOP PRESS ... ... STOP PRESS

A NEW LOOK MAGAZINE  
TO CONTINUE SUPPORT  
FOR YOUR 8 BIT ATARI IN  
THE YEARS AHEAD

Literally in the last couple of days before this issue went to press PAGE 6 completed discussions with Database Publications which resulted in an agreement for PAGE 6 to take over the ATARI USER title and so produce a combined magazine that will continue to provide ongoing support for the Atari XL and XE computers, PAGE 6 readers need have no concern about major changes in the format of the magazine which will continue to support ATARI users in the way it has always done - the best of ATARI USER will be incorporated in PAGE 6 to provide the very best and the ONLY national magazine to support your computer.

Look out for the new PAGE 6 ATARI USER on sale 19th JANUARY

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# newscene

## XL/XE MEANS BUSINESS

Although there are a number of owners who have used their XL/XE systems for business purposes over the years it is probably fair to say that there are far more users who do not realize just how powerful the Atari can be in business applications. Programs such as Zenfile and Data Perfect have been available in the past but now there is a fully integrated business package available in this country from ComputerShare.

TURBOBASE has received five reviews in the States, not least for its compatibility with Data Perfect and Zenfile, but it is much more than just another

database. TurboBase features three relational databases, a word processor, spreadsheet, full accounts system, report generator, invoicing, inventory, stock control, payroll, a flexible mailing system and more and is available in both 40 column and 80 column versions. Surely too good to be true but the product was awarded an 'Outstanding Product' award by ENTEC magazine and has received excellent reviews in that magazine and others, one calling it 'the most powerful business package for any 8-bit computer, including the Atari 800X'. The program comes with

a 700 page manual including a Quick viewer and Goodbook and most surely be considered for any small businessman who uses an Atari XL or XE.

The 40 column version retails at £119 and the 80 column at £129. Computations must go to ComputerShare for buying the enterprise to make this type of software available and we are sure that they will be happy to provide you with further information or answer any questions. ComputerShare can be contacted at 14, Bonny Court, Landridge Road, Fulham, London SW6 4LL. Their telephone number is 01 731 6276.



### THAT'S A JOYSTICK?

For the very first time, a joystick you can hang your coat on! If you hate the picture sideways you will get a glimpse of one of the new generation of futuristic joysticks from Konix called the Navigator. Konix claim that it is the best joystick they have ever produced. First conceived over two years ago, the Navigator is suitable for left or right handed players and uses microswitches similar to the popular Speed King. It also features Amstrad and Konix claim that it will pass every conceivable angle test. If you want one it will set you back £24.99 which isn't bad, as a designer cart track would cost you at least twice that!

## ATARI COMES TO GREENDALE



Now Atari's a piece of software that will have a lot of small Atari owners jumping up and down and fighting even and dad for the computer! Alternative Software have turned the home to the popular Postman Pat and have announced that an Atari 8 bit version will be released, hopefully in time for Christmas. Alternatively say that they will produce a game that will appeal to all age groups as, in addition to the younger person's option, the game has been written in such a way that it can be treated as a serious game for adults. Your family games on the Atari have been low and far between and this could well become a family favourite.

## WATCH TV!

Remember the TV commercials last year for the SE? Well this Christmas Atari promise, in addition to the ST advertising, a £400,000 TV campaign for XL games systems and the VCS. Note the words 'games system' for the commercials are unlikely to promote the XL in the way that most other 8 users will know that it can be used, but the mere mention of the XL computers must be a benefit, particularly as the software is identical. Besides creating public awareness, publicity of this sort encourages software houses to keep supporting the machine and that can only be of benefit to every Atari user.

## ZEPPELIN FLYING HIGH

Flushed with the success of their budget label, Zeppelin games have launched a new full price label the first title will be for the Atari 8 bit.

ZEPPELIN is the name of the game and it promises to be a blockbuster with a great deal of time and effort having gone into programming the Atari version. Asked why Zeppelin were launching a full price label, Derek Bennett stated that "With all the money spent on converting the title to the Atari, it would be totally uneconomical to sell in a budget price". Bennett will be a top selling game for the Atari over Christmas, why wait for the review, on the strength of ZYBAX, one of the best Atari games in many a year, you can treat Zeppelin and go and buy it now!

## A NEW RANGE OF XL/XE SOFTWARE?

Any Atari 8 bit owner who went along to the PC Show in September would have been severely disappointed. But amongst the millions of bits of paper lying around was a very interesting leaflet from BENTON'S Software. Included in the range was a number of XL/XE titles, none of which appear to have been released over here before. The list includes Gambler, Run For The Money, Strategic Simulations,

Adventure Pak, Space Games, Arcade II, Greatest Hits, Fun In Learning, Fun In Numbers, Mind Movers, Money Moves, Dungeons of Deepart, Sports Spectacular, Arcade Instant and Action Advertisers.

All of the titles retail at £5.99 although we are not sure whether they are disk or cassette, at the time of writing we have not been able to get any further details of the software. Bentson's are an American

company and the UK order address is Bentson's Software Ltd., P.O. Box 874, London, NG1 5E. We will try and bring you more details of what could be an interesting addition to the ever decreasing range of new titles for the 8 bit. In the meantime why not drop Bentson's a line to express your interest and let them know that we are all interested in knowing about new software for the Atari 8 bit.

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# JINXTER

Reviewed by John Sweeney

In the beginning was the tower... which turned out to be a miserable adventure, but with quite a few flaws and nothing like as good as it was claimed to be. They say you learn by your mistakes, and, fortunately for all us adventurers, Magnetic Scrolls seems to have done just that! Their second game, *The Guild of Thieves*, was not so nice, and so is their latest offering - *Jinxter*.

You know you are in for lots of fun when you leave the game and instead of the usual boring copyright notice you get "Version 1.0. And a jolly good version it is, too. All rights reserved. We really mean it. No kidding". The game is packed full of features - just try examining a wall or the path in the garden - the responses are superb! There are also some nice little responses to other adventures - sleep-talking meteorological space boots and meditations coming to life! You will meet some very strange characters, especially the Guardians who enable you to do a little job for him, to be paid in co-ynops you as Special Consultant to the Investigative Sub-Committee of the Interdepartmental Steering Committee of the Working Group of the Standing Committee on Administrative Administration and Internal Affairs in.

- Locate five missing and haunted Chortis
- Gain access to the enchanted Biscuit of Fuzan
- Assemble the Chortis on to the Biscuit
- Unleash the power of the Biscuit against the Green Witches

Unfortunately, the Green Witches have bribed members of the public to conceal the Chortis (so don't expect a lot of help from the locals) and the Biscuit seems to have disappeared completely.

*Jinxter* is basically a straight forward text adventure, with Magnetic Scrolls' usual high quality pictures - great if you like that sort of thing - but personally I turn off the pictures fairly early in order to speed up responses and make more room on the screen for text. I usually turn them on again once I have solved the puzzles, then just run through all the locations to have a look on the ST are very impressive. There are some extra commands to vary the picture presentation on our ST Monoscreen, but I haven't seen the results. The ST also has a TEXTEDIT command so that you can choose small characters for a monitor or large characters for a TV.

Other useful facilities include the ability to edit your input, scroll the text contin-

uously, and (on the ST) define a function key as a command (e.g. make F1 mean GET ALL). Lots of observations make most of the common commands very easy to input, including F for WAIT which failed to get into the documentation!

The packaging is excellent and includes comprehensive coded hints to ease you get stuck, and there is certainly plenty of opportunity for that! The game starts off fairly sequentially as you find your way to your own house, then past various dangers such as wild bulls and barbed wire to your friend Sam's house. There you find the Lagoon and a major problem of how to cross it - it's too cold to swim, the boat is stolen and the cutter is broken!

Once across the lagoon the game opens up a bit as you now have a whole village to explore - post office, pub, bakery, clock-maker and the beautiful overcast atmosphere on the town square. There are lots of interesting puzzles to solve as you search for the missing Chortis, however by now you should have acquired a couple of them and these are pretty powerful magic in their own right - allowing you to cast spells such as Freeze and Animate. The Guardians are not very good at remembering words on the Chortis (and indeed anything the Guardians ask about tend to be solved to do doobles, things, coltires, waltz-waltz and doobles. All you have to do is "find the woman, say the doobles, and bring your woman, Chortis, blood, Bob, Uncle Norman!"

Despite his failings in the memory department your own personal Guardian is excellent at his job, i.e. guarding you! He appears whenever you are in danger of dying and ensures your survival, usually in an entertaining manner, this involving all those boring details and RESPONSIBLE present in so many other games. He also often appears when you are stuck and offers the odd hint, especially if prompted with the right question, assuming you can actually get his attention away from his obsession with those waltz-waltz!

The latter parts of the game are also a little bit sequential as you finally locate the Biscuit and attempt to defeat Mr Jinx-

ter's Nasty, 388 who is behind all your troubles, but finding the correct route is not easy - there are lots of end barriers, and lots of opportunities to miss something along the way, some things you only get one chance at, or if you are really stuck it is well worth playing the game through from the beginning again in case you can spot something you missed or ways to interact with any of the strange events that occur throughout the game. As far as playability is concerned I found *Jinxter* a lot less frustrating than Magnetic Scrolls' previous offerings in terms of getting it to understand my input. I found a few minor niggles and inconsistencies but nothing enough to detract seriously from the game - just beware if a match follows out - get rid of it - the game has great difficulty working out which match you are entering to test time you try and quit but only very real disappointment was in the final defeat of Jinxter and the subsequent events. Even in retrospect I don't see why casting that particular spell is that easy as just the right time should have that effect, or how you are supposed to work out that you should try it - even though the result lets you know you are on the right track and, assuming at the ending it is was still a trifle too obvious for me!

*Nonetheless* *Jinxter* is an excellent game for all fun-loving, puzzle lovers. It hangs together well, has lots of great atmosphere and humour, and is thoroughly recommended for the ST where its sub-second response times make it extremely playable. Unfortunately on the XL/XT the response times are similar to those in *The Guild of Thieves* - 30 second average until you turn off the pictures, and even then the response times fluctuate wildly from 4 to 20 seconds, often around 18 to 22, but with frequent 20s. I found this made the game almost unplayable at times - if you type a few commands into the key-board before you can get some way long wait! (It would also help if they made the buffer bigger - it certainly isn't adequate at the moment!) There are plenty of equally good games from other companies without this frustration, but if you want to play *Jinxter* on your 5-1/2 inch machine then we should at least be thankful that Magnetic Scrolls are still supporting the good-old machines. The main one from Magnetic Scrolls is apparently quite a different type of game - "Corruption" - decent and intriguing in the world of High Fantasy - but as long as they keep up this kind of quality I'm sure we won't be disappointed!

Available for both Atari XL/XT and ST  
Published by Magnetic Scrolls/Rainbird

ST version - £24.95

800/130XL(xic) version - £19.95

requires 1050 Disk Drive



If you like solving Agatha Christie murder mysteries then this gripping adventure game was created for you for that is just what the idea is based on. It has the usual theme - a brutal murder has been committed in a stately, residential hotel, each guest seems to have a good motive for the crime, and you take on the role of detective, your task being to question each suspect and look for clues. You must use your powers of deduction to identify:

- The murderer
- The weapon or method used
- The motive

In the end of the game your rating as a detective will be assessed as a percentage. Every question you ask costs points and making the wrong accusation will also lose you points, more so if you incriminate the wrong person. As you play the game you'll find that the characters in this drama are ordinary people with ordinary jobs, hobbies and personal characteristics, but each individual is different and, as in real life drama, it is these differences (or similarities) which cause friction and provide criminal intent. They have personalities, too, some good, some bad, and you will soon begin to identify them as real people but be careful not to jump to conclusions. At the same time you will not score highly if you ask unnecessary questions. Choose your questions selectively based on the information you have, for example if the clues suggest that the murderer is a woman that it would be pointless questioning the men unless you find evidence to the contrary. The people have feelings, too, and what's more ten of the eleven are innocent and they won't be pleased if you keep knocking on their door so keep your visits to a minimum as you'll lose points.

At the heart of the program is a complex routine equipping the computer with a simulated human intelligence which enables it to understand how people's characteristics conflict. It assesses the nature of the ill-feeling that would result and classifies it into one of four categories which constitute the four principal motives for murder:

1. A force argument.
2. Ill-feeling, grudge or revenge.
3. Hobbies.
4. Sex related such as infidelity or promiscuity.

### MOTIVES FOR MURDER

**Argument motive** is affected by - financial problems - poverty, people living together, competing alibis. People with jobs or noisy hobbies are prone to those who haven't. Also their personality - hot-tempered, cool, from town, selfish or bossy.

**Grudge motive** is affected by - wealth, smoking and hair-sets - in each case the two-sets have a grudge against the haves. Also persistent noisy hobbies and people who are jealous, noisy, bossy, selfish, hot-tempered, shameless, promiscuous, immoral or avoid especially people of the same sex.

**Hobby motive** is affected by - the difference in people's financial or material wealth. Also personality - brave, athletic, greedy, materialistic, beautiful and strong but note that people are reluctant to sub someone who is strong.

**Sex motive** is affected by - personality - promiscuous, immoral, greedy, dishonest, beautiful and jealous. Members of the same sex due to their partner's infidelity or "two-tits-one" situations. People of opposite sex but not sharing the same room - promiscuity.

# TIME TO

## HOW THE GAME WORKS

A victim is chosen at random, then the computer compares his (I will use the word 'his' for convenience) character profile with the profiles of the eleven other guests. By means of its artificial intelligence the computer then evaluates, on a points system, each suspect's murder potential. The suspect with the greatest potential is initially chosen to be the murderer. Normally he will appear to have more than one motive in which case the computer selects the one with the highest potential. When playing the game you usually have to make the same comparison and assessment except that the computer helps you by listing clues. These may help to identify the killer's sex, job, hobby and characteristics. Usually five clues are found on the murder scene but one of these may be a red herring. Sometimes the murderer himself will provide an extra clue but this will always be bogus in try to put you off the scent. If less than five clues are found then that's because there are more to leave. For example if the murderer smokes then he may leave a log-end, if not then no such clue will be left, or shortage of clues is a clue in itself - he may be a non-smoker. There are two other possibilities. The weapon or method used will be something connected with the murderer's job or hobby but the killer has access to the hotel's master keys and may "borrow" anyone's weapon while they are out. One of the female guests, by virtue of her job, may be invited into the victim's room and so may use one of the victim's own weapons. The killer may use one of his room mate's weapons - please remember! The location of the body could be significant. For example in the hotel for a murderer would have the perfect opportunity to slip something into someone's drink.

The game is played throughout using the joystick in post one. In question stages it moves the detective to the left of doors and push the joystick to the right. To ask questions move the cursor to the appropriate question and press fire. No keyboard typing is necessary. Your enquiries are automatically stored in a file which is kept on a table in the dining-room - your temporary investigations headquarters. You may consult your files at any time and no points are deducted. After clicking to change you cannot refer to your files so you must either remember or write down all the relevant information you may need for your accusations.

## HINTS FOR PLAYING THE GAME

This adventure game will test whether you have a brain or not and before too long you will no doubt own the antiquarian "The Flanders Penderer". Fortunately the answers questions in this game are vaguely familiar. We have a fair idea of what lethal implement someone would use if they worked as a hairdresser or whose hobby was sculpting, but some are less obvious. Someone involved with gambling or sport might choose a method with an



# KILL

by Gregory Francis Benham

element of risk or calculability. A woman might use a more deceitful, less physical, method. Similarly with clues, some are not so obvious. Two particularly obvious clues would distinguish the act of the murderer except that the drinker is likely to get into general trouble. These guests have dirty gear that they keep in lockers under the stairs and of course the butler also has keys. Also the size of the varnish brush is not described - it may be part of a mountaineer set. And the magician is likely to have something up his sleeve.

Trying to identify the motive will present the biggest problem. The computer's brain isn't large enough to teach him all the elements of human psychology but he can cope with the four major basic principles shown in Table 1. In all four cases there are certain good personality traits, e.g. honesty, which reduce people's potential in that particular category and people with similar hobbies generally get on well together. Finally, since the victim is chosen at random, sometimes he will have a greater motive for killing the murderer than vice-versa. In this case the computer selects this as the murderer's motive though it is really more of an intriguing factor. It can be regarded as a criminal act that back-fires on the victim, e.g. rich person kills poor person - motive 'robbery'. Since each person's profile is assembled at random it is unlikely that the same identical character will appear twice. Every time you play the game you'll meet a completely different set of characters. Perhaps one-day you'll come across a carbon-copy of yourself - hope you've got a good lawyer!

```

10 GO TO 2000
20 GO TO 4000
30 GO TO 6000
40 GO TO 8000
50 GO TO 10000
60 GO TO 12000
70 GO TO 14000
80 GO TO 16000
90 GO TO 18000
100 GO TO 20000
110 GO TO 22000
120 GO TO 24000
130 GO TO 26000
140 GO TO 28000
150 GO TO 30000
160 GO TO 32000
170 GO TO 34000
180 GO TO 36000
190 GO TO 38000
200 GO TO 40000
210 GO TO 42000
220 GO TO 44000
230 GO TO 46000
240 GO TO 48000
250 GO TO 50000
260 GO TO 52000
270 GO TO 54000
280 GO TO 56000
290 GO TO 58000
300 GO TO 60000
310 GO TO 62000
320 GO TO 64000
330 GO TO 66000
340 GO TO 68000
350 GO TO 70000
360 GO TO 72000
370 GO TO 74000
380 GO TO 76000
390 GO TO 78000
400 GO TO 80000
410 GO TO 82000
420 GO TO 84000
430 GO TO 86000
440 GO TO 88000
450 GO TO 90000
460 GO TO 92000
470 GO TO 94000
480 GO TO 96000
490 GO TO 98000
500 GO TO 100000
510 GO TO 102000
520 GO TO 104000
530 GO TO 106000
540 GO TO 108000
550 GO TO 110000
560 GO TO 112000
570 GO TO 114000
580 GO TO 116000
590 GO TO 118000
600 GO TO 120000
610 GO TO 122000
620 GO TO 124000
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930 GO TO 186000
940 GO TO 188000
950 GO TO 190000
960 GO TO 192000
970 GO TO 194000
980 GO TO 196000
990 GO TO 198000
1000 GO TO 200000

```

Continued overleaf







## 8. VERSION TRACKER

A while ago in the third of this series of articles (line 304) I introduced the concept of the forced read mode which is an attribute of the 8 bit Atari computers that allows a program to modify itself. This is a very powerful facility and a particularly useful application has come to my attention which I will describe here. I will not dwell too long on the theory of forced read - if you did not see issue 80 you can either send for a copy or write to me (including a SASE) for more information.

The first program with this article is, perhaps, not strictly a subroutine. It is a short routine which you can attach to your programs during program development as a tool, and it should be deleted once the program is finished. The tool provides a means of quickly 'stamping' your developing program with a letter which shows what revision it is at, and then saving that version with a unique file name. If you are a tape user (ie. the master is not much use, but you can still save your program and when you load it later you can find out which version it is.

### THE LISTING

Ignore line 200 at the moment, I will come back to it later.

**Line 10000** - The Graphics 8 call clears the screen. The cursor is then positioned a little way down the screen and line 10008 is listed on the screen.

**Line 10012** - LOCATE 244,TELE returns the value under the cursor when it is in position 244.5 - variable TELE. Another way of doing this would be by opening an ISO channel to the screen (OPEN #112.0, %I) and then doing a POSITION 24.5 followed by GET# 1721. The position of the locale is set so that TELE will contain the ASCII code for the extension letter of the character in line 10008. Now we position the cursor on 24.5, increment the variable by 1, and print the next letter in the sequence over the top of the previous one on the screen. If you save a new version of your work tape, very regularly it is theoretically possible for the version letter to reach 'Z'. If this happens (and by now you will have filed several disks) the IF THEN statement at the end of the line will ensure that you go back to A and not on to a space-leader (CHR\$(99) is ' ' and CHR\$(65) is 'A').

**Line 10016** - Now we print "CONT" on the screen a couple of lines below the new line 10008, then position the cursor at the top of the screen, POKE 642 with 10 to enable forced read and STOP to start the forced read of the new line into the program.

**Line 10046** - After the forced read reaches the CONT statement on the screen control is returned to the program and this line disables the forced read mode, otherwise very peculiar things will happen next time the program comes to a STOP or END.

Ian Finlayson discovers a way to keep track of all those revisions whenever you write a program - with this routine you should always have the most recent revision to hand

**Line 10018** - This is the line which is altered. To find out which version of your program you are working on at any time just LIST this line to the screen. As the routine is run this line will save the current revision to disk under a file name that has the version letter as an extension. You may wonder why I have put an 'W' symbol as the extension - this is on floppy file-reviser card, although it would not cause the program to crash it would normally be ignored by the operating system. However, 'W' is the letter before 'X' in the ASCII table so that the first time you run the routine it will automatically save as LISTING.A.

### CASSETTE VERSION

The routine can be used by cassette users by changing line 10008 TO READ.

10018 CLAVE:REM --- W

The REM statement has deliberately been structured so that the 'W' symbol appears on the screen in the same place as in the disk version, so none of the POSITION statements have to be changed.

Although with a tape machine you cannot save files by name, this routine effectively 'stamps' your programs with a letter which indicates the revision level. After you CLONE it you can find out which revision it is by LISTING 10018.

```

10 W:OPEN FOR:
11 IF 10008=REM THEN PAGE 4 **
** LISTING: INTERNAL: **
** VERSION: TRACKER **
12 OPEN CHANNEL: POSITION 2,HALT: END
:POSITION 24.5
13 OPEN LOCATE 24.5,FILE:POSITION 24.5:
CHR$(CHR$(TELE)+1):PRINT:END:POSITION
24.5:END:END:
14 OPEN:POSITION 1.0:PRINT:"CONT":POSITION 1
.0:PAGE 44:END:STOP
15 OPEN FOR: END: IF
16 READ:NAME:"LISTING.W"

```

# ORB

by B. Wheaton

## A machine language BONUS on this issue's disk

Get this issue's disk and you'll get a superb off-action BONUS program with some fine 3-D effects as you attempt to shoot or avoid huge globes coming at you in *Battlezone* or *Encounter* fashion.

The action is set on Oregon 3, a prison asteroid deep in the heart of the Nebula 4 galaxy, where the most dangerous criminals of the Universe are banished. Most accept that escape is impossible and that the best way to die out their days is in peaceful co-existence but, as always, there are those who rebel. A group of such rebels has stolen a number of Crystalline Sphere transporters and are attempting to escape. Although such attempts are in vain the rebels must be quashed for the sake of the majority of the asteroid inhabitants so January 12, overlord of Nebula 4, has sent in the ORB. On each level there are a number of spheres to destroy and every 3 or 4 levels you must land to check out the situation on the ground. It won't be easy but right is on your side!

The game is controlled by a joystick in port 1. *START* begins the game and the number of spheres to destroy on each level is shown at the bottom of the screen, as is your score and the ORB's shield strength. The ORB may be manoeuvred forward and back or to left and right to avoid the spheres and the trigger will fire your phasers. On the landing screens, the trigger will activate the boosters and the craft must be landed centrally.

Stand by for action, the fate of an asteroid is in your hands!

**ORB is only available on PAGE 6  
Issue disk 35 - get your copy now!**

PAGE 6 Issue Disks may be obtained by writing to PAGE 6, P.O. Box 24 Stafford, ST16 1DH and asking for the appropriate issue disk. Price is £2.95 per disk and payment may be made by cheque, postal order, Access or Visa. Overseas readers should add £1 per order to cover postage.

### LINE ZERO

Did you know that you can have a line number zero in your program? It is not often used, and it is a good idea not to use it in normal programming though it can occasionally prove to be a real asset if you have left insufficient space at the beginning of a program and later find that a line is needed for Dimensioning variables or some other initialization sequence.

In this instance it is used to point to the subroutine while you are developing your program and, like the subroutines themselves, the line zero is deleted when the program is finished. All the time that line zero is in place an instant LINE of the current state of the program can be made by just typing RUN.

Clearly line zero could also be used to help in debugging a program by using it to jump into different specific parts of the program skipping title pages or other parts which are known to run correctly, and heading in on the problem areas.

### FURTHER DEVELOPMENT

This short, effective routine can be run as it stands and will save itself an often on you like, incrementing the version letter each time. If you would like to use a version number instead the modification to the program is quite easy as long as you only go for versions D to W. If you want to go on to 10 and beyond, things are a little more difficult as you will have two digits to change when you update.

I can think of three further subroutines which could be combined with this routine to form a suite of tools. First a routine to delete the routine when it is no longer needed. This would be fairly easy using forward read again, but print the required line numbers in a column on the screen, invoke forward read, and the lines disappear... (maybe). Secondly, for disk users, how about a routine to call up a directory of all the 'LISTING' files on the disk from home so you can see at a glance all the versions you have made. Thirdly a routine to delete all old versions of the program in a block by letter back on A to Z would help to tidy things up as you go along.

If you implement any of these ideas or other ideas associated with any of the Tutorial Subroutines, I would be delighted to hear about it, and could possibly include your ideas in future articles.

Write to: Ian Hinchey,  
80 Roundstone Crescent,  
East Preston,  
West Sussex, BN16 1HQ.

# WRITE YOUR OWN BOOK

## on a 130XE!

One thousand friends! That's what it was going to cost to buy 100 copies of my 80 page book published. I had just written a biography of one of my more notorious customers, Admiral John Buxton, and wanted to give copies to relatives and maybe even sell a few. But one thousand friends! I had never imagined it would cost so much. This was certainly not in my budget. So I took another look at my Atari 130XE and Panasonic dot-matrix printer and decided this was going to have to be a do-it-yourself job.

Most of us have a book or two in us. It could be a cook book, a how-to book based on our favorite hobby, or maybe even a short story or our first novel. Then again you may just be interested in publishing a newsletter or a small brochure or a report for work. What I discovered is we have the tools now to create and publish a professional looking product, right on our own desks. And it doesn't have to cost an arm and a leg.

### CHOOSING THE RIGHT WORDPROCESSOR

To start with, there are numerous word processing programs on the market which can more than adequate to create our masterpiece. I used **AcadWriter Plus** because as a beginner it had to be simple. The hitra drive program made it easy on child's play. On such a program you can not only write your text but also design your overall work with a suite of Commands, footnotes or subnotes, bibliography and even an index. There are, however, programs coming out to make things even easier, like **Print That and Desktop**. I did my original book just with **AcadWriter Plus** but since then I've become more sophisticated and graduated to **Paperclip**, which I used for my second edition.

**Paperclip** has the advantage of being command-driven. You can do more with it. I transferred my files from **AcadWriter Plus** to **Paperclip** with a few programs included with **Paperclip**. I was then able to revise my text and could even add material from other files using **Paperclip's** double window feature. With this you can load two files at the same time and move material between them. As I had used a separate file for each chapter in my book this enabled me to move text between chapters. I could not have done this with **AcadWriter Plus**.

Another helpful program in getting organized is **Coactive Pro**. Such a program enables you to develop an outline, briefly describe each point or chapter and rearrange these headings until you're happy. Using a standard word processor you can research your work in an organized fashion, keeping separate

files on each sub-point until you're ready to put it all together. Again, if you use **Paperclip** you can combine and mix these files. Another feature of **Paperclip** is that it allows you to produce a customized version and save this to each disk you are working on. You can then boot up **Paperclip** from your working disk and load files from this same disk, saving a lot of disk swapping. A nice safety feature is automatic saving of text which you can set for any number of key strokes.

### THE NEXT STEP

Naturally you'll publish your work with a fair bit of tweaking till it's just right. As this point you'll find a spelling checker quite helpful. It will pick up typing errors and obvious spelling mistakes, but don't count on it to catch everything, especially words that sound the same and grammatical errors. Also, its quite wearying on your disk drive, since the dictionary is too large to load into memory. Nothing beats having your spouse go over your creation. My wife is my best critic and supporter. Once your work is written the main task is desk top publishing in layout and typesetting. For a small book of 80 to 100 pages this can easily cost five hundred pounds if done by a professional and that's just to prepare your work for the printer! The printer will then charge for paper, actual printing, coloring, folding, trimming, and binding.

To do it yourself you need to decide first of all on the size of your book. Since we're doing this on a slow-string budget I recommend sticking with standard size paper. I chose to make my book 7 by 8 1/2 as it allowed the most words per page for the least cost. By printing on both sides of a sheet of 8 1/2 by 14 I got four pages of my text.

To do it yourself you need to pick a type font, pitch, and mode. My dot-matrix printer is extremely versatile. It can do both normal and half-size letters, for pitch it offers 10x (18 characters per inch), 11x (12 cpi), semi-condensed (15 cpi) and compressed (17 cpi). Plus looks like a typewriter font and compressed is quite small and hard to read, so I chose 11x for my main text and semi-condensed for quotations. In Near Letter Quality mode it looks great. Maybe a professional typesetter would agree but you'd need a magnifying glass to tell it wasn't printed with that type.

If you have access to a Laser Printer, of course you can produce print that is equal to typesetting. Most Laser Printers are however locked up to IBM or Apple computers but I suppose you could connect to these models over a modem with a translator. This would entail a fair bit of taping up incompatible codes for setting, underlining, print fonts, etc. I chose to keep it simple and stick with my Atari. (Most lasers have an Epson emulation and can be used directly with an 8-bit Atari via a standard Centronics interface - Ed).

You can now get a rough idea of the number of pages you'll need by having your word processor do a word count. Or better still ask it to do a print preview once you've set up the size of type and page margins.

### DESIGN CONSIDERATIONS

Of course in designing the look of your page you will want to think about justifications. I prefer a straight right edge for a professional look. If you want to do some casual work a jagged edge might do the job best. You'll need to decide on photograph spacing and indentations. Other print styling and formatting options are bold print and elongated print for headings, underlining, centering portions of your text, or blocking some sections to the right for emphasis. If your printer has the capacity you could

## Can you really write a book on an 8-bit Atari?

**William A. Benbow used his 130XE to produce an 80 page book and shows you how you can produce your own book for the minimum of cost**

show double-column printing. You may want headers or footers and these can be added at this stage, including page numbering. Perhaps you will want to repeat the chapter heading on each page for easy reference.

### IT'S LOOKING GOOD!

Now your book is really taking shape. You need to give some thought to title page, artwork, graphics or photographs you may want to include. Photos may require some special treatment to be copied sharp and clear. A professional printer can do this necessary treatment called PMT for about \$5. Of course if you had some of the new graphic oriented programs you could add some graphics directly to your text but not true photographs.

With the Preview option of your Word Processing Program you can view the appearance of your pages. Better still if you have a word processor like Amstrad's Plus or Paperback you can set the number of columns you wish to work in. This allows you to edit and design in a frame that approaches what you see in what you get. Granted you do have to still use your viewing window over the larger text page but, nevertheless, this is a tremendous improvement over having to print countless rough copies or single back and forth between Preview and Edit functions. You can now further design individual pages by leaving spaces for photos or artwork.

You will need to use the Preview option to break your text into pages. This allows you to see if you need to adjust paragraphs so

that pages appear more presentable. Perhaps you don't want lines or certain quotes broken so add a line or delete some words until the page breaks are suitable. The block menu option of a word processor allows easy cutting, moving and pasting of text.

### TIME TO PRINT IT OUT

You really do need to see your words on paper to get a real picture of what your words will look like, so when you have finished polishing your text and page design, print a draft copy. Although you will be printing on standard 8 1/2 by 11 paper, it is quite easy to set margins to suit your chosen page size and line size.

If you're happy with the general shape and look of your book you can print a Final Letter Quality copy. Use a good ribbon and monitor the printing to ensure that it is uniform in appearance. If your work is long, you may need to re-ink or replace your ribbon.

Next, cut your pages to size and paste on full sheets of 8 1/2 by 11 or whatever is available. I used my draft copy to do a mock up of my book to get pages in order for printing. Alternatively you can probably paste four smaller pages on to one sheet of paper. Two on each side. I learned that experience that when you fold several sheets of paper together, the inner sheets lay out more than the outside ones. This means that when you bind these sheets to form your book they will need to be trimmed. This will result in the inner pages having a narrower outer margin unless you compensate for this when pasting them on the sheets for printing or photocopying. This may take a bit of experimenting but the idea is to leave most of an outer margin on pages that will be in the centre of your book.

Photos and artwork can now be glued in place with rubber based paste and your manuscript is 'contents ready'.

### PRINTING OR PHOTOCOPYING?

I researched the cost of both printing and photocopying to try and decide to go with photocopying. The difference in finished product was not that great and the cost for a small printed run was too rich for my blood. Another decision you will need to make at this stage is the weight of paper you wish to use. Many printers suggested something in the range of 300 gsm paper. This is basically so that print does not show through from one side to the other. It is considerably more expensive but does give a more professional look. Standard paper is 80 gsm weight and I have found it quite satisfactory. It is the most commonly stocked paper in the two standard sizes so it is available and affordable. I did, however, go to a heavier paper for the cover of my book. Cover stock comes in a great variety of colours and weights, and though you can't tell a book by its cover this is one case I wouldn't skimp on. First impressions are important. I believe it's worth considering printing or photocopying the cover in colour. If this is one colour printing it will not add much to the cost. Full colour copying on the other hand is quite expensive. I found I could not consider it either for the cover or for inside photographs.

Standard photocopying in black is not expensive. It was 2 cents a page for the 4000 copies I needed (40 prints x 100). I only used 2000 sheets of paper because I photocopied each side. To this 200 sheet £30 was added for separately printing the cover in colour on cover stock paper. In addition I paid £30 for binding, stapling and laminating. Total cost £120. For this I got 300 copies of my book, an average cost per book of £1.20, Not bad. Considering it would have cost me nearly £1000 to have it done professionally! I could have had it bound more expensively. You can choose to have your book glued rather than stapled or even use products like Cellophane. This will add at least one dollar to each copy.

I've already had enough copies to cover my expenses and start getting up for a second edition. My original 10,000 words have expanded to 40,000 and I plan on 160 pages this time. All these changes can be done quite simply on a standard word processing

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## WRITE YOUR OWN BOOK *continued*

program just as the original was.

### FUTURE DEVELOPMENTS

You may want to experiment with the up-and-coming desktop publishing software such as *Newsroom*. These programs promise to help in setting up page size, page design, and typeface. With automatically adjusted margins they make it easy to create space for photos and artwork. In addition they should expand the choice of type fonts and add design features like borders, larger footings, and graphics.

Such programs are just coming to Atari. They have been around for a while for the big game like Apple and IBM card systems, include laser printers and digital printers. Their popularity and marketability is evidenced in their rapid growth throughout the whole field of personal computing. Writing with the aid of word processing programs is the most common use for home computers but the field is about to be revolutionised in exactly the same way that spreadsheet programs transformed accounting. Programmers have a tremendous opportunity to be part of this development by bringing these advancements to the Atari world of Atari. Our main handicap is of course our limited memory. With improved software there may well be an incentive for memory expansion of our hardware.

With existing software we can not only write our reports, newsletters, short stories, and even full length books - we can design and publish them as well. With desktop publishing software we will be in the same league as the big boys. Eighty column enhancements and high resolution monitors will move us closer to the standard of "What you see is what you get". Follow me, the market is there.

With our Atari Atari card a decent dot-matrix printer you and I can indeed afford to publish what we write.

## WANT TO PROGRAM?



If you want to start programming your XL or XE or improve your present programs then you need a good reference book. The one book that every Atari programmer swears by and which has proved its worth time and again over the years is **REVISED MAPPING THE ATARI** - without it your programs may never get any better!

**REVISED MAPPING THE ATARI** is a guide to all of the memory locations inside your XL or XE but it is also much more than

that. Example routines are given for hundreds of locations, there are suggestions on how to use many locations in your own programs and a number of useful appendices and a great deal more. **REVISED MAPPING** will be the one book that you will pick up EVERY time you program and it will be an investment that will last as long as your Atari.

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Independent User Group

# Jumble Cell

*How can such a simple  
program drive you insane?  
John Lawford's brainteaser  
will do just that!*

If you can solve the Jumble Cell in 40 seconds then there's possibly Jumble Cell is not for you so feel free to leave the page and get back to discovering the Secret of Life, The Universe and How They Found Rongelap. If you are already in Rongelap then I was, of course, referring to a totally different town of the same name!

For those kind and obviously intelligent readers who are still with us, here is a quick run down of the story so far. Jumble Cell (don't you just love puzzles) is a game that will try your patience and could put the cat in mortal danger. When you do solve it (and you will - eventually) the clock at the bottom of the screen will show you just how quickly time passes when you're being driven insane.

The game opens with three rows of three eight sided cells, then for no apparent reason the computer scrambles the middle line. Oh what a mess! - your task is to re-arrange the jumbled pieces so that you end up with nine perfect cells. A bell will sound and the instruction "GO" will tell you when it's time to start. Use the joystick to move the white diamond around, as you pass over a piece it will move in the opposite direction to the diamond which will jumble any piece it moves over. All the time the clock is ticking away. Fortunately there is no time limit to the game but your final time will be an incentive to complete the cells more quickly next time. Just in case you've got the idea that it's impossible to do remember your Atari never lies (well not much). Before the "GO" message appears, the computer will have checked that all the pieces are capable of fitting together - hence, if things really do get too much you can always press the fire button to reset the clock and give yourself a new set of shapes.

Jumble Cell is not a shoot 'em up arcade game, just a simple bit of brainless fun - just ignore the stars in the white cells they're probably only telling us we're mad!

# Jumble Cell

```
00 1 000 *****
00 2 000 * JUMBLE CELL *
00 3 000 * *
00 4 000 * John Langford *
00 5 000 *****
00 6 000 * PAGE 6 REQUIRED - ENDS*
00 7 000 *****
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00 9 000
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1, 00000 00000 00000 00000 00000 00000
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# THE MICROLINK CONNECTION

**John S Davison looks at a good value modem package that comes with free ST software but can be used just as well with an XL or XE to call MicroLink or any Bulletin Board in the world**

Interested in going online? If so, you must consider this special communications package from MicroLink, as it has everything the ST user needs to get started, and at a very good price. It contains the MicroLink Multiplexed modem, up to 232 cable, a disk containing Ramon's E-COMM II communications software, and appropriate installation manuals. Even though the package is aimed at ST users, it's still good value for the 54-bit user. However, you'll need a separate RS-232 interface such as the excellent P&CConnection (reviewed in issue 88) and an appropriate interface cable, although you could fit a suitable plug to the cable provided if you're confident with a soldering iron. You also need 8-bit communications software, but you'll get this anyway if you buy the P&CConnection.

As the package is a promotional offer for the MicroLink service you also get free MicroLink registration and its telex link worth £15, and one month's free connect time on MicroLink and the Telecom Gold service, which could be worth a fortune depending on usage!

## THE HARDWARE

The modem is a badge-engineered version of the recently re-branded Fair Light 1200, one of the best of the new breed of high specifications, low cost modems available in the UK. Its red and black plastic case is small enough to fit neatly under a disk drive. The front face carries just six indicator LEDs - no LEDs, switches, or other technologicals. There indicate power, online, carrier detect, transmit, receive, and auto-answer mode.

The rear panel has sockets for RS-232 cable, phone handset optional, and low voltage power supply, the P&C for which is incorporated into the three pin mains plug. Connection to the phone system is via a captive lead, the plug of which goes into the standard BT wall socket. There's also a tiny 'panic button' to reset the modem should the need arise.

The modem is intelligent, using commands compatible with the now universally accepted Hayes AT command set. Unusually at

this price level it covers V21/V22/V23 standards, allowing full duplex operation at 300, 1200, and 1200/30 (and 75/3000) baud, so meeting the needs of most home users. Speed buffering is provided for computers or interfaces unable to handle spin load rates, such as for 8-bit machines using P&CConnection or Atari 800 interfaces.

The modem has extended and automatic facilities, auto-dial working with both pulse and tone dialling, and using phone numbers recalled from its 32 entry memory loaded number store, if required.

When dialling you can monitor call progress through the modem's monitor speaker, making it easy to detect any problem with the call, such as no dial tone, number unobtainable, engaged, or the dreaded RT alarm. If the engaged tone is detected the modem can automatically redial up to four times - the maximum allowed by BT. Unlike some low cost modems, this one has full B&BT approval.

## THE SOFTWARE

I reviewed E-COMM II in issue 78 and found it less than outstanding. The only difference I could see between this packaged version and the original is that the instruction manual supplied here is now physically larger than before and is spiral bound, but otherwise is identical.

For those who didn't see the earlier review I'll briefly describe E-COMM II. It consists of two main parts - E-COMM itself, which is a modular scrolling terminal program used for accessing services such as MicroLink and other scrolling bulletin board systems and E-VIEW, which is a standard terminal program allowing you to communicate with PROTEL and similar systems.

It's quite well endowed with features, including emulation of Teletype, DEC VT52 and VT100, and user defined transmit, support of several different modem types, user defined function keys, XMODEM file transfer, screen logging and interrupting and some escape and carry over facilities.

In the original review of E-COMM II I found problems using several of its features, particularly file handling. This version behaved similarly, so my original comments still stand, however for basic communications access it worked fine - it's good enough to get you started, anyway.

It took only a couple of minutes to get the modem connected to the ST, but ages passed before E-COMM II was installed owing to the incredible number of disk swaps involved. Using two disk drives cuts this dramatically, though, I had no problems communicating with MicroLink, PROTEL, a private electronic mail service, or a lot of bulletin boards.

I also tried the modem out on my 1405L, using the P&CConnection and the superb 800 Express communications software. It worked beautifully. In fact, it worked better than my Mitrol 854000, which has one of two compatibility problems with 800 Express. I also tried it with the communications program I later

Office II, and once again it worked without fuss, until it died on me with a suspected power supply problem, that led I assume the problem was peculiar to the review sample and isn't representative of its normal reliability.

## CONCLUSIONS

My only gripe is in MicroLink's choice of communications software-as there are better programs available. Even so, this package represents outstanding value for money, particularly for IT users trying communications for the first time. The modem itself is a bonus, offering facilities previously only available on modems costing well over twice its asking price. It's so good, in fact, that the package is worth buying just for the modem. Note that the Fax Lineat 1.800 on which it's based could cost you over £200 for the modem ALONE!

So, if you've been on the brink of going online, hesitate no more - certainly there's no better way to get into the exciting world of telecommunications.

## WHAT'S MICROLINK ANYWAY?

As the package is designed to promote MicroLink, it seemed a good idea to try out the service as part of this review. I'm not a MicroLink subscriber, but thanks to my beloved Page 6 Editor who is, I was able to see what it offers.

MicroLink is a closed user group operated by Database Publications (publishers of Atari User and ST User) on Telecom Gold, BT's automated office service. Gold itself provides various electronic office functions, such as text processing, mail, file storage and retrieval, an appointments diary, and links into other services, such as Telex, IDB (a daily computer industry news service), and online paging. There's a bunch of on-line games too, should you get bored with all this serious stuff.

On its own Gold doesn't have much to offer the home computer user, being aimed more at businesses, however the additional facilities offered by MicroLink make it rather more interesting. But why should you fork out around £40 per year subscription plus connect and usage charges when there are scores of low-bulletin-board systems (BBS) around?

Firstly, it's available 24 hours every day and has multi-line access, so unlike most free BBS's you don't usually get an engaged signal when dialling in. Secondly, you can stay logged in for as long as you like, whereas most free BBS's set a time limit of 45 minutes or so to prevent individuals hogging them. Thirdly, although it's based in London you can access it via BT's PS (shorter fairly frequent) service or via cost-free long distance phone rates. Finally, it's got facilities not offered by the free BBS's, but not everyone may have a practical use for these.

## SOME THINGS ARE FREE ...

After dialling your local PS access point and getting through the rather cumbersome PS6 connection procedure you find yourself in Telecom Gold. At this point you're paying for a local phone call, the PS link, and MicroLink connect time. A simple command then gives you the MicroLink menu, which may be browsed by detailed line numbers available for no additional charge, and those which cost extra.

The 'free' items include things like Bulletin Board, TeleSoftware, UK Electronic Mail, MicroLink Newsletter, Newsbytes computer industry news, and Computer Publications Guide. There are also

sections on business, legal, financial, and mortgage matters and WeatherLink, which allows you to download and view satellite weather maps.

## ... OTHERS YOU PAY FOR

Of course Electronic Mail, Telex, and gateways into other systems incur extra charges. Some of these are horrendously expensive to use (over 80p per minute), but are really aimed at business users. Other selections cost extra only if you elect to buy something offered, being a form of electronic shopping. This includes Travelink, Travelink, and Shop Window, which offer flowers delivered via teleflora, theatre ticket booking, and purchase of various computer related items respectively.

## OTHER INTERESTS

If you've used a BBS before then you'll feel at home immediately on MicroLink's Bulletin Board. This has many sections, two of which cover Atari ST and 8-bit machines. Others include Fax talk, Telexed, Business Adverts, and Computer Jobs, specific areas for other makes of computer and several more general areas catering for interests such as Open University and forming. Some areas didn't seem well supported - in fact, several seemed to contain just rubbish.

Software may be downloaded at an extra charge from the TeleSoftware section. When I last checked, it contained 48 programs for the ST and 8-bit for the 8-bit machines, most being 1pp-in programs from the Atari User and Atari ST User magazines. MicroLink uses 7 data bits instead of the usual 8 for transmission, so binary files have to be encoded for downloading and decoded after you receive them. It also means the SMARTbit error detection protocol can't be used, which could cause problems on poor lines. The online help for downloading is rather confusing - nowhere does it explain the need for the decoding program, which has to be downloaded as ASCII BASIC source code first.

## WATCH THAT BILL!

You can expect a total MINIMUM cost (using MicroLink and BT off-peak rates) of around c. £100 per hour from the London area to about £5.00 per hour if you live outside the London G1 dialling area. The difference is caused by the need to use long distance phone calls. If you don't use PS6 for long distance the cost is even higher. There's the additional £3 plus VAT per month subscription charge too, plus any of the extra charge items should you use them. That monthly bill could get frighteningly large!

Overall, I found using MicroLink an enjoyable experience, but to be realistic I don't think its advantages are worth the cost for the average home computer user. For most people the Bulletin Board and TeleSoftware areas are the areas of interest, but there aren't that many bulletins there - on a good free BBS, such as The Ark, or CBARRS.

I use a private mobile-to-mobile electronic mail network daily, so I don't need convincing of the value of such things for business purposes, but for home use? Not just yet - although the day will surely come!

**MicroLink Multispeed  
Communications Pack  
MicroLink Communications  
Price: £169.95**

# DRACONUS

Never has the 8 bit Atari been treated with such respect. Thanks to Zappella's unrivalled Atari experience, 8 bit owners everywhere can now rub their hands with glee at the prospect of playing the game that's got the games software world jumping with delight. DRACONUS is the ultimate Atari 8 bit experience putting Atari software and the 8 bit computers up where they belong - right at the very top.

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Draconus (8-bit) Tape  £9.95  
Draconus (8-bit) Disk  £11.95  
Draconus (8-bit) 1 tape  £11.95  
Speed Ace 486 1 tape  £11.95

Total: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Make cheques & P.O. payable to: Zappella Games Ltd.

Send to: Zappella Games Ltd, 28 Chatterbox Road, Southend, Essex, SSO1 2AJ, England



# MOVE IT WITH CHARACTERS

## Animation Techniques using character set redefinition and page flipping

by Robert Gibbons

Animation is a technique used by programmers to add life to their programs and give a sense of motion and movement. Most commercial games have some form of animation which can range from simple character movement to complete moving screens.

As with most aspects of computing there are many ways in which animation can be achieved. One method is to use page flipping which is a process of displaying several separate pictures and flipping between them to give a sense of motion. This can use a lot of memory if you are trying to flip several large screens. A more effective method of animation is to change the character set being used. A character set is a block of data which the computer uses to assemble characters on screen. There are 256 characters which feature on the screen but only 128 can be changed. This is because the remaining 128 are simply the screen of the first 128. Each character is made from 8 bytes of information and is considered on an eight by eight grid. You set the bits for the points on the screen you wish to be on when displayed as in diagram 1. The eight rows (bytes) are used by the computer to display the character and can be found in the DATA statements of listing 1. There are several public domain programs, such as Create-A-Font (disk 20 in the Page 4 library), and several commercially available programs which will help in the design of characters and give the necessary data.

### FINDING THE CHARACTERS

Each character has its own internal reference number (see Table 1). The data which we use to make a character must be inserted at the appropriate place in the set to correspond with the character which we wish to change. For example the space character takes up the first eight bytes whereas the letter A begins at byte 264.

```
00 10 0000
01 10 0000
02 10 0000
03 10 0000
04 10 0000
05 10 0000
06 10 0000
07 10 0000
08 10 0000
09 10 0000
10 10 0000
11 10 0000
12 10 0000
13 10 0000
14 10 0000
15 10 0000
16 10 0000
17 10 0000
18 10 0000
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221 10 0000
222 10 0000
223 10 0000
224 10 0000
225 10 0000
226 10 0000
227 10 0000
228 10 0000
229 10 0000
230 10 0000
231 10 0000
232 10 0000
233 10 0000
234 10 0000
235 10 0000
236 10 0000
237 10 0000
238 10 0000
239 10 0000
240 10 0000
241 10 0000
242 10 0000
243 10 0000
244 10 0000
245 10 0000
246 10 0000
247 10 0000
248 10 0000
249 10 0000
250 10 0000
251 10 0000
252 10 0000
253 10 0000
254 10 0000
255 10 0000
256 10 0000
```

Listing 1

The set of character data which the computer uses is located at decimal address 17944 (HEX 3000). Because this is in ROM we can't write directly to it so this problem is solved by writing our set elsewhere and then directing the computer to it. By directing the computer to a series of sets, movement can be created. This is a far simpler and quicker way of animating because the computer only requires one address to be altered.

The best way to make a new set is to copy the AT&T's set and modify it to our own needs. This means we don't have to re-include the letters, numbers etc, which might be needed in a program. Copying a set with BASIC can be slow but we'll stay with it for now. Listing 1 is a demonstration of animation which moves across the screen. Type it in and follow the explanation of the program.

The first thing the program does is to copy the character set into a new location at 16384 (4000 HEX) on lines 40 and 90. Because we're using two character sets the process is repeated but using a different location for the second set, in this case 17408 (4400 HEX). The main part of the program (lines 90-180) reads the data and stores it in the new locations of our character sets. As mentioned already, the character data is in the form of 8 bytes per character and each character appears in the order shown in Table 1. Our program uses an altered T for the animation and therefore the data is stored 8 bytes into the set of 17416. The next routine simply prints a few characters to the screen ready for flipping.

The address used to flip between the character sets is 756 decimal (2D4 HEX) which is called CHAR1. It is the address which the computer looks at to see where you've put the character set. The default value is 128 but 256 is sometimes used to get the lowercase letters in GRAPHICS 1 or 2. We can store the locations of our new sets here and the computer will automatically display our new sets. The address needs to be in the form of a page number. Each page of memory is 256 bytes long and each character set is 4 pages long. Location 16384 is page 64 (16384/256=64) and location 17408 is therefore page 68.

In our program the page number is stored in location 176, followed by a delay and then the next page number stored. What we see on screen is an instant flip between characters. Lines 190-200 contain a suitable routine to flip the sets. BASIC is slow at copying the character sets but fast enough at changing between sets that we have to put a delay in. Try the program without the delay and see what it means.

### USING EXTRA CHARACTER SETS

The next listing (Listing 2) creates 12 stages on the screen and rotates them using the same technique as shown before. The only significant difference is the number of sets used, in this case four. There are however six positions that the stage take but because they are symmetrical we need only four different sets. If we had used irregular shapes and tried to do the same sort of thing, there would have needed six sets. Speed is also a

continued overleaf

## MOVE IT WITH CHARACTERS continued



Diagram 1  
Characters used in first demonstration

problem. If you are using something which changes slowly then you need more 'in-between' frames. For example, after the speed of the spinning stops by changing the variable `SPIN` to `000`. Notice how the circles jump between each other and the illusion of movement is lost. When creating your own moving scenes you'll probably need to experiment to find a suitable number of frames and the best speed depending upon the scenery you have set. Also notice the `gosub` machine-code routine to copy character sets on lines 40-60. The routine is called by a statement like line 100. If you use the routine in your own programs, simply replace the number 1000 by the address of the location you wish your new set to be located at.

### USING MACHINE CODE

As mentioned before, BASIC is slow at doing the copying but fast enough to flip sets. If you wish using these techniques in another situation where you needed the computer to do other tasks at the same time then the timing of the flipping would be affected. The only way to get around this is to use machine code. Don't worry if you haven't any knowledge of machine code as the routine presented here can be used in your own programs if you wish to do so. The routine works by changing the character set during a space of time called the vertical blank interrupt (VBI), this is the time in which it takes the electron beam in your television to move from the bottom right of the screen up to the top left to start the picture again. The VBI occurs every 1/50th of a second and the computer is able to learn whenever it was doing, execute the routine during the VBI, and come back to what it was doing before. Our routine reads the order of character sets and stores it in `CHARS`. When it reaches the last number it goes back to the beginning just like the previous two BASIC programs have done. Listing 3 uses the VBI routine to make the old Page 6 logo move using five different sets in eight positions. Notice how you can still type and program while the logo is spinning. The VBI routine is on lines 620 to 630 and to use it in other programs simply put the speed on line 300 and the order of sets on line 400. Line 530 is needed to mark the end of the sets. Hopefully you now have some insight into animation and how to implement it into your own programs. You should now be able to make your own animated sequences and use all 128 characters if you wish to create a masterpiece to rival even Walt Disney! There still remains much room for experimenting and if you want further reading then I suggest the Computer Animation Primer by David Fox and Mitchell White from Byte Books which covers other aspects of animation and some of those described here.

```
10 10 000
11 10 000 0
12 10 000 0
13 10 000 0
14 10 000 0
15 10 000 0
16 10 000 0
17 10 000 0
18 10 000 0
19 10 000 0
20 10 000 0
21 10 000 0
22 10 000 0
23 10 000 0
24 10 000 0
25 10 000 0
26 10 000 0
27 10 000 0
28 10 000 0
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85 10 000 0
86 10 000 0
87 10 000 0
88 10 000 0
89 10 000 0
90 10 000 0
91 10 000 0
92 10 000 0
93 10 000 0
94 10 000 0
95 10 000 0
96 10 000 0
97 10 000 0
98 10 000 0
99 10 000 0
100 10 000 0
```

Listing 2

Computer Animation Primer, probably the finest book to have been written on Atari animation, is available from the Page 6 Accessory Shop (see inside back cover for details) price £19.95.

```

00 10 0000 .....
00 11 0000 .....
00 12 0000 .....
00 13 0000 .....
00 14 0000 .....
00 15 0000 .....
00 16 0000 .....
00 17 0000 .....
00 18 0000 .....
00 19 0000 .....
00 20 0000 .....
00 21 0000 .....
00 22 0000 .....
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00 86 0000 .....
00 87 0000 .....
00 88 0000 .....
00 89 0000 .....
00 90 0000 .....
00 91 0000 .....
00 92 0000 .....
00 93 0000 .....
00 94 0000 .....
00 95 0000 .....
00 96 0000 .....
00 97 0000 .....
00 98 0000 .....
00 99 0000 .....
00 100 0000 .....

```

Listing 3

Cellphone 1		Cellphone 2		Cellphone 3		Cellphone 4	
#	NAME	#	NAME	#	NAME	#	NAME
1	100	1	100	1	100	1	100
2	101	2	101	2	101	2	101
3	102	3	102	3	102	3	102
4	103	4	103	4	103	4	103
5	104	5	104	5	104	5	104
6	105	6	105	6	105	6	105
7	106	7	106	7	106	7	106
8	107	8	107	8	107	8	107
9	108	9	108	9	108	9	108
10	109	10	109	10	109	10	109
11	110	11	110	11	110	11	110
12	111	12	111	12	111	12	111
13	112	13	112	13	112	13	112
14	113	14	113	14	113	14	113
15	114	15	114	15	114	15	114

Table 1 - Position of characters in character set

# TOMAHAWK

HELICOPTER FLIGHT SIMULATION



**ATARI**

THE ATARI GROUP  
500 O. ST. BAYVIEW  
ANN ARBOR, MI 48106

**DIGITAL  
INTEGRATION**

ATARI INCORPORATED

In the hundreds of hours I've spent using many different flight simulation programs I've never flown a helicopter simulator, so I was very pleased to receive Tomahawk for review. It's another of those combat simulator/game hybrids in which you fight an enemy to gain points as well as flying and navigating your aircraft - in this case a Hughes AH-64A Apache advanced attack helicopter.

The disk version reviewed here is supplied in a slim plastic box/disk package containing a disk, an excellent instruction booklet, and a large colorized poster. This shows pictures and full details of the Apache, including notes on helicopter aerodynamics and on-air-to-air combat techniques. The program is designed for SLS2 machines only, as it needs 64K to run.

After boot-up you can set various simulation parameters. These include mission type (training mode or three different combat scenarios), day or night operation, clear or cloudy conditions (with selectable cloudbase from 50 to 5000 feet), rain or crosswind turbulence conditions, sound control, and finally pilot rating. This last item affects the accuracy of enemy fire in the combat scenarios, and therefore acts as a 'difficulty level' control.

## INSTRUMENTATION

The main screen looks familiar, being similar in style to Flighter Pilot, an earlier release from Digital Integration. The top two-thirds of the screen shows a 'through the canopy' 3D view and the remaining part represents the instrument panel.

As with a good flight simulator there's a lot of instrumentation, but I suspect that it is functionally (game oriented) rather than realistic. On the left are engine and rotor

# TOMAHAWK

**You can't keep a good man down!**

**John Davison**

**is up in the air again!**

related instruments, implemented here as 'transparent style' displays. These cover collective pitch setting, engine torque, engine and rotor blade RPM, fuel level, and throttle setting.

Next to this is TADS (Target Acquisition and Designation System), used to scope and identify potential targets as tanks, field

guns, or helicopters. To the right of TADS is the pilot's Visual Display Unit showing digital readout of striped downward or backward), altitude, vertical speed, and distance/time to objective. To the right again is a group of instruments showing roll, pitch and sideways information.

On the far right is the Navigation Display showing current heading, current track (or helicopter can fly sideways), and bearing of your selected objective. The objective can be any one of eight navigation beacons scattered around the simulation's map area, any of four landing pads in the current sector, any of eight ground targets in the current sector, or air threats (ie enemy helicopters). After selecting ground or air target you can choose to use Wrens (chop-ops), equipped rockets, or laser-guided Hellfire missiles against it. A different shaped pointer is superimposed on the wilderness to remind you of your choice. Points are scored by destroying enemy tanks, field guns and helicopters, with different values awarded depending on target type and weapon used.

The bottom of the panel graphically displays weapons status, ie number of rounds remaining for each weapon. Next to this is your current score, and finally a systems status panel showing when weapons, navigation, TADS or engine systems are damaged by enemy fire. How - and I thought flying a helicopter would be easier than an F15!

A map screen shows the layout of your operative operational area. It's divided into 128 rectangular sectors and shows the position of the eight navigation beacons, mountains, and your current position. Also shown is the enemy helicopter which is always out looking for you. None of the ground targets appear - you have to locate

them yourself using your instruments.

In training mode all sectors are friendly, but contain enemy tanks and guns (ie target practice - they don't shoot back) in combat mode sectors are colour coded to show which are enemy held or under enemy attack. You have to destroy all enemy tanks and guns in those sectors before the display pans to yours.

## CONTROLS

Helicopter controls are rather different from their fixed wing counterparts, but have similar effects. The two most important are control cyclic pitch and collective pitch of the rotor. Cyclic pitch is joystick controlled and is used to tilt the helicopter into a nose-up or nose-down attitude or to roll it from side to side. This also accelerates the aircraft in the direction of roll, so causing it to fly forward, backward, or sideways. Collective pitch is keyboard controlled and causes the helicopter to rise, lower, or descend vertically. Other keyboard controls operate the tail rotor pitch for directional control, and throttle setting.

To fly a helicopter accurately and especially against the pilot is constantly used all these controls to balance out the forces acting on the aircraft. Fortunately, the Apache has a computerized control system, which does much of the control balancing for you. Even so, it's still a PITA to fly!

It's wise to start in training mode, but lowering the use of collective pitch. This enables you to vertically ascend, descend, and hover without overtaxing the engine and causing there to fall. You can then add tail rotor control before going on to tackle the challenge of cyclic pitch.

Then it's a case of learning to co-ordinate the controls, and to counteract the side effects of one by use of another. It's decidedly difficult at first, but the instructions help, telling you how to handle all of the normal helicopter manoeuvres, including the spectacular 'hover turn' (air limits for aerobics are also given - exceed them and you'll be treated to the program's spectacular crash effects involving main rotor flapping, explosions, and wireless cracking).

# Warriors of Ras

Screenplay/All American Adventures/US Gold

8 bits and a Disk Drive

Price - variable

*John Sweeney adventures into the past  
to find some less well known programs  
that will still entertain  
- if you can find them!*

## NOOO GROUND FEATURES!

Missions start on a helipad, and your view beyond it shows equal amounts of green trees, brown sand, blue sky, with the horizon running across the middle. Scattered around in the distance you can see black dots, and a few odd shapes. There are ground features, of which there are over 7,000 in this simulation. Many of them never actually translate into anything more than a black dot, but they do give the impression of movement as you fly over them. Other turn into recognizable features as you approach - 3D wireframe buildings, pylons, trees, mountains, helipads, and enemy tank (heavily tanked and field) guns.

Screen update is 1-3 times a second, ideally it should be faster, but it's no worse than other good 8-bit simulators. The horizon line, hills, and bits automatically and fairly smoothly as you stagger around the sky, and the 3D ground features look reasonable from all angles even though they're only wireframe graphics. Disappointingly, helicopter sounds are restricted to the distinctive throb-throb-throb noise of the rotor blades - there's no whine or roar from the twin engines.

Once completed you can go into combat. The three scenarios progress in difficulty from clearing four sectors to liberating the whole map. On approaching the enemy, his stars burning around you, and unless you continually move in to confuse enemy guns, it will eventually damage your helipad system, or cause structural damage. Three structural hits cause you to crash, but have three helipads at your disposal, so you can survive three crashes before having to start a new mission.

## FAST RATE

I've thoroughly enjoyed using Timahawe. It's a fine job, speedily progress offering real challenge as a flight simulator and lots of excitement in the tradition of the best warbird simulators. It's also very addictive since you can handle those controls, but don't take my word for it - get yourself and your wallet down to your local software store and find out for yourself.

**TIMAHAWE**  
Digital Integration  
Cassette £9.95  
Disk £14.95

The Warriors of Ras is a series of four graphics role-playing games - Dambain, Kabi, Wylde and Dappari. They were first released way back between 1981 and 1985 but the first two were re-released in 1986 by All American Adventures/US Gold on a single disk. My local shop was selling the two of them for only £1.99. I also picked up an old copy of the Wylde for a fiver from another shop. Their graphics may look a bit primitive compared to Gauntlet and the scope of the game rather limited compared to Ultima IV, but if you can get them for that sort of price I think you will find them quite good value for money.

Dambain and Dappari players will immediately recognise most of the the jargon about experience points and levels, but it will not all be familiar as it is based on an alternative set of role-playing rules called THE CLASH, FANTASY DESTINY (1978). The main differences are in the combat and the movement rules.

Once you have bought weapons, armour and all the other items found useful in dambain you set off into the game - a brief's very view of your character exploring the 'dambain'. Passing through any area causes it to be mapped on the screen for you, so you need to do very little mapping in most of the games.

Most of the dangers of the dambain will attack you immediately. If you are hit then your armour will usually protect you from the first few points of any damage (until it has deteriorated completely), any other damage removes hit points from the part of your body which the blow struck. When you strike back you must be carrying a suitable weapon and you must specify exactly which bit of the enemy you are aiming for - head, chest, right leg, etc. You may specify that you wish to strike with FORCE, which may inhibit your aim, or you may AID to give a greater chance of success. Aiming however takes time and the enemy may get in an extra blow. Landing all the hit points on any part of the body brings instant death. This does mean that a lucky blow to a weak area such as the neck can destroy even the strongest of characters and you should save frequently. Fortunately the save facilities are quick and easy to use.

Apart from the monsters there are all manner of treasures, including one special one in the highest area of the game which is your objective. The games also include various special one-use weapons, repair rooms, or caches of food and weapons.

The input to the game is via simple letters commands on a keyboard to aim, strike, hit, rest, move, etc. Most of the commands need extra information and you can give commands such as DRINK POTIONS OR REPAIRING. The later games get progressively more sophisticated. Each introduces potions, traps and wounds. Wylde introduces more sophisticated combat involving a close up screen of the fight so that you can manoeuvre around the terrain and use more sophisticated weapons such as shields. Dappari uses all the facilities of the previous three to reach a set of 36 commands.

Warriors of Ras may initially seem a bit slow, but once you have mastered the controls you should type in the command SPEED which cuts the response from three seconds to less than one second. My copy of Wylde wouldn't do this, and since the fights may involve half a dozen monsters I was often faced with 18 to 24 second responses - a little boring! Since there seems to be some variation in this it is probably worth checking before buying. If it hasn't got the SPEED option it is significantly less worth while.

One nice feature of these games is the facility provided for moving a character around between them. Once you have built up a 10th level warrior with 18,000 gold pieces you can save the character rather than the game and then return him to a different game. Again, my Wylde was slightly flawed in that it didn't prompt for the necessary disk change. You can overcome this by the following steps: switch to the new disk, before entering it (do this, you must) restore a saved character's entry the 'dambain' (which will appear on the screen on startup, since it entitled to ask you to switch disks back), switch back to the Wylde disk, save the character into it. Now you can return the Wylde disk and load the character from that disk.

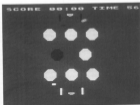
All in all they are quite reasonable little games to while away an hour or two.

# REFLEX

by Bill Halsall

Reflex is a reaction code game for 1 or 2 players, requiring a joystick for each player. The object of the game is to score the most goals in the given time. The field is reminiscent of a football court with 8 coloured disks corresponding to the 8 directions in which a joystick can be pointed. To take control of a disk point your joystick in that direction and the colour will change to yours. If the ball hits the disk while it is your colour it will be deflected towards your opponents goal.

To move your goalkeeper from one side to the other press the joystick button. You can keep the button pressed permanently to shuttle the goalkeeper back and forth. The goalposts are like disks so it is possible to score straight through them. Player 1 scores goals at the top of the screen and Player 2 scores at the bottom. The game score is displayed at the top of the screen. To play a 1 player game press joystick button 1. For a 2 player game press joystick button 2. In a 1 player game the computer acts as Player 2.



## SEVEN LEVELS

There are seven levels of play which can be selected by continuously pressing the OPTION key until the desired level is reached. Options available are:

Title	Ball Speed	Computer Reaction Time in 1/60 sec
Reflex	slow	127
Reflex 1	slow	81
Reflex 2	slow	31
Reflex 3	fast	127
Reflex 4	fast	81
Reflex 5	fast	31
Reflex 6	fast	15

Obviously, in 2 player games the computer reaction times don't apply as the choice is effectively between slow and fast ball speed.

The game is different to most and joystick control takes a little getting used to so it is recommended that you play the standard game to begin with. It is fun to lose 21-0 as Reflex 6 the first time you play but quite demoralising! The title of the game comes from the fact I had typing to beat the computer the first time I programmed the game. This version had a computer reaction time of 1/30th second! I didn't win!

## FAST AND FURIOUS

## 1 OR 2 PLAYER ACTION

### TYPING IT IN

Cassette and disk users should type in Listing 1, SAVE or COPY a copy, then RUN the program. The program will check each line of data and inform you of any errors. Correct any errors and RUN the program again until all errors are eliminated. When this is done answer the categorical questions accordingly to create a load tape or binary disk file.

To load the load tape remove all cartridges then turn on the computer while holding down the SPACE key (SL owners should hold down OPTION as well). Press RETURN and the tape will load and run automatically.

Disk users should type in Listing 2 and save it on the same disk as the binary file created by Listing 1. RUN the Listing 2 program with the disk in the drive and the game will load and run automatically.

Note for disk users if any other programs have been used prior to Listing 2 being loaded it is recommended that the computer be turned off and on again before Listing 2 is loaded and run to ensure that the game isn't corrupted by any data left in memory.



# DAVE T'S DISCO

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For the last time we visit Dave T's Disco for some more excellent music from your XI or XII. This time is an ideal one for a little sequence or high score feature and like all the others it runs in the 500s so, if you can program around it, you should be able to get some great music into one of your programs.

Type in the listing and SAVE a copy before you play it (this is important). Type RUN and after a short initialization the music will begin. You can now get rid of the program by typing NEW and, hey presto, the music still plays.

We hope you have enjoyed these visits to the disco, it shows you what great sounds that old 8-bit Atari can make!

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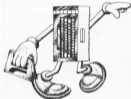
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# FIRST STEPS



## THE LAST FIRST STEPS?

For this issue I have decided to forgo the usual format of first steps and just let my English combs (over the keyboard, who knows this might be the start of a different kind of column?) I must find way sorry to those who were looking forward to more programming. I know there are still one or two out there because I did get a couple of letters, I am sure I did.

I did not get the letters that I had expected. I had wanted to write about computing from a female viewpoint, but all the ladies that I wrote to never replied. Well, actually one did. Linda Tanker wrote to the effect her computing after reading her notes in my column. (Thank you Linda), and this prompted me to find out about other ladies. Maybe someday. Of late I have been receiving less and less mail. Is my postman losing my mail? Are my readers deserting me? Am I getting paranoid? To answer all these questions and more I telephoned my friend the editor. The same thing was happening to him, more readers but less feedback. During our usual short telephone conversation of an hour or more, we came to the conclusion that when PAGE 6 went on display in the high street shops people started to think that the magazine was just another 'name but no face', Atari-disinterested, staff-writer magazine from a press conglomerate. Maybe readers were thinking 'why contact people who state their living just by the number of words they get printed on PAGE 6 is now a large distribution, glossy magazine, they will not be interested in my letter'. How wrong they all are! I will now tell you how it really is. Are you sitting comfortably?

### IN THE BEGINNING WAS ...

I bought my ATARI 400 in 1980, one of the first purchased in the UK. The computer magazines were few and far between, indeed many were just small sections inside electronics magazines. Those that were published would not touch ATARI articles. As for the shops, 'Oh yes, the video-games thing! Sorry, you can only compute on that if you buy two special attachments' and this from a SILLY SHOP now one of the biggest ATARI dealers in the UK. Magazines from whom I purchased my machine (but for them I would have on COME or MAGAZINE, brought over AMALOG Computing magazine from America and brightened my life. There was a magazine without, staffed and produced by enthusiastic ATARI owners. A while later a friend of mine, one Peter Reeves (quite promising to contribute his B&W articles), had missed out on an issue of AMIC, another imported magazine and the shop next door an edition of some obscure British ATARI

magazine and he passed it on to me. I had never heard of PAGE 6 before but, like AMALOG, it was run by an ATARI owner for ATARI owners and, anyway, the editor seemed very sincere. A beginners column had been started in issue one by some person with a strange name, Mike Reynolds-Jones. The next two issues were written by the editor and the fourth by John Dittman, the start of several articles from John. Les Ellingham wrote column number five and was threatening to stop it because nobody would help out with the column. By this time I had become reacquainted with PAGE 6 and had written an article entitled 'What's wrong with Atari?', trying to encourage all those readers who were to avoid to write an article for the magazine. In issue six I had an article called 'Monitors' and, in a rush of mad enthusiasm, wrote a 'First Steps' column pointing that this would only be a one-off to tide the editor over. He got none of issue 35 and the only column I have missed since issue 8 was due to lack of space!

### THE ENTHUSIASTS

Let us look at some of the people in the ATARI world. September 1980 saw the first PAGE 6 stood at the PCW show. I was there and started talking to a man called Mike on the software laptop stand. Several minutes passed before I heard his surname. This was the name Mike Jones that started the column! I also met Peter Reeves, his co-partner in the firm. Peter and Mike were part of the Birmingham Users Group and started Software Express in December 1984. The firm expanded rapidly from a stock of just £200 to one of the biggest in the UK, but the two-origines are still fully dedicated to ATARI, and in a big way.

A list of the longer established retailers you may buy from started with their own STABLE and a new group such as BUG (or something similar), for instance Brian Davis of Ludlow's Computing, who tells funny tales about BUG. People like these are not out to rip you off, they are dedicated ATARI people just like you and me. Matthew Jones whose name appears often in PAGE 6, used to work for ATARI UK and had decided to join the staffing levels wholesale. He is still a dedicated ATARI owner and PAGE 6 writer, in between university work and computing consultancy. Virtually all of the other writers for PAGE 6, such as the Dextons, Gary Francis and John. Some of us have regular jobs and write about Atari because they fell in love with the machine early on. Then, of course, there are the 'occasional' folk like the brilliant Paul Lay who has contributed some of the best tips/games you will ever come across.

### WHERE DID PAGE 6 COME IN?

Have you ever stopped to wonder how PAGE 6 was born, or did you just assume, as with most other magazines, that some publisher thought it was just a good way to make some money? Well, here's how it is. Back in 1981, the editor, Les Ellingham, was asked by the Birmingham User Group to start a newsletter. He had high hopes of a proper magazine but was the only one with the fortune to go all out for it. Most of the BUG members were afraid of the cost and would not back him, so PAGE 6 was conceived and raised solely by Les. I came down to his house in Stafford several times, and with funds on hand, I can tell you that the magazine is a full-time job to the exclusion of many 'normal' pursuits, often taking 80 or more hours a week, and

ALAN and PAUL are the life taking with his wife Sandy and son Sean. (As welcomed your letters, and articles that when it comes to getting together the magazine he often has around twenty pages per issue more than he can print, so something must go by the board. Working so many hours a week also means that letters are often answered many weeks after they have been sent (if at all). Many things cannot be done and yet projects are often delayed due to this thing about people assuming that PAUL is a big well-known magazine (most he has also had trouble obtaining staff. What it needed is a dedication and enthusiasm for ALAN computers and the wish to be part of a family business, not just the desire to pick up money for a 9-5 job. Such problems mean that minor items are delayed, if others have to wait weeks on a disk which, I am assured, "will be in the post this afternoon".)

## ANOTHER EDITOR?

So much for glamorous life of an editor. I should know, I can see it as well I work full time for British Telecom. I write in my spare time and I started before there was such a thing as getting a cheque from PAUL for the article. I am not a staff writer by any means. I have had articles published elsewhere and I still will if he does not have the room and I think that the article is good enough. I have helped out with a case group magazine and a B&L. I do it because I enjoy it and I like to help others. I like to see my name and my article in print. I do not demand a cheque from Les. I could go on like this but I will not labour the point. PAUL is a family run magazine dedicated to ALAN users, not a big magazine that is interested only in super machine code programs and arcade quality commercial games written by professionals, although Les does have a high standard and tries to improve the magazine with every issue. It is about you and me - the end user. To me, ANALOG has that homely feeling where it was readable and glossy, it took an average writer, who appeared to write for each other than for the reader (as 'old timer' had a regular column that straggled to make brevity and was suitably ditched with no explanation). Can this be one of the reasons why ANALOG hit the rock?

Maybe PAUL is appears that way to you but I can assure you it is not. We need your input to give us some idea of what you want to see. If there is no reader input then the Editor has to guess what to publish and those like me who want to write about things that interest us all, find it hard to know if anyone is really interested.

So down and think about this carefully, then write and give us your constructive views, you may even see your name in print! I will quote few captions from early issues used by Les and myself. "What is wrong with Les?" and "Don't relax, DO IT!"

## POSTSCRIPT

The day that I finished this article I received a letter from Arthur Morris and I decided to add this paragraph. He told me that he would be very interested to find out just what people use their computers for, and so would I. We all know people who play games, write articles, use databases and spreadsheets, but there are many other uses (Les tells me of a couple of readers who have written programs to use their Atari's in a Carabin shop and a Garden Centre) so what unusual applications do you use your Atari for? Or what would you like to use it for, if only you knew how? Please write and let me know and I will try to compile a column about this subject especially for Arthur and every truly dedicated Atari enthusiast.

Write to: **Mark Hutchinson,**  
**E. Hollywell,**  
**Lithdale,**  
**Hingham,**  
**Bedford, MK11 0GL**

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'Ballbreaker' is a single-player game perhaps best described as an inverse 'Blockbuster' (my program on the Revolution theme which appeared in Issue 27 of Page 6) which invites you to attain points by directing a ball over a target whilst avoiding randomly aimed bricks. It's advisable to use a strong joystick of the microswitched variety as the standard item may not survive.

## STARTING TO PLAY

During the initialising run you may like to adjust sound and colour on your TV. The opening screen should appear a deep, but bright, blue and EE owners may need to advance the saturation control to achieve this. Once the main display appears you are presented with a number of options:

**SELECT:** This key displays the game options available. Press SELECT again to return to the main screen (other keys will not function whilst the menu is held).

**OPTION:** Changes the game option as required and displays it on the top wall.

**HELP:** This is, in essence, a practice mode without scoring facility and with fewer bricks - use it to become familiar with joystick control. Pressing the HELP key causes a flashing 'I' to appear on the top wall - press again if you decide against the option.

After selecting the game of your choice press START to set up the screen (to replay a game under the same option setting simply press the START key). Continuous 'wands' now prompt you to: press the joystick trigger to serve the ball.

## GAINING CONTROL

To gain control you must first allow the ball to strike one of the two buffers situated on the left and right walls and which are brought into play by moving the joystick in the appropriate direction. Once in control you have the facility to 'bend' the ball in any direction (including diagonally) unless it collides with a brick. If this happens, you must reorganise control via the buffers as soon as possible to avoid the risk of penalty.

Note the use of the word 'bend'. You don't have complete control over the ball's flight but can only cause slight deviations from its programmed path. Nevertheless it is quite possible to guide the ball successfully by skilful joystick manipulation. Take advantage of the ball's curving motion when playing. Other things to look out for are as follows.

**The Target:** Unless the moving-target option is chosen, the target itself is not visible until struck but its position is indicated by the green marker on the playfield. Control hits score more points than glancing blows - always aim for accuracy! Points for a strike are only awarded if the player is in control of the ball - otherwise such hits incur penalties as described below.

**Indicators:** Two indicators below the wall (initially out of sight) record target strikes. The red one advances if the ball is out of control when the target is hit, the blue one advances if you have control. Should the red marker reach its limit of travel, the current game ends - hence the need to maintain control for as long as possible. When the blue marker reaches its limit it is reset, you receive a time bonus and the progress of the red indicator is retarded. Additionally you receive bonus points throughout a game if you are 'bored' of the red indicator. Above the top wall is a timer which advances during game play with penalties resulting from ball to brick collisions. On reaching its limit the timer resets, additional bricks are introduced (up to a set maximum) and the red marker advanced.

# BALLB

Dave Hitchens brings you a  
made even more difficult  
you can't actually

Initially you are allowed four such games after which the game ends, the last loss being indicated by the lower screen changing colour from green to red. Within certain limits, you are awarded an extra game each time the blue marker resets.

**Ball trajectory:** A random choice of three trajectories is made at intervals during the game this being triggered each time the ball collides with a brick or after a certain number of boundary deflections have been recorded. Maintain high level!

## OPTIONS DURING PLAY

The joystick trigger pauses and restarts play at any time without penalty. The ESCAPE key aborts a round via the 'end of game' screen returning the user to the main display. The scrolling blue-on-blue lines keep you advised of current targets but, if in presence distract you. The SELECT key toggles it on and off. Of the game options presented, option 3 is probably the most satisfying and playable version. Options 1 and 2 are quite simple since the basic skills have been acquired and you may expect scores in the thousands with these versions.

Remaining options will severely tax most players and scores in the hundreds are more likely. Option 7, although not a complete simulation of the game, does give an idea of the sort of speed easily attainable by VBI processing - note that you must still press the trigger after START to begin the demo.

## TECHNICALITIES

A few notes on programming techniques may be of interest. Replacing frequently used constants by variables substantially reduced memory usage to some 20K. The reason that 400 is required is because most of the machine code accesses high-level memory directly and this, in 'Ballbreaker' assumes

# BENDER!

you a fast action game  
difficult because in this one  
usually control the ball!

RAMDISK to have a value of 100. A number of display screens are retained in memory to enable rapid switches to be made by the page-flipping techniques. Since they will have a copy of the main design was duplicated using the machine code string CHR. This compact the program and speed up initial execution.

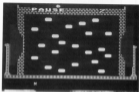
Three display list interrupts permit multiple use of VMC features but an interesting timing problem arose with DL12. Despite placing this on a blank scan line following scan. (main processing time) the original code, which ran in a sort loop, consumed too much time and I had to resort to a string of unightly load/store which executes more quickly. If you inspect the code you will also notice the absence of the CLR INTR commands since the screen format does not require them.

The VBI's are incorporated. The immediate VBI is brief and responsible only for the scrolling routine (which is linked to DL15). The deferred VBI is much longer and virtually runs the program with a little help from BASIC and the DL's. It monitors joystick input, moves ball, target and ball(s) on request, generates the game's 4-channel sound effects and checks for collisions - all this 60 times per second! Because high-speed scrolling is not a pre-emptive (as it was in 'Black Friday') I've left this essential task to BASIC along with a few non-time-critical checking routines.

You will notice that the main loop lies at the start of the program to optimize speed. You will also notice I hope that the display is much taller than a standard one. By creating a new display list we can make more effective use of the available space on the TV screen by expanding the vertical architecture of the program's display. Some 230 scan lines are used in this program - 20% more than in the standard level. This might cause rolling on some TV's but it can easily be cured by a small adjustment to the horizontal hold on the TV.

```
00 1 000 *****
TV 1 000 = 000000000 0 1200 0
00 2 000 = 00 00000000 0
00 3 000 = 00 00000000 0
00 4 000 = 00 00000000 0
00 5 000 = 00 00000000 0
00 6 000 *****
00 7 000
00 8 000 *****
00 9 000 *****
00 10 000 *****
00 11 000 *****
00 12 000 *****
00 13 000 *****
00 14 000 *****
00 15 000 *****
00 16 000 *****
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00 93 000 *****
00 94 000 *****
00 95 000 *****
00 96 000 *****
00 97 000 *****
00 98 000 *****
00 99 000 *****
00 100 000 *****
```

continued on page 11



## SPECIAL NOTE

The program is configured for a 48K (or greater) RAM system. In other words if you peek location 106 and a value other than '240' is returned this program will NOT run. The use of 'Types' is strongly recommended since a large volume of machine code is contained within the data and control character statements. In any case save a couple of copies before running - just in case.











# CONTACT

## PENPALS ETC.

**UPGRADE YOUR OWNERS!** Looking for 12 contacts, willing to swap lists, authors etc. Write to Alan Davis, c/o Penn Pals, 132 Liberty Street, Langley, BC V1R 0S4.

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**AL PENPALS!** I would like to have from across the world! I have an Atari 800, disk hardware, 1000 word tape and structured programs. Write to **CHRISTOPHER WATKINS**, c/o Redwood Ave., Ashton-on-Mareham, W. Virginia, for information, please write. 1-800-441-6234.

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**CONTACT IS FREE** of charge and may be used by any genuine Atari enthusiast for contacting other owners. Any notice may be included except those offering software for sale or exchange or those offering items for sale commercially. The Editor reserves the right to edit any notice received on his discretion.

Send your CONTACT notice to CONTACT, PAGE 6, P.O. Box 94, Stafford, ST9S 1EJ. Please write your notice on a separate sheet of paper, not as part of a letter.

## EXTRA

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# STRUCTURED PROGRAMMING

(or how to lay out your program)

Structured programming? What is it? Why use it? There are several reasons for using structured programming and they all apply no matter what programming language you are using, whether it is BASIC, TURBO BASIC, MACHINE CODE, or anything else. The first, and most important, is BASIC, is that it will speed up your programs. It also makes debugging and writing your programs a lot easier - you will see the advantages as we go along.

The basis of structured programming is the use of sub-routines, or in a structured language like Turbo Basic, procedures. The first thing to do is to divide your program into three areas:

1. Main program loop
2. Data
3. The sub-routines

We designate these areas by line numbers, and Figure 1 shows the layout I use in all my programs. I have found that this layout gives me enough room to write any program, including structured sub-routines of up to ninety nine lines each. The line numbers are not mandatory and you may decide to use different line numbers. The important thing is to keep the order as I have shown. This is where the speed factor comes in.

Let's have a quick look at how the Atari finds a sub-routine. When the program comes across a GOSUB statement the operating system starts from the first line number of your program and reads through until it comes to the one it wants. In any sub-routine that is easier to the beginning of the program will be accessed quicker than sub-routines further on. When the program reaches a RETURN it takes the address of where it has to go straight off the top of the stack, and so jumps straight there. The reason that the main program can be anywhere and it will not affect the speed of the RETURN. Let's look now at how we would start to construct a program. I will demonstrate in Basic and Turbo Basic but you should be able to convert the ideas to whichever language you wish to use. Figures 2 and 3 give the details.

```
Line 10 GOTO 2000
Line 150 START OF FIRST SUB-ROUTINE
Line 300 START OF SECOND
SUB-ROUTINE
Line 300 ... ETC.
Line 8000 START OF MAIN PROGRAM
Line 9000 START OF DATA
```

Figure 2

# TURED RAMMING

(program: without really trying)

by Roy Goring

## USING REMs:

You can see how to lay out the program. You will notice that all REM statements are on lines that end in 99, so they can easily be deleted when the program is finished without the danger of deleting a line referred to in a GOTO or GOSUB. Line 2000 contains an endless loop and you will find this very useful as you build the program or you can view the screen. Without this the program will END when it completes the final sub-routine. When you start constructing the program all you have to do is write each sub-routine in turn and then run it to see if that routine works. This will be very easy to debug because you know the fault will lie in the final sub-routine. Try to avoid jumping to a sub-routine directly from another one without going through the main program.

The GOTO towards the end of the main program is put in after you have the program working. This jumps back to the start again after the main routine ends. You will notice that it does not jump back over the two setup lines 2000 and 2005. If you need to you can go back over 2010 but because the DIMs are in line 2000 you will cause an error if you jump back over this one.

You don't have to keep the sub-routines in order, so the ones that have to be accessed because of speed problems can be put nearer to the beginning. This is where pre-planning is useful when writing programs, you will already know what sub-routines you require so you can shuffle the order around before you start writing.

If you need a long introduction, put it in the sub-routine that begins the instructions so that there can be read while the initialization is going on.

You notice that the main program contains nothing but GOSUBs or GOTOs, try to keep it this way. Occasionally you will have to put some computations in to this area such as

```
2030 IF A=3 THEN GOSUB 300
2040 GOSUB 200
```

but this should only be used when it can't be done another way.

When writing a menu driven program structured programming is ideal, the main program is set out as follows.

```
2000 GOSUB 100 (displays the menu on
the screen and GETS KEY)
2005 ON KEY GOSUB 200,300,400,500,etc.
2040 GOTO 2000
```

```
10 GOTO 2000
99 REM ***** INSTRUCTIONS *****
100 start of instructions
190 RETURN
199 REM ***** SCREEN *****
200 sub-routine to draw screen
290 RETURN
299 REM ***** ETC *****
300 ... etc.
390 RETURN
1999 REM ***** MAIN PROG *****
2000 DIM statements and variable set up
2010 continued
2040 GOSUB 100
2050 GOSUB 200
2060 GOSUB ETC.
2100 GOTO 2000 (put in after program
works)
2900 GOTO 2900
2999 REM ***** DATA *****
3000 DATA ... etc.
```

Figure 2 - ATARI BASIC

```
10 GO* MAIN_PROG
99 -----
100 PROC INSTRUCTIONS
190 END PROC
199 -----
200 PROC SCREEN
290 END PROC
299 -----
300 PROC etc.
290 END PROC
1999 -----
2000 # MAIN_PROG
2010 DIM statements and variable set up
2020 continued
2030 #LANS1
2040 KERC INSTRUCTIONS
2050 KERC SCREEN
2060 KERC etc.
2100 GO* LABEL1 (put in after program
works)
2900 DO_LOOP
2999 -----
3000 DATA ... etc.
```

Figure 3 - TURBO BASIC

This means that each menu item is in a separate sub-routine of its own, which again makes debugging and adding of additional menu items very easy.

As you can see structured programming has a lot of advantages especially when writing long or complicated programs. It makes your life as a programmer a lot easier, and if you are writing programs for PRICÉ it, the people who type in the listing will find it a lot easier to follow the workings of your programs, which helps them to learn new programming techniques. So take up structured programming now and put some structure into your programs!

# TURBO BASIC

# MAKE IT MOVE!

by Gordon Cameron

This demonstration shows the use of the TurboBasic command MOVE, and makes use of all the other main features, such as procedures, labels, WHILE...WEND and REPEAT...UNTIL loops, as well as many others.

Nine frames of an animation sequence consisting of two pulsating circles, a bounding ball, and some text are first created. Each frame consists of these same objects in a slightly different position. The drawing takes place on a Graphics 8 screen, but only 70 lines are used; these 70 lines are then stored sequentially in memory reserved by moving the top of available memory to 16000. The screen is drawn and saved iteratively, and then the animation starts with a short screen fade (PROCEDURE FADEIN). The 9 frames are then displayed sequentially on the screen, maintaining movement, however this is not all! After you press a key, the entire sequence is bounced around the screen in various directions, eventually coming to rest in the centre of the screen!

I will describe briefly how the animation effect is achieved. This is done by moving the 16000 bytes (70 lines by 480 cells horizontally), with each of these cells containing information on 8 points making a total of 120 pixels) from above the top of program-available memory, which was previously limited, to the required SCREEN position. So, for example, the 9 frames are extracted from their place in memory, and placed at the beginning of the Graphics 8 screen and this is repeated until a key is pressed, with the frames being moved quickly to the same place once and over using the MOVE command. It is a simple matter to move these 16000 bytes of memory ANYWHERE on the screen, and this is exactly what happens when the entire sequence moves. Movement vertically is pixel-smooth, but horizontal movement is a little jerky, as the 16000 block can only be moved to any of the 48 horizontal CELLS as in fact it moves 8 pixels at a time (each pixel is 4.88 lines up only 1 bit).

You can easily change the frames, for yourself, and by decreasing the SIZE of these frames you can increase the number that you have, making a longer sequence. I have used the top of available memory to 16000 for my MOVE, as this saved the trouble. If you have a 16000, you may wish to alter where the data is stored, in which case you need only alter one or two variables.

The program uses non-ASCII printable characters and procedure names, and these are adequate BASIC, so it should be easy enough to follow. If not, DON'T WORRY! You don't need to know HOW it works to get it running!

```
10 GOTO 100
20 GOTO 200
30 GOTO 300
40 GOTO 400
50 GOTO 500
60 GOTO 600
70 GOTO 700
80 GOTO 800
90 GOTO 900
100 PRINT "TURBO BASIC DEMO"
110 PRINT "BY GORDON CAMERON"
120 PRINT "NEW 16000"
130 PRINT "END"
140 GOTO 100
150 GOTO 100
160 GOTO 100
170 GOTO 100
180 GOTO 100
190 GOTO 100
200 PRINT "FRAME 1"
210 GOTO 200
220 GOTO 200
230 GOTO 200
240 GOTO 200
250 GOTO 200
260 GOTO 200
270 GOTO 200
280 GOTO 200
290 GOTO 200
300 PRINT "FRAME 2"
310 GOTO 300
320 GOTO 300
330 GOTO 300
340 GOTO 300
350 GOTO 300
360 GOTO 300
370 GOTO 300
380 GOTO 300
390 GOTO 300
400 PRINT "FRAME 3"
410 GOTO 400
420 GOTO 400
430 GOTO 400
440 GOTO 400
450 GOTO 400
460 GOTO 400
470 GOTO 400
480 GOTO 400
490 GOTO 400
500 PRINT "FRAME 4"
510 GOTO 500
520 GOTO 500
530 GOTO 500
540 GOTO 500
550 GOTO 500
560 GOTO 500
570 GOTO 500
580 GOTO 500
590 GOTO 500
600 PRINT "FRAME 5"
610 GOTO 600
620 GOTO 600
630 GOTO 600
640 GOTO 600
650 GOTO 600
660 GOTO 600
670 GOTO 600
680 GOTO 600
690 GOTO 600
700 PRINT "FRAME 6"
710 GOTO 700
720 GOTO 700
730 GOTO 700
740 GOTO 700
750 GOTO 700
760 GOTO 700
770 GOTO 700
780 GOTO 700
790 GOTO 700
800 PRINT "FRAME 7"
810 GOTO 800
820 GOTO 800
830 GOTO 800
840 GOTO 800
850 GOTO 800
860 GOTO 800
870 GOTO 800
880 GOTO 800
890 GOTO 800
900 PRINT "FRAME 8"
910 GOTO 900
920 GOTO 900
930 GOTO 900
940 GOTO 900
950 GOTO 900
960 GOTO 900
970 GOTO 900
980 GOTO 900
990 GOTO 900
```

```
1000 GOTO 1000
1010 GOTO 1000
1020 GOTO 1000
1030 GOTO 1000
1040 GOTO 1000
1050 GOTO 1000
1060 GOTO 1000
1070 GOTO 1000
1080 GOTO 1000
1090 GOTO 1000
1100 GOTO 1000
1110 GOTO 1000
1120 GOTO 1000
1130 GOTO 1000
1140 GOTO 1000
1150 GOTO 1000
1160 GOTO 1000
1170 GOTO 1000
1180 GOTO 1000
1190 GOTO 1000
1200 GOTO 1000
1210 GOTO 1000
1220 GOTO 1000
1230 GOTO 1000
1240 GOTO 1000
1250 GOTO 1000
1260 GOTO 1000
1270 GOTO 1000
1280 GOTO 1000
1290 GOTO 1000
1300 GOTO 1000
1310 GOTO 1000
1320 GOTO 1000
1330 GOTO 1000
1340 GOTO 1000
1350 GOTO 1000
1360 GOTO 1000
1370 GOTO 1000
1380 GOTO 1000
1390 GOTO 1000
1400 GOTO 1000
1410 GOTO 1000
1420 GOTO 1000
1430 GOTO 1000
1440 GOTO 1000
1450 GOTO 1000
1460 GOTO 1000
1470 GOTO 1000
1480 GOTO 1000
1490 GOTO 1000
1500 GOTO 1000
1510 GOTO 1000
1520 GOTO 1000
1530 GOTO 1000
1540 GOTO 1000
1550 GOTO 1000
1560 GOTO 1000
1570 GOTO 1000
1580 GOTO 1000
1590 GOTO 1000
1600 GOTO 1000
1610 GOTO 1000
1620 GOTO 1000
1630 GOTO 1000
1640 GOTO 1000
1650 GOTO 1000
1660 GOTO 1000
1670 GOTO 1000
1680 GOTO 1000
1690 GOTO 1000
1700 GOTO 1000
1710 GOTO 1000
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1730 GOTO 1000
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1750 GOTO 1000
1760 GOTO 1000
1770 GOTO 1000
1780 GOTO 1000
1790 GOTO 1000
1800 GOTO 1000
1810 GOTO 1000
1820 GOTO 1000
1830 GOTO 1000
1840 GOTO 1000
1850 GOTO 1000
1860 GOTO 1000
1870 GOTO 1000
1880 GOTO 1000
1890 GOTO 1000
1900 GOTO 1000
1910 GOTO 1000
1920 GOTO 1000
1930 GOTO 1000
1940 GOTO 1000
1950 GOTO 1000
1960 GOTO 1000
1970 GOTO 1000
1980 GOTO 1000
1990 GOTO 1000
```

```
2000 GOTO 2000
2010 GOTO 2000
2020 GOTO 2000
2030 GOTO 2000
2040 GOTO 2000
2050 GOTO 2000
2060 GOTO 2000
2070 GOTO 2000
2080 GOTO 2000
2090 GOTO 2000
2100 GOTO 2000
2110 GOTO 2000
2120 GOTO 2000
2130 GOTO 2000
2140 GOTO 2000
2150 GOTO 2000
2160 GOTO 2000
2170 GOTO 2000
2180 GOTO 2000
2190 GOTO 2000
2200 GOTO 2000
2210 GOTO 2000
2220 GOTO 2000
2230 GOTO 2000
2240 GOTO 2000
2250 GOTO 2000
2260 GOTO 2000
2270 GOTO 2000
2280 GOTO 2000
2290 GOTO 2000
2300 GOTO 2000
2310 GOTO 2000
2320 GOTO 2000
2330 GOTO 2000
2340 GOTO 2000
2350 GOTO 2000
2360 GOTO 2000
2370 GOTO 2000
2380 GOTO 2000
2390 GOTO 2000
2400 GOTO 2000
2410 GOTO 2000
2420 GOTO 2000
2430 GOTO 2000
2440 GOTO 2000
2450 GOTO 2000
2460 GOTO 2000
2470 GOTO 2000
2480 GOTO 2000
2490 GOTO 2000
2500 GOTO 2000
2510 GOTO 2000
2520 GOTO 2000
2530 GOTO 2000
2540 GOTO 2000
2550 GOTO 2000
2560 GOTO 2000
2570 GOTO 2000
2580 GOTO 2000
2590 GOTO 2000
2600 GOTO 2000
2610 GOTO 2000
2620 GOTO 2000
2630 GOTO 2000
2640 GOTO 2000
2650 GOTO 2000
2660 GOTO 2000
2670 GOTO 2000
2680 GOTO 2000
2690 GOTO 2000
2700 GOTO 2000
2710 GOTO 2000
2720 GOTO 2000
2730 GOTO 2000
2740 GOTO 2000
2750 GOTO 2000
2760 GOTO 2000
2770 GOTO 2000
2780 GOTO 2000
2790 GOTO 2000
2800 GOTO 2000
2810 GOTO 2000
2820 GOTO 2000
2830 GOTO 2000
2840 GOTO 2000
2850 GOTO 2000
2860 GOTO 2000
2870 GOTO 2000
2880 GOTO 2000
2890 GOTO 2000
2900 GOTO 2000
2910 GOTO 2000
2920 GOTO 2000
2930 GOTO 2000
2940 GOTO 2000
2950 GOTO 2000
2960 GOTO 2000
2970 GOTO 2000
2980 GOTO 2000
2990 GOTO 2000
```

## GOING UNDERGROUND

Atari's software have been showing real budget titles at an incredible rate in recent months with, most regard to the Atari's capabilities or the sanity of its users. Now at last they have produced a game capable of holding its own amongst the intense competition from other computers. **POTHOLE PETE** is a multi-level platform game - nothing exciting about that - but programmed to a much higher standard of presentation than former Atlantis releases.

Such a game wouldn't be complete without an unbelievable plot to digest, and this one features, not surprisingly, Pothole Pete who in our looks remarkably like the immortal Beauty Bob-in his way to an audition for a Transper commercial. Somehow he's managed to become trapped two miles below ground in an abandoned



mine working and is naturally quite anxious to escape. Especially so since the mine is home to hundreds of deadly vampire bats and other creepy crawlies along with poisonous plants and mushrooms all designed to make his chances of survival pretty bleak.

Your task is to guide Pete through the perilous caverns in search of freedom. Each screen introduces a new distraction to prevent Pete from reaching the discarded stack of dynamite that offers his only hope of escape. Once located, the dynamite must be quickly taken to a rockfall and dropped before it detonates, or else it'll blow up Pete instead of blasting a safe passage through to the next level. Search

like a pretty average sort of game, perhaps a little boring, but it's constructed in such a way so as to be extremely challenging yet at the same allowing you to progress sufficiently to always want 'just one more go' when Pete finally meets his goal. He only has five precious lives to begin with but an additional one is awarded upon the completion of each screen. Practice certainly makes perfect.

There isn't any mention of the number of different levels (I do wish Atlantis would employ someone to write their instructions) but from what I've observed of the first five, they are very well designed with good use of colour and lots of interesting scenery giving the overall impression that a lot more care and effort had been taken on the finishing touches than in previous Atlantis games. They've even modified the character set found in unfortunately of the familiar low standard associated with this type of release - a great pity as we all know that the Atari is capable of much better things.

Altogether, **POTHOLE PETE** is a very enjoyable platform game that is certainly challenging but sufficiently user-friendly to maintain its appeal. If you like platform games, it could well be one of the best £1.99's you'll ever spend! Well done Atlantis!

Paul Dixon

**Title:** POTHOLE PETE  
**Publisher:** Atlantis  
**Price:** £1.99 cassette only  
**Players:** 1  
**Control:** joystick



Is it a bird? Is it a plane? No, it's a sixty foot high laser-spitting mutant Camel and it's got the 'smiff' of course, this could only be a concept from the unique and ingenious imagination of Tight-crotch/producer Jeff Minter, whose former program *Attack of the Mutant Camels* (AOTMC) became justly recognised as a near-de-force of Atari programming. Sadly, the follow-up - *Revenge of the Mutant Camels* (ROMC) - was not released in Atari format but **REVENGE II** has now arrived from Mabertronic and it's billed as the sequel, although the irony is somewhat misleading in that the game's author is in fact Tom Design's Steve Biding rather than the classic Minter!

The story on Jeff Minter advances from the mighty and tyrannical Zyxon empire, situated from the Earth a number of genetically engineered Camels and has transformed them into attacking me humans

## MIND THAT CAMEL

forces. The resulting episode was a historic battle known as the AOTMC but thankfully, justice prevailed. Angered by their defeat, the Camels rebelled against the Zyxon in an epic confrontation vividly recalled as the ROMC. They subsequently returned to Earth but their whereabouts in the preceding six thousand years are unrecorded. Rumours suggest they may have something to do with our 'ultimate defence system' - an inherited asset that was not to be revealed, let alone used, in all but the most desperate of circumstances. But the Zyxon have now re-emerged and methods we shall leave to choice....

**REVENGE II** sets you off the reins of one of these infamous mutant beasts and you'll need all the power of its neutronium shielding to survive the constant bombardment by Zyxon forces. What sort of missiles are you up against? Simply think of an object - the sillier the better - and it's odds as you'll find it in one of the hundred alien waves! Penetrators, floppy disks, ring pulls - they're all here! And cleverly animated too. Four initial weapons is anti-coded later five but credits are awarded at the conclusion of each wave enabling you to buy additional goodies such as turbo-boost shields and yo-yo bullets plus

extra lives and energy. Oh, and you can fly too!

Graphics are generally good and utilize a fair proportion of the Atari's capabilities, although not to the same profuse extent as Minter's AOTMC. You won't find any stunning 'Bastard' graphics but instead there's some neat horizontal scrolling, in two directions in five different speeds, not to mention the nicely animated Camel and interesting background scenery. Not just fabulous languages but also more of cigarette pockets coloured with RIP slogans!

**REVENGE II** has all the hallmarks of an S.A. Riding conviction - disappointing in the sound department but well above average graphically and coding with playability. A worthy, but above all, really weird addition to the budget range.

Paul Dixon

**Title:** REVENGE II  
**Publisher:** Mabertronic  
**Price:** £2.99 on cassette  
**Players:** 1  
**Control:** joystick

## BUMP IN THE NIGHT

Well, ghosts have imprisoned the beautiful Princess Clara in the dark dungeons of Spooky Castle, and King Michael has promised Clara's hand in marriage to anyone brave (or stupid) enough to save her. If this sounds like the plot of a platform game to you then you're not far wrong! **SPOOKY CASTLE** is the latest budget offering from Atlantis Software, and is indeed a multi-screen platform game of the traditional variety.

Gooden Gary (a peasant of limited intelligence) has volunteered to undertake a rescue attempt, so it's your job to guide him through the seventeen rooms of Spooky Castle. The rooms are separated by locked doors, although the keys are relatively simple to locate. The real hindrance is provided by energy-sapping bats and the persistent ghosts which invariably



appear from nowhere and fly frustratingly across the display just when you hoped they wouldn't in typical form, Gary has forgotten to take any weapons on his mission so he must rely exclusively on his not inconsiderable jumping abilities to avoid death by contact with the ghosts and other dangerous obstacles. Fortunately, energy points and additional lives can be collected along the way, by moving over an appropriate symbol. The controls respond each time the same room is re-entered, so it's possible to accumulate an enormous number of lives of certain points in the game, if you should need to.

Graphics are quite well done, the joystick response is good, but the sound is pretty

abnormal. However, the major cause for concern doesn't become evident until you actually commence play.

As far as I've been able to perceive, it is impossible to progress any further than level thirteen! I've reached this stage with numerous lives in hand, and yet the only two doors leading to level fourteen are blocked by impenetrable pillars! I've doublet back several times and searched for hidden exits, but all to no avail. It seems possible that such an obvious bug should slip through unnoticed, and I'd be interested to hear from anyone who could shed any light on this problem. Also, on one occasion the game suddenly terminated with the message 'Error 141' (error out of range?). Followed by a series of numbers and the prompt 'Run address?'. Machine code programmers will probably have an explanation for this, but once again it illustrates a lack of thorough checking by Atlantis.

**SPOOKY CASTLE** would have been a reasonable platform game if it weren't for the bugs I've mentioned. It certainly had me hooked in the early stages, but if there only lead to a dead-end situation then I'm afraid it's definitely a game to avoid, but check with Atlantis before putting with any cash.

Fred Dixon

**Title:** SPOOKY CASTLE  
**Publisher:** Atlantis Software  
**Price:** £1.99 on cassette  
**Players:** 1  
**Control:** joystick



Oh dear is this one really intended for the Atari? Also, yes, **COPS 'N' ROBBERS** is indeed a new addition to Atlantis Software's range, although for a minute there I was almost convinced that someone had mischievously connected up a Spectrum to my monitor!

Attracted to a fairly accurate description of the graphics in the game. The playfield comprises of a maze of several blocks widely viewed from overhead, but the characters are more-colored PMC's defined in a side-on fashion. The screens - of which there are several - are presumably based on Atari mode 4, but the author 'SLI' has made little attempt to disguise their treacherous origins. You can count the blocks - busy areas, busy fast paced! A joystick controls your character, who is more cleverly designed, but the PMC collision detectors can only be described as irritating!

## A LIFE SENTENCE!

As for the plot, well, to be honest it's really of the same standard as the graphics! Light Fingers Langan has decided to raid the headquarters of the Acme Diamond Company and Atlantis have decided that you are going to assist him. In order to accomplish this, your joystick trig get becomes that of Langan's. All Mag items and you are invited to use it as all money available opportunity in order to get paid Police Officers who are naturally trying to prevent you from collecting the gems. Does this sound like an activity that might be encouraged? Should a criminal master be portrayed in such a positive manner? I recall the recent controversy surrounding 'Little Devil', is rescuing a Princess worse than gaining down the occupants of a legitimate business premises? Of course not! Surely this is a worthy superior candidate for the screen?

There's more... Should Langan get captured - and I hope he does - he can use a subsequent life to blast his way into the jail and free his precious 'bits'. Additional gems are located in a nearby mine, coincidentally the regular haunt of the local ghost community. Contact with an opposition spells a trip via Antares to the morgue - all pleasant stuff! Apparently,

the ultimate objective is to obtain the six items of a job, the combination for which is randomly generated in a locked room on an upper floor of the building. You may either collect the key from a protected alcove in the mine or you can roll through the financial possible permutations until you discover the appropriate one if you find the latter method quicker! A gateway or castle may successful escape with the loot.

Frequent intrusions during gameplay on a particularly annoying 'beater' of the game. Also, the instructions supplied would comfortably use an award for being the best imaginable!

All in all, the game is a real disaster and Whoover SEI is, they ought to stick to programming whatever they know best - and that clearly isn't the Atari. Bad graphics, bad music, bad taste. **COPS 'N' ROBBERS** has them all!

Fred Dixon

**Title:** COPS 'N' ROBBERS  
**Publisher:** Atlantis Software  
**Price:** £1.99 on cassette  
**Players:** 1  
**Control:** joystick

## DOWN THE MIDDLE

Calling enthusiasts here, up to now, been poorly supported by Atari 8-bit software. Apart from some really dismal attempts in Basic, I can think of only one game to have successfully simulated the sport - *Leaderboard*. Atlantis Software's *PRO GOLF* is not directly comparable though, as it's based heavily towards the strategic element rather than the visual.

Up to four players may compete on a choice of either *Scandinavia* (English) or *Hillside Beach (USA)* courses. These are loaded as individual programs on either side of the cassette. Further options include *Championship*, *single round* or *practice mode* with an *obstruction* or *metal* as *championship* loss. It's important to make the correct selection at this stage as the game does not allow any kind of *save facility* - an *unfortunate* and potentially frustrating oversight. Before the game

commences, you can also adjust 'wind' and 'ground' parameters as required or instruct the computer to generate them randomly.

A *bird's-eye* representation of the fairway and surrounding landscape is now displayed, with different shading indicating rough ground, bushes, trees and so on. A *minute* flashing dot marks the position of the ball and a black circle shows the hole you are aiming for. It's a primitive and unattractive screen-view but it does serve the intended purpose of influencing your choice of tactics. Hole number, Par and the number of yards from tee to hole are stated to aid your calculations, and you should also bear in mind the current wind and ground conditions. Club type, strength of shot and direction are chosen sequentially by pressing 'O' and 'P' on the keyboard followed by Return to confirm the selection. To actually make the shot, the space bar is pressed once to begin your swing and again to hit the ball at precisely the correct moment. A small animated golfer in a separate 'window' helps you to achieve the appropriate timing.

Should you make it into the green, the display changes to a close-up bird's-eye



view of the hole and you are prompted to select power and direction. As before, the space bar is used to make the shot and a line representing a *center* replaces the animated golfer to assist you. After each completed hole you are shown your personal scorecard followed by the *leaderboard* which includes famous names such as *Claydy Lyle* and *Steve Ballwinson*. Unless you want to save the game to tape for resumption of a later date, the cycle now repeats.

Apart from the graphics, the only major gripe I have concerns the keyboard-only input. It seemed quite a chore even in one player mode and with four participants fighting for a seat at the keyboard I should imagine the game becomes almost unplayable! If you aren't deterred by a lack of picturesque graphics *PRO GOLF* might be worth checking out.

Paul Dixon

**Title:** PRO GOLF

**Publisher:** Atlantis Software

**Price:** £2.99 on cassette

**Players:** 1/4

**Control:** Keyboard only

## LOTS OF LOVELY LOLLY

Here's yet another budget platform game from Atlantis Software that is similar to many respects to *Pollale Pete*, programmed by the same author and also released in this issue. Many of the comments made in that review are therefore equally applicable here.

*DAYLIGHT ROBBERY* has five levels set over ten different screens and a scenario based around a high security banknote printer, as shown in fact that no human guards are deemed necessary. Access to each level is restricted by a security pass system and a strict time limit is imposed on each floor. The building is also extensively *heavily* trapped and patrolled by *evil* guards. The ultimate security system it seems, or is it? All you've got to do is collect the passes, negotiate the traps, avoid the robots, watch out for the patrolling presses, find the safe combination and then collect the reward! Things are never quite as easy as they seem at first, of course, and the resulting task is quite some challenge.

Any contact with robots, traps or presses will instantly prompt your demise, and you only have five lives available - no bonuses are awarded. When you lose a



life, your reawakened character is placed back at the very beginning of the level you are currently on. This can be quite frustrating as the levels stretch over two effectively four screen lengths, meaning that a lot of hard work can be ruined by the slightest slip of the joystick. A reliable trigger button is an absolute necessity as this controls the jumping abilities of your character. Every screen requires split second timing in order to avoid disaster.

Graphics are even better than those in *Pollale Pete* - great stuff - with plenty of animation and some good detail in the background scenery. I dislike the 'on-screen' 'Go 2 next interlocks' which appear to interfere with life, although they do help

to overcome the unfortunate omission of a pause facility. Too bad if the 'planning' at someone's else's door just as you're about to tick the final level! The game is certainly a challenge, but the fact that I managed to complete it in just a few sessions suggests that its learning appeal may be pretty weak. I won't discuss the ending incidentally, all I can say is don't bother calling the neighbours around to see it!

I was on the verge of commending Atlantis to an essentially flawless effort when suddenly my character became stuck in a never-ending loop of getting killed. Re-load was the only remedy. This again brings into question the thoroughness with which Atlantis assess their progressive releases. Guess what, if you're the sort who enjoys a puzzle-solving challenge and aren't put off by a few imperfections such as those described then *DAYLIGHT ROBBERY* is well worth investigating.

Paul Dixon

**Title:** DAYLIGHT ROBBERY

**Publisher:** Atlantis Software

**Price:** £2.99 on cassette

**Players:** 1

**Control:** joystick

# HERE'S WHAT YOU'VE MISSED!

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# The ST FILE

## Has YOUR ST got a VIRUS?

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what to do



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STAR WARS AND THE THRONE OF  
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THE MUNGERS  
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Again Again

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## ST SPECTACULARS

### ST NEWS

A whole flood of software to end the year with, some has come and gone, others still awaited - *Star Wars and The Throne of the Falcon* from Microsoft at £24.99 has been around for a while with some spectacular graphics, *ELITE* not at last from *Rebellion* priced £24.95 has over 2000 planetary systems for you to explore, Mediagenic promise some bigger with *SDI* featuring warriors on the battlefields of tomorrow at £24.99 and the year's arcade smash *AFTERBURNER* coming along at £24.99, add *B-TYPE*, *INCREDIBLE SMASHING SPHERE*, *TIME SCANNER* and more and you are in for a hectic time! Mediagenic also have the nearest game so far to the arcade with *SUPER HANG ON*, a motorcycling game with excellent graphics at £19.99, looking ahead with something new is a new label called Again Again who have signed up *THE MUNGERS*, none at last you can see it, from Mid-November, in colour! Incentive have *DRILLER* a three-dimensional world with over 20,000 BILLION screens possible (what?), at £24.95 that's just only (just a mo', I've run out of fingers) a screen! Another 3-D game is *WANDERER* from IDB, a mix of strategy and arcade adventure and *Elite* become one of the few to branch away from the arcade with *MYR BREADS COMPUTER POP QUIZ* featuring over 1,000 questions and help from your favourite pop stars. And there's more, much more - just a small selection from a two foot high pile of press releases and handouts since Issue 24! Get down to your local computer store and check the action.

# ST WARS

The first couple of British ST wargames reviewed by Ron Stewart

As a wargamer of long standing I have been waiting for the flood of wargames to appear on the ST. Up until now my wait has been in vain.

The main producer of computer wargames isSSI and they have been studiously ignoring the ST, although their recent release *Strike Crusade*, is an excellent strategy game. I'm also told that *Kampfgruppe* and their new American *War of Independence* game *Loss of Liberty* are on the horizon. Another game that should be released by the time you read this is *Atat U.S.*'s recreation of the Napoleonic battle of Waterloo. However, say that this release will be an evolutionary step in its way an Universal Military simulator.

Given this background I was quite pleased when I was sent two games from PSS. Both of these games have been released before on other computers and have been ported to the ST. If we take a look over one again the *Annals of Rome* and the new sequel *SS's War in Rome*, then *Power Struggle* comes in at two. The other release *Annals of Rome* will merit a full feature of these simulations are full blown wargames, they are strategy games that involve politics and economics. Let's look at *Power Struggle* first.

## POWER STRUGGLE

This game only has one screen on which a picture of the world is displayed along with the game controls. The game can be played either against the computer or with two people. Basically, it is a game where out fights war for control of the world—no holds barred. At the start of the game the world can be divided up, by countries, into a fairly standard east-west configuration. You also have the option to randomize the allocation of countries, for each country under your control you have a number of options: attack or supply another country, use political power, help in defending another country and finally build armies or factories. These options must be allocated within a certain time limit. The problem is getting the inter-relationship right. For instance when one country attacks another country you must back up the first to ensure that it does not get invaded in turn. This is vital because if you are playing against the computer it is very easy to possess an mistake like these. The main problem with all of this is that you will never find out why things happen. You have a good idea of how



POWER STRUGGLE

countries strength and power but the mechanics of the takeover are not disclosed. At the end of the turn the computer works out all the changes in the blink of an eye. I would have preferred something slower, telling you why things were happening.

Generally, *Power Struggle* could be said to be the baby brother of Chris Crawford's *Balances of Power*. It is excellent and so complicated that it can be played out in under an hour.

## ANNALS OF ROME

A very different game. This is a game that will put you on a number of battlefields. The game itself has you balancing resources in a strategy of offense and defence. You must also balance the members of the Roman senate to negate rebellion and dictatorship. Finally during some aspects of the game you will be frustrated of the events going on that a final push will have you leading the computer through the narrow windows!

*Annals of Rome* depicts the rise and fall of the Roman empire. It starts in the year 275 BC when the rule of the countries of Europe and Asia is in a state of flux. You are required to guide internal and external affairs to complete Roman domination. Total success in this is shown by your score. On the screen is a map of Europe and Asia divided into regions. Each region is shown in a different colour or pattern dependent on who is ruling over it. Inside each region is a number which shows how many troops are garrisoned there.

Let's go through the game step by step. You must first go through an economic phase. Here you must decide on how much you can tax your population for the next period. Periods, by the way, are variable, their length will depend on how

much is going on in the game, generally though they are about four years. Setting too high a tax will affect your population which can lead to rebellion. Next come three phases where you can find out about the personalities in the senate. There are twenty-two senators. Each is rated as to his ability to command and his loyalty to the governing regime. Once the empire is expanding you must use these figures to attempt to maintain a stable, non-changing, government. Some commanders may try to rebel against the republic and this will affect your population index. If this is high the chances of rebellion are low. If it is low the chances are high.

You can prevent rebellion by paying the legislators lots of money so that they remain loyal. You can also remove a politician from office and replace him with someone more loyal. If a commander successfully rebels in Rome you will be faced with a choice of capture. This has a dramatic effect and destabilizes things for a number of turns to the detriment of your overall score.

The next phase is foreign wars. Here you attempt to expand the empire. This is also where most of the frustration creeps in. During this period you will have to sit back and watch all sorts of mayhem as the countries are carved up. On the map-countries change rulers and dynasties emerge and fade. Because the laws of each country to fight is chosen randomly you may have a while to wait, especially in the earliest stages and there is not a single thing you can do about it. Reinforcements are just not available. Your empire can be demoralized and you remain powerless to stop it. Finally you get the chance to step back and regain and ground or take new.

In the end and there continues you can find yourself looking at the new territories. This is where the computer gets switched off or along with the window? If you have managed to sit through this the years now advance and another turn begins.

Apart from the frustration *Annals of Rome* is a fairly hard game that can have you alternately yawning or cheering.

**POWER STRUGGLE - £9.99**  
**ANNALS OF ROME - £24.99**  
**PSS Wargamers Series**

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# MAD

From the author of Munchy Madness - one of the best Atari 8-bit listings ever published - comes the the ultimate type-in ST listing. Paul Lay and Harvey Kong Tin bring you the ST version of Munchy Madness

MAD is a single player, all machine code, arcade style game for any Atari ST in colour that can be typed in by any owner using ST BASIC. The listing is an Atari ST Basic listing which generates a machine code program file. Simply type the program in, make a backup copy for safety, place a formatted disk in drive A, and run the program from ST BASIC. If any typing errors have been made, the program will report the line in error and then stop. Correct the error and then run the program again. When all the errors have been removed you'll end up with the program on disk as the file 'a/mad.prg'. This program will be a stand alone machine code file that can be loaded in the normal way, by double clicking. ST BASIC is no longer required.

## PLAYING THE GAME

The object of this game is to work your way around a series of strange underground caverns collecting jewels. When you've collected enough jewels in a



cavern, an exit will appear which will let you progress onto the next cavern. Each cavern is made up of complex rooms and walls restricting your movements and they are also filled with nasty Awaga bats which will come crashing down on you if you are careless. To make things even worse, you are only allowed a certain time inside each cavern.

Start the game by pressing the joystick trigger and you will be at the first screen. Alternatively you can start at any of the first 4 screens with keys F1, F2, F3 and F4. Movement is controlled by a joystick in port 2, or via the CURSOR keys on the keyboard. You can pause the game with the SPACEBAR, followed by any key to resume. You can terminate a life with the ESC key, to get out of those nasty situations.

At the bottom of the screen you will see a status line

L4 C06 T:40 S:0000

This displays the number of lives remaining (L), the number of jewels which must be collected to complete the cavern (C), the time remaining in that cavern (T) and your score (S). You begin a game with 4 lives. A life is lost when you are squashed by an Awaga ball, or when your time expires. You score 10 points for every jewel you collect. When you have collected enough jewels, an exit will appear which will let you enter the next cavern.

A countdown timer will blimp when the time remaining is close to running out. When all 7 caverns have been completed, you will start over again at the first level but things will have opened up.

I hope that MAD doesn't drive you mad - get playing!

Listing on page 56

## MAD ON DISK

For those who don't fancy typing in the listing, MAD is available from PAGE 4 on disk ready to run and complete with the source code. Also on the MAD disk are all of the ST programs that have appeared in previous issues of PAGE 4 plus a few bonuses only available on this disk. MAD is better than several commercial games selling at full price, yet the MAD disk will cost you only £2.99!

Send to PAGE 4, P.O. Box 54, Stafford, ST14 1DR. Overseas readers outside Europe should add £1 for postage.







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**SIDEWINDER****Mastertronic****£9.95**

*Reviewed by  
Damon Howarth*

Once more the asteroid is under attack, the great Sidewinder is on course to rid us of our foe. Your task, should you volunteer for an almost certain suicide mission, is to destroy this scourge of the skies in your ubiquitous one-man fighter.

The scenario is similar to many and the initial presentation is not too distinctive to focus without the speech. The music is not of the greatest quality and that of the landing screen is unfortunately obtrusive on the insertion of the second disk. Once the game is up and running and the play-  
er's life classifies between single or dual player mode things become slightly less mundane and a good shoot 'em up unfolds. The object of the game is to penetrate the massive ship and, by tracking your way through a variety of levels, explode the central core of the reactor. The screen scrolls vertically very smoothly and



**'colourful,  
inventive and  
absorbing'**

once you have exited the opening chute it becomes apparent that the game's scene is derived from the fact that some limited sideways scrolling is in fact very necessary. A bewildering array of spacecraft attempt to intercept you as does the automatic defence artillery and your laser guns take several hits to destroy ground objects although airborne foes tend to blow up in the one hit. The spot effects look casual and visually are well above average for these events.

There are the mandatory power capsules to pick up on the way, which increase

either durability of the ship or offer greatly enhanced firing capabilities. These prove very important and indeed vital at crucial points. The feature of the bonus 'pill' since it is a two edged weapon extremely handy for standing and blasting with but you then become a sitting duck for all 'locking' weapons. The artwork of the various levels is colourful, inventive and absorbing with everything a good arcade size. The spaces from large and are very well drawn on to your own ship, the readiness of the hydro-jetion form lends a suitable against air to the level.

I found the game took a little getting used to and it did not have the immediate hook that *Striker* had, but after a few runs I was hooked. The variability of the speed and the difficulty brought and soon I was feeling the 'just one more go' syndrome making the whole affair quite compulsive and addictive. There did not seem to be a high score table-problem - unless of course I did not manage to shoot myself into such elite company but considering that I did earn some bonus ships that would appear unlikely. This omission is disappointing as there is no indication as to the quality that is expected of the average player.

All in all this was a game I enjoyed, noisy, tough, exciting and fast. It is not quite *Striker* but well worth the buying if scrolling arcade games are of any interest to you at all.

**BATTLESHIPS****Elite****£19.95**

*Reviewed by  
John S Davison*

Oh, no! Not a computerised version of the old favourite - Battleships? Hey, just a minute - don't skip the end of the review, the program's really rather good! It's been brought right up to date with super animated graphics and sound, been given single, two player, and multi-player options and it has a very simple mouse driven interface, so even your Granny could play it!

Before each game starts you choose whether you want to fire salvos of shots or single shots. Salvos give you four shots in each of your ships still afloat, otherwise it's just one shot per turn. I recommend using salvos, otherwise a game lasts forever.

The game begins with each player secretly laying six ships in a 20 by 20 grid, these being a battleship, aircraft carrier, submarine, two destroyers, and a torpedo



boat. Each type of ship is represented by a different shape and takes a different number of grid positions.

The players then take it in turns to locate and sink their opponent's ships. By clicking on the grid squares you mark them with crosses to identify them as possible targets. The squares all start out coloured blue, but they change colour later to indicate whether your shots hit or missed any of the hidden ships.

The screen then changes to a superb picture of the game's view from the gun turret, showing two huge gun barrels pointing at your opponent's fleet. Firing then commences, the guns rattling realistically as smoke and flames billow from their muzzles with each shot fired. The excitement of this is truly spectacular. You see the shells coming away into the dis-



tance, and if your choice of grid squares was correct they hit one or more of your opponent's ships. With each hit, a ship shows more and more damage until it finally disappears beneath the waves.

Play then alternates between the two players until one of them wins by sinking all of his opponent's ships. He's then so labeled by a musical fanfare and 'victory salute' of his fleet. But don't think or you'll miss it - it lasts for all of five seconds!

I expected this game to be boring, but Elite have done a great job in computerising it. It really is quite playable, and offers the perfect antidote to the stress caused by too many hours of *Carrier Command*. The *MSX* will love it. I'm almost ashamed to admit it, but I do too!

**BUGGY BOY**

Elite

£19.95

*Reviewed by  
John Davison jar*

Having been extremely quiet on the ST software front for some time now, Elite have recently announced and released a number of titles, most of which are conversions of arcade games. Buggy Boy is one of these conversions, and is an excellent home version of the highly acclaimed Turbo arcade machine.

The game, for those of you who have not seen it before, is basically a three-dimensional racing game which is very similar in appearance to Pole Position. You view your buggy from behind and you see the road stretching off towards the horizon.

There are five courses which you can race. North, South, East, West and the supposed 'easier' Offroad course. Each of these courses not only has the basic road layout of other games of this type, but there are also many obstacles and pieces of scenery around. These include trees, boulders, which must be avoided, gates, logs which can be jumped over, and tree stumps and



small rocks which will flip your car up onto two wheels. You will also have to traverse narrow overways across rivers and go through winding tunnels. Each course has five sections which must each be completed in a given time limit. You can extend your time slightly by picking up 'time flags' along the way which will each add two seconds onto your next time limit. To collect bonus points on your way along the tracks you can pick up coloured flags in a given order which will help bump up your score.

Buggy Boy is one of those games which 'gobs' you. Once you sit down to play, it is extremely difficult to stop yourself 'having just one more go'. I have not yet managed to complete all five stages of any one track, I've very nearly done it a number of times but I am still eager to go back and have another try. This sets Buggy Boy



apart from many other games where, after so many goes when you can't do certain bits, you probably give up.

The graphics in Buggy Boy are truly brilliant, the speed of which the finely detailed objects move by is incredible. This speed is not given at the expense of the smoothness of the graphics either. The screen is very colourful and it is obvious that a lot of work has gone into making this game as close to its arcade counterpart as possible.

My only complaint is the sound. The engine in particular get on my nerves slightly, because when you are cruising along at top speed it never sounds quite 'right', never seeming to sound quite fast enough.

Overall Buggy Boy is a visually impressive game with bright, colourful graphics and it has an extremely addictive quality.

**MASTERS OF THE UNIVERSE**

Gromlin

£19.95

*Reviewed by  
Ron Stewart*

For many, older, IT users perhaps the ultimate enhancement could be going into the local computer store and asking for a copy of Masters of the Universe, but face yourself and overcome your inhibitions because there is quite a neat little game here.

The scenario is that the cosmic key to time travel has found itself in the hands of a college student on modern day earth. He thinks that it is a magical instrument, and it is totally accurate that every time he plops the key he attracts Hekaton and his forces of evil. With the key in their possession they can create chaos back in Demica. Only you, as He-Man can stop them by finding the lost church.

You have to find your way around the city



**'a neat little game'**

and collect eight missing chords that activate the time key. In the streets of the city you will have to face Hekaton's troops and some fancy flying machines. Judging by this game the evil one has those followers that Michael Jackson, however, you can shoot or bulldoze your way past them or just avoid them altogether. Finding your way about is a little difficult until you tie together the compass system on the screen. If you are walking north and come to an intersection you will not continue to walk in that direction if you camp on. Instead the screen discoves and is re-oriented by sixty degrees.

Finding your location and direction of travel is also helped by pressing the space

key which will give you an on screen map and your current location. This useful little feature is not mentioned in the instructions. Occasionally you will be helped by two companions who have located a couple of chords for you. In the supposed He-Man has to face three of Hekaton's most evil henchmen in a hand to hand battle in the music store there is a 'Prohibition' style shootout where you have to guide a target and shoot the mirrors that appear in the windows. Finally, you will get to the nightclub where He-Man has to fight using his flying disk. If you are still up and running then you are faced with combat the streets to find the remaining chords. Find all eight and the end of the game is in sight. Your final contribution will be with Hekaton himself in yet another side-game.

Once you get the hang of moving and navigating about the city, this game makes good entertainment with its games within a game concept. The graphics are to a high standard but the sound effects could have been better. It's difficult to see where this game has been pitched in the market place. Masters of the Universe isn't targeted at the pre-teens, yet the controls in this game could be puzzling to many of them. Perhaps a little more design thought could have made it more acceptable to everyone.

## BOMB DISPOSAL

Classic Software  
£19.95

Reviewed by  
*Damon Howarth*

The advertisements for this game include screen shots which are not for the ignorant in but the interests of the game for record the guidelines of the publicity. This is a simulation rather than a game, however as of the TV series *Danger 5*, X.B. fixed to mind and it is an experience that I found exhilarating.

The packaging of the game is low key without the garish compact disc box that accompanies so many games these days, the manual is 'heavily' computer generated and the whole thing looks very much home produced but the value of the game. Your object is to defuse various bombs each of which is presented in the manual with varying degrees of informative usefulness and it is important to study the manual fully before any operating begins. The graphics are superbly detailed with each bomb presented in (if the phrase is allowable in this context) exploded form. The cutaway pictures allow a more



strip of look to be assessed and used on the relevant parts of the engine of destruction. The fact that the Ministry control difference between the mark of a bomb or on occasions even offer more than generic guidelines to the defusing procedure means that failure rates are high. Patience is the key to this game, that and very steady nerves since every bomb has a time limit once defusing begins to fall in any part. The explosion is loud and a brilliant, if gory, piece of animation for times. The game is controlled via the mouse which acts as your fingers. A good manual is essential and some technical knowledge about tools is advisable. The actual game play is simple although the use of implements is not. In some respects a lot of luck is required, for example guessing the order of wire cutting to defuse even the first bomb. The classic sequence is listed in



the book, but not all bombs are classical. This is possibly my main criticism as there is no save game facility so that often any failure it is back to bomb-site again which makes progress frustrating and difficult.

There may be a lobby who would call this game somewhat tedious both in its treatment of the bomb disposal aspects and of life itself. I mention this not because I am one of these people but to make those who might be offended aware and thus save them any distress. Bearing that thought in mind I can wholeheartedly recommend this game to anyone with the patience to try it. I do not suggest it if you are the sort of player who is happy with quick fire arcade games and has no time for slower cognitive games.

Sadly there was no Judy Geeson included in the package otherwise it would have been just about perfect for me!

## STOCK MARKET

Tynesoft  
£19.95

Reviewed by  
*Ron Stewart*

In general, stock market games are usually number crunchers. They invariably only differ by the amount of randomness applied to the program and the top dressing in the form of graphics and facilities. Tynesoft's *Stock Market* is no worse or better than most.

The game opens with a title screen and asks for the names of up to six aspiring raggies. After the preliminaries are over the market opens. Each player takes it in turn to buy and sell shares. On this main menu screen are the names of twenty top companies such as *Telecom*, *Japan* and *British Airways*. Considering this game is based on the London exchange, the choice of some of the companies is a bit strange. *Worm* Communications, *Harold* and *Coze Cola* are not quoted in London. After the company name there are six columns

Company Name	Current Price	Previous Price	Change
Telecom	120	115	+5
Japan	80	85	-5
British Airways	150	140	+10
Worm	30	35	-5
Harold	40	45	-5
Coze Cola	20	25	-5

which give the previous and current price of the stock, what you paid for it and how much profit you have made. The final column tells you how much stock in the company you own. At the bottom of the screen are the options.

You can, of course, buy and sell. You can also get a money loan, take a look at your assets or see on a graph how a particular company's shares have fared. One of the game's biggest failings is here. Deciding on which share to buy is a very hit or miss affair. No information is given as to outside influences that could affect the price of the shares. Tynesoft recommend keeping your share ownership down to six companies and they are probably right. The best strategy I found was to wait the

best and borrow as much money as I was allowed. If you buy shares in large amounts you can affect the price of the shares for the following players. Playing *solitaire* this is not possible. It would have been nice if some computer run players were available, but, alas, they are not.

After the share dealing is completed the computer randomly decides whether it is a 'bull' or 'bear' market. From here it chooses which shares will rise or fall in price and by how much. With a view of the exchange floor in the background, a ticker tape shows any news and any companies that might be affected by that news. This random change in share price is called or subverted to the previous random change. The news does not appear to alter how the price changes next turn. Dividends are also handed out and once again this would appear to be random. From here you will return to the transaction screen.

It is a pity that the game sets so much on the vagaries of the computer. This simulation would have been improved tremendously if outside influences were introduced and on one turn which allowed share prices on the next. Stock exchange definitely improves when playing with three or four people but there is no real interaction for the solo player. Still, it makes an interesting change from watching share 'me ups'!

**THUNDERCATS**

Elite

£19.95

*Reviewed by  
Damon Howarth*

Goodie, I thought on seeing this game, one of my favourite TV cartoons to stream-gate. Trusting that its 8-bit engine would not be too evident, I extracted the disk. "Thunder! Thunder! Thundercat!" the cry of Lion-o roared in my mind as I started to load this horizontal scrolling game. A well drawn title screen greeted me as the disk busily whirred to confront me with a tin-tin convincing picture of the evil Mean-Be, a press of the fire button and ... disappointment. The background artwork was good but the Lion-o sprite was somewhat unimpressive and, while prepared to search for the Stone of Omens and the other Thundercats, I had not been interested that the hero's face had also been stolen! The gameplay matched this initial reaction, technically the mechanics were good, the scrolling impeccable and joystick response positive but the feel of the game is somewhat characterless and lacking in



general excitement.

It is perhaps an unfortunate fact that many companies are using license deals to enhance otherwise barely adequate products, but this game does at least present an acceptable combat game, although without a great deal of variety in reward, style or status. The opponents appear to have escaped from Mean-Be's clutches with trident horns and 16-point barbans as the first opponents. The object of the game, to delve deep into the rocky levels and find the lost magical stone and the captured comrades, sounds reasonable and, even the level by level scoring system is effective in offering some short term goals but I found it less than gripping. While I accept that the backlogs in this search are at

times extremely impressive with some excellent pictures of an oft-uncomparing Mean-Be in the sky, I do not think that this makes up for the unimaginative handling of the subject. My major criticism of the game is the extreme individuality of Lion-o, the secret of Thundercats (the cartoon) is the fact that it relies heavily on the brain effort of the cats to overcome difficulties.

Because I felt I was being possibly unfair I showed the game to a seven year old friend of mine, who is a Thundercats addict, and she was totally underwhelmed by the whole affair. The one question she asked was "Where were the Thundercats?" then she went to watch her Lion-o video. I think that sums up the whole game!

**THE UNINVITED**  
ICOM Simulations  
Mirrorsoft  
£24.95

*Reviewed by  
Damon Howarth*

The very title of this piece of software conveys the doom ridden, gothic atmosphere which pervades the game. Shades of Lovecraft, Poe and King stare down upon the house to which you have not been invited.

The packaging, which is similar to that of Balance of Power, comes in the form of a hard backed book which doubles as disk holder and instruction manual. The tone of the book is a cross between Vincent Price and Rocky Horror, a tone of supernatural levity and ghoulish humour which may not endear it to those of a delicate disposition. I was impressed to note that there are instructions to optimize dual disk drive capabilities as the game could be irritatingly full of change-disk messages for single drive owners.



The loading screens are full of foreboding and good doom-laden colouring. Although the house would seem to be the standard 18th/cent house of Lovecraft it has been situated by Loch Ness. Your object is to enter the house, find your brother, and prove for a last time, as in all good horror stories, you are a hopeless fellow-being a coward.

The controls in this adventure are through CBI, by clicking on various items you can move, open, examine and operate them at will. It is in this use of detailed GEM compatible art and theme bar commands that makes the game novel. In the first place the artwork has to be detailed since there is no descriptive narrative until the object is clicked on by the user. Some descriptions are lightly humorous others are downright blood-curdling and, coupled with the use

**'downright  
blood-curdling'**

of sampled sound effects, an altogether heavier atmosphere results from the master screen.

There is an ease of 'getting' or 'dropping' items that I have never experienced before, since each person, container or room has its own inventory window and moving objects is simply a matter of dragging things around and dropping them in the appropriate window. The ability to manipulate objects on screen can give the most convincing effects, by for example running round in the wood-pane, it will even bring off the ceiling! This is a novel approach to adventures, seen earlier in a game called Delta-9. I thoroughly enjoyed the system and think it must be what the window system and GEM were written for.

My only warning to those considering the purchase is that some of the graphics are heavily skeletal heads and similar abominations. There is a strong suggestion that players are aware of the measures of the supernatural and to some background reading is recommended to the maxiphile. All in all a ripping good adventure with laughs and chills in fairly even mix.

**PANDORA**  
**Firebird**  
**£19.95**

*Reviewed by  
 John Davison jnr*

Pandora is basically an arcade adventure, with very colourful graphics, set on a spaceship. You play the part of an "Intelligence Salvage Operator" who has boarded the two-headed year old spaceship "Pandora". Your mission is to investigate the craft and collect objects which must eventually be returned to Earth for study.

The playing area is a scrolling bird-eye view of the large spaceship, containing various rooms and characters who are moving about (or lying dead in some cases). You move your fairly large character around the craft using the joystick, and when you encounter objects or other characters you can interact with them. For example you will come across a professor who wants something to read. If you give him the *Madagascar* which can be found elsewhere you will be presented with a message which can be given to a robotic

who you will also find on your travels. Scattered around the craft are various dead bodies of crew and staff. If you stand over these characters and press the spacebar you will be shown what they are carrying and you can relieve the corpse of some objects and place them in your pockets or backpack. Useful objects which can be found include weapons and identification. The ID's are especially useful as they can get you in and out of various areas and also out of fights with guards and other characters (providing you are carrying the right one). The fight scenes are especially amusing in this game. For example there is one character who is a real pain - the "bookie" who roams around shooting everything in

right. If by any chance you happen to bump into him you will have to attempt to beat him in a fight. The fight is depicted in cartoon fashion with a large cloud of dust with bits and feet occasionally popping out and words such as "Blf" and "Apld" appearing in true Batman fashion. The game itself is, graphically, very cartoon like. The backgrounds and sprites are all very bright and colourful and reasonably well animated. My main complaint about the graphics is the scrolling which could quite easily have been made better. The sound is not especially impressive, but like most games it is adequate.

Overall Pandora is an enjoyable and amusing game which is quite addictive once you have got into it.



**REVENGE II**  
**Mastertronic**  
**£9.95**

*Reviewed by  
 John Davison jnr*

Revenge II is the most recent release from Mastertronic, and also the first title to appear from Jeff Minter since the release of *Comixion*.

Revenge II, as you can probably guess from the title is a sequel to a previous "Revenge" game, and as often happens with 51 games this first title is not available for our computers. Revenge II is, in fact, the third in a series of games which started off with *Attack of the Instant Gains* all three years ago on the Commodore II and later on the 8-bit Atari machines.

The story of the Instant Gains is a long and complicated one, and those of you who know anything of Jeff Minter's sense of humour will have a good idea on how the story is made up. To find out the history of the beasts you must read the



story in the instruction sheet of the game, which is hilarious. Basically what is happening in this episode of the "Comix" is that they have been awakened from suspended animation on the dark side of the moon and must now help mankind again to drive away the attacking evil *Explosion* empire.

Revenge II is a fairly typical Jeff Minter game involving you controlling a large camel and the general idea is to shoot anything that moves, and if it doesn't move, you might as well shoot at it anyway! There are many different waves which can be played all having various different attackers. The *Explosions* are here a wild imagination where it comes to things that live on destroying you. I have so far been attacked by toothbrushes, toothpaste, credit cards, telephones and

telephone boxes, Remig disks, cats, comets, cups of tea, cans of coke and glasses of Guinness along with many others! Each of these sprites is very colourful and moves smoothly and mostly at incredible speed. To destroy the rather odd adversaries you have a variety of weapons to choose from on the selection screen which appear between waves. If on the previous levels you have managed to win enough credits (by having energy left over at the end of a wave) you can buy any one of a variety of useful defenses including shields, zero bullets which return when they hit a target, smart bullets and big bullets. You could alternatively decide to opt for buying an extra "booster" extra life or if you feel the need you can buy extra energy for your existing camel. Once you have selected a weapon you can decide where you want to move to next by moving what is described as a "selector thingie" over a grid. Each position on the grid contains different sounds with different meanings.

The graphics are bright and lively and the horizontal scrolling perfectly smooth. The sound is not particularly impressive but passable. Overall, Revenge II is an amusing game on which to lose some early winter feelings but I did find that you have to be in the right mood to play and also that I couldn't play the extended periods without becoming slightly bored.

# VIRUSES

## THERE MIGHT BE SOMETHING NASTY IN YOUR ST!

Sunday, November 22nd, 1987, the telephone rang. I turned down the volume of my amplifier - who the hell had the nerve to call me at this ungodly ungodly hour - and picked up the phone. Shortly thereafter I put the phone to my ear when an obviously quite excited bloke (he Klaus) started talking about a phenomenon quite unknown to me as an ST user - computer viruses! Of course I had heard something about them already, since things were off over Holland had been troubled by these computerological nasties for months now. But now a computer virus also seemed to have appeared on our much beloved Atari ST, or so Klaus stated. He even went as far as telling me that he had found viruses on some of my disks he had received earlier, and that all my disks at home would probably be infected since my eyes were already experiencing some trouble staying open. I went to bed and decided to examine my disks the coming morning.

Next morning I booted up a disk monitor and I became really concerned. Although Klaus seemed to have exaggerated a little, I will find over 10 infected disks! What now to do? There were the disks! One might say I started to panic a little, so I contacted my good friend Frank Lemmen and told him everything I had learned till now. That historical Sunday evening, we discussed the virus and Frank made the first virus killer in Holland that was to be applied to several Bulletin Boards that same night.

After that, everything went very fast. I phoned about everyone I knew and warned them that the ultimate Atargothidien for Atari ST users had started. The viruses had landed! After a little while many newspapers, computer magazines and even the television started giving attention to computer viruses. Through the PD disk magazine "ST News" the first articles about computer viruses appeared in the middle of December and slowly but surely every computer user was warned against computer viruses - especially on the ST. Many people now became aware of the virus, and it turned out that this first virus had already spread itself to countries as far as England, Greece, New Zealand, Denmark and the United States, that the countries where the virus turned out to be found the most were Holland and Germany.

### KNOWN VIRUSES

During the course of many conversations I discovered that there was not just one virus but several and those known to date are as follows:

**The Sigmam Virus:** Discovered on November 22nd 1987, after having received a phone call from Riza Jeldimans. This is the most commonly spread virus, and has been found in countries as far as Greece, England, New Zealand and the United States. It's most evidently present in Holland and West Germany, however. This is the virus that was to be found on several original program disks! The GSA Systemtechnik's VGA Basic 3.0 Basic and G-Dat's G3D Barcode Reader. It merely copies itself to other disks, and then waits for a certain code to be found on the other disk - the second step will then

## Richard Karsmakers, founder of the disk magazine ST News, discusses known viruses on the ST

become active, which is not yet found but which might be dangerous if it multiplied whatever its directory from a disk is read as a disk is formatted with an infected system. However one going around that this virus was developed by the people of Profcomp (members of "Studenten Internets and Systems" illegal copies of their Macintosh software (and removal). The "Sigmam" virus is named that because it was said to be found on a "Sigmam" (Application Systems, Heidelberg, West-Germany) disk first. Purchasers of current copies of commercial software should not worry as the publishers will almost certainly have indicated the problem by now.

**The Fee Virus or Mad Virus:** Discovered on March 26th 1988, after having received a disk that Erik Holmström of "STRIBB" (S-UGIT) suspected. This virus copies itself to other disks, and when it has done so five times, it starts doing strange things with the screen and the soundchip (making noise and flipping screen, etc.) every time a directory is read. Quite harmless - it may only actually damage disks present in the formatter in the copying process.

**The Rusted Lion Parameter Block Virus:** Which I received from Mr. Anton Berven from Compusoft in Boknast, Holland (Boknast, Antwerp), who discovered it. In fact, this is a slightly adapted version of the "Sigmam" virus, but one which has some additional code (hacking the ALT-key) written over the disk's format parameters. A disk that is infected by this virus is unreadable but can still be repaired by the "Virus Destruction Utility" version 3.1 and up.

**The ACA Virus:** This is the fourth known boot sector virus. This is the most dangerous bootsector virus I have ever seen, as it clears the entire first track (FAT and bootsector) of a disk when it becomes active! It was actually sent to me by someone calling himself Little Joe (from Sweden) and I received it on June 20th, 1988. The virus is written by a Swedish group called "ACA", and the phone number of the virus creator is (Sweden) 0800000000000000 (so let's all phone him - and you needn't return yourself from answering and carrying). I have heard that they are working on a virus that will be even worse, that can infect a hard-disk as well (which would be the first).

**The Green Virus:** This is a largely adopted version of the 'Red Virus', which has different results and which was seen to me by the author of a German virus letter on July 12th 1988. As far as I have been able to see, this virus installs on interrupt that causes the system to freeze the being up, so that NOTHING can move any more) when a certain condition is true. I think the condition is that a disk with 14 sectors per track is inserted and the 12th sector is read or written to. Apart from multiplying itself, it does not appear to touch the disk so disks is quite safe there.

**The Screen Virus:** This virus only works on German pre-built IBM machines, and is COMPLETELY HARMLESS when you don't have one of those machines (it even doesn't multiply itself there). I received it together with the 'Green Virus' from Carsten Eichmann, author of the PD virus killer 'Antivirus'.

**Milhouse:** The first known link-virus was 'Milhouse', published in the German computer magazine 'Computer & Technik' as type-in listing! Author is Eckhard Knabel from Germany. The original virus checks the date stamp and when it's set to 1987, the disk's bootsector and FAT are cleared and the information on the disk is unmodifiable after that. In the boot sector, it writes: 'This is the Virus'. Since the program was a type-in listing, everybody can adapt this virus to specific wishes. It's simply terrible!

**Virus Construction Set:** I have not yet been able to get my hands on this program, which allows the user to create standard or custom (and) viruses in a comfortable GEM environment. This program allows the stupidest wannabe to write a real dangerous virus! In the Austrian magazine 'OS2', I have been able to read something more about this virus. It's a link-virus that replaces part of the old program loader by its own code. The 'Virus Construction Set' costs DM35, and can be ordered through Night-mare Software (Ms. Oliver Stamm). It was first launched on the IBM Celta.

## ARE THERE MORE?

In search for viruses discovered so far, but are there others being developed? In a recent issue of 'IT Report' I read some interesting stuff about viruses in the United States. This contained a report of a seminar conference with people like David Small (Maga Soc) and Timothy Ferrus (Midwest IBM), as well as someone called George Woodhull who appeared to have some viruses in his possession that I had never heard of before. Let's quote some of his statements about these viruses:

"One virus I have here is too big to fit in a boot sector. It uses the entire FAT sector to extend itself. That way, a virus can have 2-48 (2 sectors) to fit into. This one uses ROM routines, hard coded, to extend itself even more. I can't tell all that it will do, since it uses routines in the European ROMS. It will, however, simulate hardware errors in an AT by illegal memory accesses after the system has been running for a while. It checks the system clock, with that much code space to play with, the thing could do anything, including wipe a hard disk very quickly. It could be spread, and launched, by floppy and boot or hard disk systems. Then, bang, you have a clean AT. You'd never know where it came from."

"Another virus I've heard of, but don't know, does a disk in the system at a time) corruption of the FAT) on the floppy. You don't know it is corrupting your disks, until you start turning up bad files everywhere. That's the worst part - you never know what they will do."

"Another virus uses the signed timer in the BIOS reserved memory area. It totally quits until the system has run 2 hours. If it sees a non-infected disk, it spreads itself, and sets the signed timer back to 2:45. After 3:00, it starts creating timer watch. Then, at random intervals, it does a memory write to either the screen RAM or memory above the screen. It will either corrupt the screen, or cause bursts to appear when accessing memory above the screen area. I've discussed these viruses with Alan, and we've agreed to make all we have learned public. My hope that the virus writers already know what they are doing, so we need to inform the users."

Frank Ahrens, chief editor of the German computer magazine '68000er ST Magazine', recently told me something more about several other viruses that have been seen in Germany, but that I don't know much about yet (just like with the above viruses from the States):

"The bootsector virus checks for the system date. When it is 1987, it deletes the FAT) of both your floppy disks and your hard disk. This means that the data on these disks are irretrievably lost! It was published in the most recent issue of the German magazine 'Computer & Technik', the same magazine that also published the 'Milhouse' link-virus! There are three additional variations of this virus, that check your directory for files of program names written by G-Data, Application Systems and GFA Systemtechnik respectively. When found, they are deleted from the disk."

"Another bootsector virus checks if there are any data files (only data files) present on the disk. When such is the case, they are deleted."

"The next bootsector virus allegedly succeeds in blowing up(?) the parallel port on certain machines. The probability of this being true, however, is very small and it sounds really weird. The conditions on which this will happen is not known to me."

"The last bootsector virus I know waits for the date to become December 31st 1988. When this has happened, it will repeatedly knock the hard disk read/write head to the start track until it is destroyed. This may sound improbable, but it's possible to get the read/write head out of alignment this way on a floppy drive, too!"

"The last two viruses I heard of are a link-virus and a substitute virus. The link-virus only merges itself to 'Lotus Freel Plus' and starts randomly by destroying your documents. The substitute-virus modifies the program and makes sure the file length does not change (with link viruses, file sizes become bigger). It waits until it has copied itself over three times, and when this has happened it causes a system crash."

If the above reports are true this means that there may now be twenty viruses existing, of which the 'signature' virus is the most widely spread. This means that the virus problem is growing rapidly; something HAS to be done to stop it!

## SOME POPULAR MYTHS

Fortunately there are programs available that will destroy viruses but first let's take a look at some of the myths that have sprung up.

**IT WON'T HAPPEN TO ME. EVERYBODY** can become the victim of a computer virus! This can happen through accidental, by 'included' original software (the salesman demonstrated the program on an infected computer system), using accidentally infected Public Domain software or using a disk in an

accidentally infected system at a user group or at a friend's. Several commercial program disks in Holland have already accidentally been supplied with a virus on them including our Centrium disk and G&G Basic 5.0 Basic Disk (not the actual G&G Basic version 5.0 disk). So there's no bigger nuisance than to say "Things like that don't happen to me..."

**IT'S THERE FOREVER.** When you turn your computer off and on (in about 10 seconds, just to be sure), it is IMPOSSIBLE that a virus is left in your computer. Some people have said that a virus can exist itself in a computer's ROM. Well, unless there's a way to make it write convert into 20 volts by software only and unless it's possible to create alcohol-like radiation by a couple of POKs, this is COMPLETE NONSENSE! And didn't we learn that ROM means "Read Only Memory", in which it is impossible to write? Only on machines that have a piece of RAM memory permanently supplied with juice (e.g. the keyboard processor's RAM of the Amiga 3000 and the Atari 1000A II), it is theoretically possible to store a virus permanently, although the MEGA XT's keyboard processor (that is battery-backed) only has 128 bytes of volatile RAM. Removing and re-inserting the batteries will help, but doesn't fix, such a virus does not even exist on the XT.

**YOU CAN'T PROTECT YOUR DISK.** Not one virus on the XT can ignore the write-protect notch, so if you keep your disks write-protected at all times, it is impossible to let the disk be infected by any virus! Unfortunately, some of the disks containing your most valuable data (work disks, source disks, games that save histories) are all, according to Murphy's Law, left write-protected most of the time, and are thus the most vulnerable.

**THROW IT AWAY.** Some people, trying to sound interesting (like they know it all), have stated that there is but one remedy for an infected disk. Regardless of what it contains (e.g. a couple of thousand addresses of business associates or maybe all your program source material) that only took you a couple of months to program, you must destroy it (throw it away, burn it, whatever). Of course, this is complete nonsense. Using a so-called "Virus Killer" program that can recognize and destroy viruses, it is possible to restore infected disks without harming any of the other data present on it.

**JUST FORMAT THE DISK.** Formatting a disk does not always help, either. Apart from the fact that all data is irreversibly lost when this is done, it is also a fact that some viruses (and the "disk format" routine to their own use) do the disk appear to be properly formatted, but is actually merely supplied with a fresh copy of the virus. The only solution is, again, the "Virus Killer".

## SOLVING THE PROBLEMS

So what can be done against viruses? In the first place, you should try to keep your disks write-protected as much as possible. This reduces the problem a lot, but unfortunately it still leaves Murphy's Law alive. The virus always strikes where it finds a non-write protected disk (containing your most valuable or important data), so that's why some people have written "Virus Killers" which were already listed at earlier. There are about half a dozen of these virus killers in the public domain but all have their specific disadvantages. The first one, written by Frank Lerman from Holland, could only discover and neutralize the first virus. Others could only recognize "unsuitable bootectors" which is only a couple percent of all cases actually indicates an actual virus, but there is now a virus killer that can destroy ALL known XT viruses - including the notorious link-virus that cannot be repaired by ANY of the other virus killer programs.

This virus killer is the Virus Destruction Utility version 1.1, designed and developed in Holland but written in English to make sure that many people can use it - for the virus problem is international. This "Virus Destruction Utility" does not merely recognize and destroy all known XT viruses while leaving all other (unknown) data intact. It also recognizes a majority of

other programs that use the bootector so that these are not accidentally destroyed (examples of these programs being Firstbird's "Return to Genesis" and Microsoft's "3D Ocean" to name two current releases). When such a program's bootector already happens to have been destroyed by another virus killer (or perhaps one of the viruses itself), while multiplying itself to this sector, the Virus Destruction Utility also knows how to repair many of these. Immunizing one's disks is also possible, so that no boot-sector viruses can write on them any more without you even having to bother about keeping them write-protected (though this is often not possible by programs that actually use the boot-sector). The latter two options can save you a lot of trouble. And money, too. Details of how you can get the Virus Destruction Utility are given at the end of this article.

## FINALLY ... A CALL TO ALL LUNATICS MAKING VIRUSES

There is no certainty with regard to the identity of people made the viruses on the XT, except for some of the link-viruses, which were programmed by Eckhard Seibel for "Computes in Technik" magazine in Germany and Nightmare Software, also in Germany and the A&A bootector virus. Data Becker has launched "Das Graue Virusnetz", a book that explains techniques on how to make viruses on the MS-DOS systems - which are also applicable in the XT to create exact! Details in my what is thought about such people (one thing that's sure is that all sides of the computer industry have joined in the struggle for survival against the computer viruses - software companies, hobby computer users, program authors, even crackers, so if you belong to one of those and already essentially damaged someone writing viruses, let yourself be advised to forward lives: better, don't write any more viruses - you'll only harm other people and eventually you will get harmed yourself as well.

## THE VIRUS DESTRUCTION UTILITY

This utility has been programmed in Holland but is available to XT users in the UK. Copies can be obtained by transferring 06.93 to Barclay charge account 806414906 in the name of J.P. Karmakers Bq., Kloveniers 20, 1702 LL Heilmond, The Netherlands. Please specify "Viruskiller" and don't forget to mention your name and address either. You will then receive the program mailed to your home as fast as possible. Registered users ("Virus Destruction Utility" versions 1.0 and higher are IBM PC, Domain and compat 386) be copied freely will be able to use a regular update service. They will automatically be advised when an update is finished which they will then enable them to order at a reduced price (about a 50% discount).

**THE VIRUS DESTRUCTION UTILITY V1.1** is a program to search and destroy viruses while leaving other data fully intact. Price 06.93, published by the A&A publishers of the PD disk magazine "ST News".

The main features of the program are:

- Recognition of virtually all software that uses the disk's boot sector
- Recognition of all XT viruses known to me - both bootector - and link viruses
- Option to repair previously damaged boot sector software
- All data on your disks remains 100% intact!
- Immunizing of disks against most known bootector viruses
- Option to repair damaged BIOS Parameter Blocks
- Automatic recognition of any hard-floppy-and RAM disks attached
- Instantaneous recognition of all known viruses already present in the computer system



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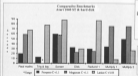
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# CARRIER COMMAND

Reviewed by John S. Davison



Occasionally, amongst the mass of new CD releases, one program stands out from the rest, eventually acquiring a cult following and classic status. *Carrier Command*, with its superb blend of strategy and arcade action and spectacular graphics, is one such program.

In essence, the game revolves around the land, sea, and air battles for control of an island archipelago. You are pitched against an enemy (controlled by the computer) who, like you, has an advanced technology Carrier fully equipped for taking the islands. To win you have to destroy the enemy Carrier, but this can only be done by accepting and advancing through strategically important islands, and setting up supply routes to support your campaign. Each Carrier has a complement of Marine aircraft and Waikua amphibious tanks, each with a wide range of weapons and systems to help dispose of the opposition and capture the islands.

## NAVIGATE THE CARRIER

To occupy an island, you first have to navigate your Carrier to it and anchor in the shallow water near its coast. This can take up to ten minutes or so of real time, during which you have nothing much to do. At first this delay is annoying, but as the game progresses you may be glad of such breathing space to analyse the situation map and plan your next moves.

You then equip a Waikua with an appropriate Automatic Control Centre builder (ACCB), launch it, and pilot it through the shallows, up the beach and drop your ACCB at a suitable spot. The ACCB then takes control of the island and before your very eyes conveniently constructs buildings and other features necessary to transform the island into one of three types. There are Resource island, which mines raw materials; Factory island, which uses the raw materials to manufacture equipment and refine fuel for the Carrier's forces; and Defence island, which provides defence for the area and handles/retains facilities for your Marine aircraft.

You also have a Base island, which is your starting point. It's also initially your Backlog island, to which weaponry, fuel, and other equipment manufactured by your Factory islands are shipped. Your Carrier's supplies can only be replenished from here, so as you progress through the archipelago you move your Backlog to the other islands to ensure you're always within easy reach of it.

Factory islands have to be fed with raw materials from Resource islands, and the whole lot has to be networked together to ensure the right supplies can get through to the right places. The enemy will try to cut these supply lines, so the network has to be defended by strategically located Defence islands.

## INTO BATTLE

If the enemy is already on an island you'll need to launch a fully-armed Marine and Waikua to destroy it yourself, land based defence and Command Centre. Alternatively, you could employ the Carrier's own laser

weapons or guided missiles, although these are only useful against ground targets. With the Command Centre deck with you can send in a Waikua equipped with an ACCB to take over the island.

The enemy forces can be tough nuts to crack, so you have to be sure you've equipped the Waikua and Marine vehicles with appropriate weapons from the wide range available. Get it wrong and they soon end up as useless, rusted wrecks. The Carrier itself can also come under attack and you need to deploy its defensive systems to combat various threats. Should the Carrier, Marine, or Waikua get damaged (rather than destroyed) the Carrier's damage control system will repair them according to the priorities you set.

As you campaign progresses you use up fuel, ACCBs, and munitions (and probably Marine and Waikua too), so you have to ensure your factories produce enough replacement supplies to enable you to continue. You decide the relative manufacturing priorities of each item type - manufacture and you'll find you're out of critical items when you need them most.

While all this is going on the enemy Carrier is also advancing, but starting from the opposite end of the archipelago. As you can imagine, there's vast scope for experimenting with different strategies to ensure the final outcome is in your favour. This, coupled with the game's arcade style battle action plus its simulation aspects, should provide lasting appeal.

It could take a long time to complete a game, so save and restore facilities are provided. Also, you can skip the strategic phase of the game and opt to start at the point where the islands are already occupied. This puts you into the battle action straight away with none of the strategic buildup.

## STUNNING GRAPHICS

Visually, the game is stunning, especially the 'remote-control' view you get when you assume control of the Carrier, Waikua, or Marine. Spectacular three-dimensional, colour-filled graphics are used to great effect, and the animation is fast and smooth and a joy to watch. I also liked the way the view changes to show external action in different parts of the Carrier as it happens, such as Marine tank-offloading and Waikua launch/docking.

Sound, although not brilliant, is quite well done - particularly the whine of the Marine engines. There's also about 40 seconds of digitised music at the start of the game. A extended version of which is supplied on a stereo cassette as part of the package.

Control is by mouse or joystick, via a large number of icons. It's not always obvious what the icons mean and it took several hours of practice before I really got the hang of things. It's NOT a game you can sit down and play immediately.

Overall, *Carrier Command* is a knockout and is bound to become a classic on the CD. It's one of those programs that should be in everyone's software collection, so get it on your shopping list immediately. You won't be disappointed if you like games with long lasting appeal.

**Carrier Command**  
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# FONTZ!

published by Neocept

Reviewed by Matthew Jones

Could this be the font utility ST programmers have been waiting for?



Some time ago, I reviewed the (backlist) font editor by Taylor, and gave it a thumbs up as a good font editor and because it was the only program around to do the job. FontZ! from Neocept (formerly Neoware), is now available, and is very hot competition. In nearly every aspect FontZ! is better than FontEdit.

The purpose of FontZ! is to allow you to edit fonts for use with GDSII. GDSII is a small program which GEM needs to display alternative fonts, and is used by more and more programs now for font support (including Easy Draw, Superbase, and Wordup). FontZ! allows the creation of entirely new fonts, the editing of existing fonts, and the conversion of existing fonts to new ones. It also allows you to convert fonts of non-GEM format to GDSII fonts.

FontZ! comes in a colorful box, and includes an 86 page booklet style manual, which is packed with relevant information. It includes an introduction to the program, and then swings straight into how to load the different font formats that it can handle. FontZ! can load fonts in the following formats - GEM, Higgs Ward, Macintosh, Amiga and Degas. By being able to read each of these font types, Neocept hope that the number of fonts for the Mac will increase rapidly thanks and to copyright thought. FontZ! can save in either GEM format or Paintbrush format

every similar to GEM. As well as the options in the menus, and the operation of the program in general, the manual includes a large amount of information and advice on various aspects of converting and using fonts, including material such as the font file naming conventions.

In use, the program displays two windows, and a large menu list. The top window displays a range of the characters in the font in a single line, and can be scrolled to view and select them for editing. The lower window is used for actually editing the character. The left button of the mouse sets a pixel, the right clicks it. All sorts of alterations can be done to the character being edited. You can flip it horizontally or vertically, rotate, shift, invert, fill, clear, and add or delete a column of pixels. Marking special flow about line draw, box draw, filled box, two circles and one arc, with circle fill and pie slice versions? You can cut, copy, paste and merge characters and blocks across of the character.

The tools for editing the individual characters are very powerful (and useful when dealing with large fonts), but FontZ! also allows editing of all the usual GEM font attributes, such as the ascent line, x1 number, point size, light mask, etc. It also (nearly) adds more information to the header, in the form of device specific information, so that it can determine point size

errors. In addition to these basic capabilities, FontZ! will scale fonts to different sizes, devices and by a percentage. It sometimes takes a while, but it works well. Even the fact that a really large font is too big to fit in the edit window is not a problem, either scroll, or select the option to reduce the size, and you're in business again. Another option allows you to view the settings of the font lines (ascend etc.). You can also get a list of the resolutions of the current GDSII devices. The option that is missing is the ability to view a version of the font with a special effect active, like slant.

If you are using GDSII with any program, then this is an ideal companion. It won't do creating a new font from scratch in very time consuming, and not easy, but with the ability of FontZ! to load fonts from other systems, and then convert them to other size and devices like you prefer, this could be an easy way to get more variety in your documents. The manual also contains a lot of good information, and makes FontZ! a program for every programmer's library.

FontZ! costs £24.95, and is marketed in the UK by PDS Marketing Ltd, Brooklyn House, 22 The Green, West Hampstead, Middlesex, UB7 7PQ. Telephone: 0875 444410



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# Readers Write

## JIM CAN'T FIX IT!

Many thanks for publishing an excellent magazine. I think it is by far the best Amec-dedicated magazine on the market. I have a problem with a 10000, which I think you could help with. I have for a while had problems loading from cassette or disk to my SE. It was a bit of time affair for a while and then, one day, it went completely. All I got was device timeouts or the self-test screen when attempting to load-up. It still outputs its cassette, disk and printer. This caused a large sense of frustration because I use my machine a lot and there it was locked! I took it along to my local Computers market who scratched his head for a while and advised me to buy a new one, which I did not want the wife did - bless her. Anyway, I spoke to some nice Amecians from the "BBC Meet Your Computer" (play-play) and one said 'if you write to Page 2 one of their experts will give you a clue, and I'll fix it'. So if you could help I'll be very grateful.

Gp. V. Budge  
Germany

Excuse there's an answer for you. I have not come across this type of problem before. Usually problems in loading, if you can still see, are attributable to the disk or cassette itself but in your case it

must be the computer or it could be something as simple as a faulty IO card. If you have checked that all the connections on the IO cable are good then it sounds as if it could be a fault in the POWER chip and the only suggestion is to replace it, if you know what you are doing and can find another one. It may be worth just opening up the computer and pushing push-on all the chips to ensure that they have not worked loose. This would be surprising! What printer this can sometimes define! If any reader can throw more light on the problem I will happily pass the information on.

## BEGINNING WITH A WORD PROCESSOR

Having read several comments in your excellent magazine I thought at the Amec show, your P.D. disk 10000 Teletype, and now have a very good word processing system - 10000L, 10000 Data and 10000 Printer. Teletype is very good so far as I can tell, never having used word processing before, which brings me to the point, the documentation which you've sent is not really that helpful to people like me who know nothing about word processors. Full of tip-tips for hackers on how to alter the programs it does not have any form of tutorial at all. I have found many things by

accidentally pressing the wrong key which sent me on a voyage of discovery. Would it be possible for you to run a tutorial on Teletype as you can do that for the wonderful Turbo Basic. There must be many like me who have bought it as a first word processor to test the water and need your guiding hand.

F.J. Smith

Is there an interest in this sort of article? That is one of the things we are trying to find out with the survey this issue. Do me Teletype is very easy to use by just pressing the HELP key and taking it from there but I can see that someone who has not used a word processor before might find any such program daunting and the better the program the more confusing it gets! Unfortunately this type of problem can't be answered in a letters column though lack of space, but here's an opening for anyone who wants to write an article. How do you use word processors in general? What sort of things can they or can't they do? Nice about an example of composing a letter or other document and then giving a step by step guide on how you would go about getting it into shape for printing? There are several interesting areas in word processing and a well written article for the beginner to read processing would help a lot of other users out.

## CASSETTE LOADING PROBLEMS

Just after Christmas I obtained an Atari 6500 and an SC12 cassette unit. Since then I have obtained many games for it but I have been having difficulty loading them. I follow all the instructions on the card with the game and it still doesn't load. On any computer there is a built in self-test which runs tests on the memory, the keyboard and the audio-visual. When I'm loading games I always run the memory test, it is all working O.K. So then I load the game following the instructions and when it gets to about 50-60 on the tape counter the screen goes into self-test mode and the screen just flashes, as I run the test and it is perfectly O.K. Could you please tell me what it is that keeps making the computer go into this mode? If you can, could you please tell me a remedy?

S.J. Terry  
Wales

It is extremely unlikely that there is anything wrong with the computer itself. It sounds very much as though you are working with the head slightly out of line which is a fairly common problem. The heads can be realigned with special test equipment but this is generally only a job for a qualified client engineer. One test that is to take it back to the shop and ask them to exchange or repair it. If the heads are out of line then you should be able to CARE and CAREAD your own programs, but have difficulty in loading programs written and used on other machines. By writing a simple BASIC program and CAREAD it, if you can load it back in, and you still can't load your commercial games, the heads are almost certainly the problem.

## WHERE ARE THE SHOPS?

This is my third time writing to you. I know you must get a lot of letters but could you please point this one? I have a question - how many Atari shops are there in Dublin? We can also be interested in comparing fees. I got my hardware from the only other I found - Price, but I

## TURBO BASIC

Please could you answer a few questions I have about TURBO BASIC? I should think that anyone with a disk drive would know about the RETURNKEYS created for basic in turn loads and runs a basic program. Well, can this be achieved using TURBO BASIC? Since the TURBO BASIC program itself adopts the RETURNKEYS function, does the program, once loaded, look for another filename to indicate instructions, such as AUTORUN-TURBO or something? When running a compiled program can you get off from BASIC, etc.? If so can you remember it? Can you run other compiled programs without returning to the DOS?

Just one word? prompt? Can you RUN any programs? Can you RECORD, BRUSH, DR, OPEN, FILE or ENTER? Is there any decent literature on mapping Turbo on an OS. DR. STABE Turbo or even an XLIVE TURBO (hard-look) to that small 'guide', the bit of AS, all you can get? Thanks a lot for taking the time to read this somewhat longer than usual letter. I know they are rarely printed, especially handwritten and full of spelling mistakes. It'd be very grateful for any help and I'm sure a lot of other people would benefit too.

Michael Dooley  
Aberystwyth

Unfortunately, as with many public domain programs, documentation on Turbo Basic is sparse and the documentation you have is the only guide available in English. There are a few articles in German and they may or may not give you the answers you need. As you know we have a regular Turbo Basic column and I would gladly give over the page to anyone who could write a tutorial on Turbo Basic, perhaps covering some of the points you have raised. There are over thousands of users of Turbo Basic and someone must have discovered some secrets that they are not sharing, so how about getting and using the word processor and showing a bit of light on things?

would like to know that there are more outlets in Dublin even if Atari were to open a new one for our area it would be a help! P.S. Please thank Paul Lay for the brilliant machine code game in Issue 33.

Michael Thomas  
Dublin

As far as I am aware, you have found the Atari shop in Dublin and you should not be too disappointed if that you do have a shop supporting Atari while thousands of stores are here - you should try to find a shop in Central London! Unfortunately good Atari retailers are few and far between and shops have been. There such as Print-out be counted on your fingers. Just do thank, postpone the shop, and commiserate with those like themselves!

## WHERE IS THE HARDWARE?

In the past many people have written and complained about the lack of software in the shops. Well I would agree but there is a more worrying aspect to this - hardware availability! I recently wanted to purchase a 1080 after my 800SL suddenly died. No problem I thought, there's the Silicon Center in Edinburgh less than 30 miles away, and they're specialists. Wrong! They're specialists alright but for Atari only. Put off more than a little I continued my search after looking at your Resource File, Glasgow Computer Centre was the next closest. No luck. I tried Leazes, Carrys, Dixons, the 'job-in-page', 15 phone calls later, mail order was the only option, until I got the phone number for a second hand machine. If this is the 'boom' of Atari it must have been impossible before. How can anyone expect software for an invisible machine? Don't expect help from some stores, one of them when asked 'do you stock the Atari 1080SL?', responded 'Maybe, what is it?'. Next time you are looking for software, look for a 'Mink' bit on the shelves. That's the Atari section - invisible software for the invisible machine!

R.C. Goodfellow  
Dorset

## 3000 PRINTER SUPPLIES

I would like to take this opportunity to say what a great issue No.33 was. I've only read issues from late 1986 but I can certainly say that this is the best I've read so far. I thought that Dave T's (Dave was EXCELLENT). I've followed in lots of weeks played in Y&R's, but I've never heard anything like this before. When I ran the program I was really into all my cheer! I was so amazed that I went and grabbed my brother to Spectrum (owner) and told him to come and listen to some amazing music. He gave a gig, and looked into the data recorder to try and find the tape I was playing it off! When he found no tape his face went blank, and said "well it's not bad" - typical Spectrum comment!

The writers on printers was very interesting, but I would just like to mention what you said about the 9029 printer. I own a 1020 and it is a good little printer. You said that printer paper and pens are hard to get hold of, but I've never had any difficulty. Paper is available from Silicon Shop at £2.95 for two long rolls (order CSA 6209), then also available from Silicon at 04.95 for 4. You can either have 4 black (order CSA 6206), or 4 red/black - red, green, blue and black - (order CSA 6204). Tandy also sell pens (in 3 packs), but I can't seem to find them listed. I hope this will save people being put off buying a 1020.

Dean Conroy  
Dorset

## DOES THE EPSON DUMP WORK?

The issue of compatibility never is my head again in Issue 33, this time between printers. I refer to the Graph Maker listing. I have an Epson 8380 printer, so I installed the program and INTTiled listing for Epson compatibility, all I get from my printer was rubbish. If I did it right, does that mean that it will only work on a compatible printer and not the real thing? That aside, keep up the good work with the magazine, I subscribe to the other two years. Atari magazines that you can get in England, and Page 6 is far better

that both the others put together.

EJaye  
Gainsborough  
Leics

I looked up an Epson 83700 (same model with a wider carriage) loaded up the Graph Maker listing INTTiled listing 2, prepared a graph and all I got from the printer was ... a screen dump of Graphics II? It wasn't exactly the best screen dump I have ever seen but it was perfectly recognisable and it also work. This is another of those systems, an annual other readers how had the same problem and I can't figure out why it should work on one system and not on years. Having said that, you would probably be better advised to try and get an alternative screen dump routine, for while this one does work, it is not exactly of the highest quality. I had not seen it before, having been assured by someone else that it did work, and now with we hadn't put it in! I'm afraid that some of them slip through!

## USING THE NEW ST BASIC

I am writing with reference to the article you printed on ST graphics titled 'ST Screen'. This article was of a very high standard, as were most of the other articles printed in your March/April issue. However, you did omit one thing, in the ST Screen section, you did cope with 'C' Assembly Language' and 'ST BASIC', the problem is that Atari are now listing a program called 'Enhanced ST Basic', which is almost entirely compatible with the old ST BASIC - almost. The new version omits certain commands such as 'DEF SEG', which has been replaced with other commands, the 'Atari ST Basic Quick Reference Guide' tells us that city programs using the 'DEF SEG' command must be

## HOW MANY N's IN Nk?

I was interested to read the letter from K. Crocker about the extraneous N's in the WHOSE listing. Putting up variables instead of numbers does save memory although it may seem counterintuitive to make a program run longer by using variables in order to save memory. Although it does initially take extra memory depending on the length of the name, thereafter each time a name is used it takes only 1 byte regardless of the length of name. Besides saving memory you have an added bonus in storing this space. The main 38 which would have been used in WHOSE, had I not used the N's, would have been an extra 40 bytes or so added to it is worth using these variables even on shorter programs. Some of my programs are so long I really do run out of memory, so I have to make use of memory saving devices.

R.L. Howells  
Fenton

re-written, I would be much obliged if you could put myself and all other new TITM owners out of my misery and tell us what we should replace this command with, and how we should re-write your graphics program, which when run with the old basic is very impressive. This is a cry for help, I have discovered that most magazines do not cater for the needs of the new owner using enhanced basic, maybe your magazine could prove itself better than the rest once again by helping out the new owners and telling us how to adapt programs listed in old ST BASIC.

Derek L'Orwell  
St. Ireland

For another chance for someone to write a short article!

**Why not write to Readers Write to air your views on Atari or ask us for advice? Drop us a line to Readers Write, PAGE 6, P.O. Box 54, Stafford, ST16 1DR**

# THE SURVEY

Your chance play a part in the future of PAGE 8 by telling us what you would like to see in future issues

alternatively

your chance to WIN TEN BLANK DISKS IN A BOX for the price of a stamp and ticking a few boxes! (See forms will be drawn and there will therefore be TEN lucky winners!)

Simply use a pen/pencil to mark a page of the magazine, but sometimes these things need to be done and besides, some people like reading these things and ticking all these little boxes. Please take a little time and fill in the survey so that we have a clearer idea of what we need to do in the future to keep you happy - PAGE 8 may be your only link to your best, especially if you are on 14400 cost, so a little time now will ensure your continued enjoyment.

The tiny photographs the left or copy out the questions or even contain the ultimate solution (and flip the page out of the magazine there you get away on the back page).

Please send the form back to PAGE 8, P.O. BOX 54, STAFFORD, ST16 1DN.

## 1. What systems do you have?

- 8-bit disk based  
 8-bit cassette based  
 XT

## 2. Of the following features would you like to see more or less or have we got it about right?

	More	Less	Same
News	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Letters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type-in Games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type-in Utilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Short type-in demos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardware reviews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adventure columns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Games reviews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'Sayings' reviews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Programming articles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tutorials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Turbo Basic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interviews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Short Stories	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 3. Given the problems of space in the magazine and the length of some programs would you like to see less type-in listings actually in the magazine and more available on disk only with the documentation in the magazine?

- Keep most listings in the magazine  
 Take listings out and put them on disk only

## 4. What specific things would you like to see featured in future articles?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## 5. Given the current scarcity of new releases for the 8-bit what specific items of other software would you like to see reviewed in future issues?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## 6. Would you like to see a regular top twenty chart or something similar?

- Yes  No

## 7. Some people are quite happy that PAGE 8 covers both 8-bit and XT but others are not. What would you like to see?

	More	Less	None
8-bit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
XT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 8. Do you read both sections of the magazine even if you only own one machine?

- Yes  No

## 9. Would you like more details of items from the PAGE 8 ACCESSORY SHOP mentioned in the magazine (such as reviews of specific items)?

- Yes  No

## 10. Would you be interested in a regular column reviewing or reporting public domain software?

- Yes  No

## 11. If you are not a subscriber can you tell us why?

- I do subscribe (have a put on the head and skip to the next question)  
 I just like the thrill of buying a copy in the shops  
 I don't buy every copy  
 I prefer not to pay in advance

## 12. If you don't subscribe, would a money-saving special offer tempt you?

- Quite likely  
 Depends what it is  
 Not really, if I made up my mind to subscribe I would anyway

## 13. How many people read your copy of PAGE 8?

## 14. Would you like to see a survey like this in EVERY issue of PAGE 8?

- Definitely not! (Only answers allowed)

We don't really need your name and address but if you want to be in with a chance of winning 10 FREE DISKS you had better put your name and address below.

Name .....

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What sort of disks would you like? (If your form is drawn out of the hat, that is)

- Big black ones  Little blue ones

Thank you for taking time to fill this in, it is much appreciated.



# THE RESOURCE FILE

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