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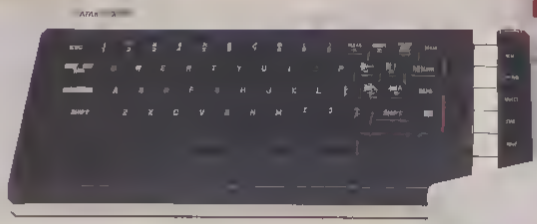
Vol. 2 No. 4 August 1986 £1

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Use your micro to control the mains







80 column text on your Atari

Get-It-Right! checksum updated

Arcade action: Frank the Fruit Fiend

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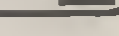
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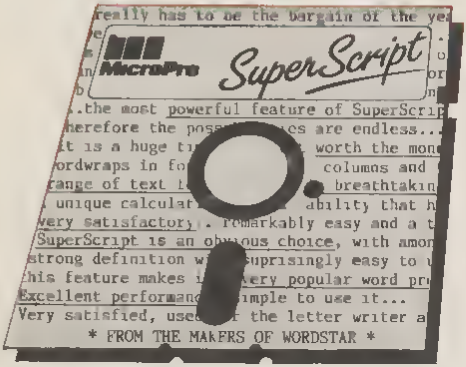
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Atari 8 bit market is booming

THE Atari 8 bit market is booming as never before, keeping computer shop cash registers jingling up and down the country at a time when business is normally slack.

Defying the traditional summer sales lull turnover in both hardware and software sectors has been brisk during the past couple of months an *Atari User* survey has revealed

Dealers say there are two main reasons why Atari 8 bit machines and software are moving when other brands are not.

One is the spectacular sale of 100 000 800XL machines through Dixons over Christmas which boosted the Atari 8 bit user base to a massive 300 000 in the UK

The other is that software houses are responding to this – and the ongoing success of the 130XE – by producing a steady supply of new programs at affordable prices

Where the Atari 8 bit owner could expect to pay about £19 95 – and sometimes as much as £29 95 – per game a year ago he can now get quality titles for £9.95 with some as cheap as £2 99

Retailers report that lower prices have dramatically increased unit sales of Atari 8 bit software making it possible for youngsters to buy games with their pocket money instead of having to save up for weeks.

Although some software publishers were initially unhappy at lower profit margins per title most say this has been more than compensated for by vastly increased sales

Marketing director of Atari main dealership Silica Shop Tony Deane summed up the current situation Owners of Atari 8 bit machines need have no fear for the future

The entire trade is very pleased with the volume of recent business coming at a time when the market is normally slow In fact we have had a couple of really good months.

A key factor has been that the Atari 8 bit software scene has changed completely with a vast number of low-priced titles becoming available in response to the massive user base.

What we are seeing is something similar to the way the Spectrum market went, with publishers starting to produce software at sensible prices

This has created a brand new buyer market particularly among children, which is to everyone's benefit Kids are now able to buy a cheap game each week during their summer holidays where before this was beyond their means.

The new software situation is exactly what the public and the dealers want – inexpensive titles and vastly increased unit sales

The huge success of the Dixons deal at Christmas has ensured continuing support from software houses for the Atari 8 bit machines

In fact this support is actually increasing momentum as more publishers climb on the bandwaggon

WHAT THE STARS SAY

A NEW program for the Atari 8 bit range Paranormal from Riverdale is a four part do-it-yourself horoscope

Company director David Edwards said A lot of research has gone into this It not only predicts your future but indicates your present and past

After feeding in your time and date of birth a full prediction is produced In ESP's check can be made on your psychic abilities and Reincarnation – funwise – reveals if you have lived before and as what

Numerology assesses your character and Bio-Rhythms records your mental physical and emotional powers

Price £4

Bundled STs snapped up

BUNDLED Atari ST machines are selling like hot cakes at a North London retail outlet An average of 30 520STM and 1040STF packages a day are being snapped up by customers at Twillstar Computers in Southall There are six packages to choose from four including the 520ST and two the 1040ST The 1040ST package aimed at small business users is slightly outselling the 520ST one bought mainly by home users reports Twillstar managing director Amarjit Dhasl

Prices range from £576 for a 520ST bundled with 500k disc drive and mono monitor to £950 for a 1040ST with built-in 1mb drive and colour screen

'We find the bundling of ST machines has been a tremendous success – Mrs Dhasl told *Atari User* Customers usually know what they want the machine to do and how much they want to spend but they are often confused about wh ch add-ons to buy

Latest releases

APL68000 for the Atari ST has been released by MicroAPL

Widely used on minis and mainframe systems APL is now entering the micro market in a diverse set of applications including financial modelling statistics market research and insurance

APL functions can exchange data with other Atari applications As well as the standard APL68000 product which uses the special APL character set MicroAPL also has a version which uses short English keywords to replace the special symbols

It costs £170

★ ★ ★

CONVERSIONS of four adventure games for Atari XL/XE users have been released by Robico Software Rick Hanson, Project Theslus Island of Xeen and Enthar Seven will only be available on disc.

Enthar Seven costs £17 95 with the other three at £14 95

★ ★ ★

FIVE new adventures – Nightmare Maze Screwball Darts Diamond Mine and Castle Assault – have been released by Blue Ribbon for the Atari 48k range

All cassette versions will cost £1 99 with a games disc containing all five at £9 95

★ ★ ★

A BET to stay overnight in a haunted house forms the theme of Cloak of Death a new adventure for the 800XL and 800XL from Argus Press Software

Once in the house the doors slam shut and here comes the Batlegrom from Vregus IV! The cassette costs £2 99

★ ★ ★

A TEST of your knowledge of Britain comes in a new flying adventure for users of the 600/800 XLs and 130XE

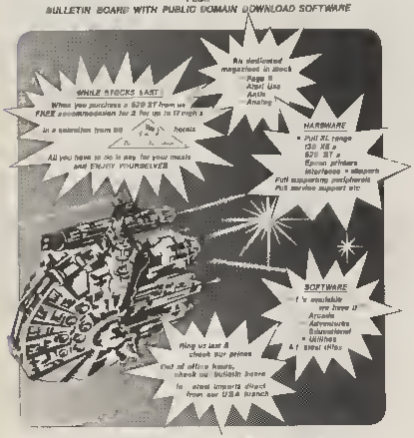
Released by Anglesoft, Map Britain has you as the pilot of a helicopter seeking locations like towns cities rivers and countries Points are scored when the right place is found in a certain time

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Atari in plan to fight crime

PROBATION officer Ray Price has a plan to fight crime using Atari computers.

There are 20 male residents aged from 17 to 71 at his Home Office-approved hostel in Canton Cardiff. They include men on licence, probation and others on bail.

Ray, aged 55 and 15 years in the probation service, is a keen advocate of computers to stimulate discussion on such subjects as alcoholism and aggression.

He said: "I am trying to obtain social work type programs to use with the hostel's 800XL and have received valuable help on translating existing software for the Atari from the Information and Technology Centres at Cardiff and Basildon, Essex.

Some of the residents play games on the Atari and Ray feels there is an opening for introducing crime or addiction-related programs.

He said: "Once they understand the computer it will be possible to relate it to the problems associated with crime.

One program questions the user on the amount of alcohol drunk and how often and then indicates whether he is near to becoming or is an alcoholic.

Another features the attitude to the police. In one situation a friend is arrested and you are asked whether you should intervene, talk to the arresting officer or obtain help through a solicitor.

Ray said: "This type of program is invaluable as we can then discuss the various situations and evaluate the person's attitude and possibly his reasons for taking such actions."

He is keen to set up an Atari users group in South Wales based at the Information and Technology Centre at Cardiff which houses 10 800XLs.

"I would hope not only to attract Atari users to meetings but also interest the residents in coming along," he said.



Ray Price (left) gives a demonstration at the hostel

User groups link-up

ATARI UK is seeking to forge permanent links with all the ST user groups currently springing up throughout the country.

The company is to set up a directory of such organisations at its Slough headquarters in order to maintain regular contact.

In particular, Atari hopes to seek the cooperation of the user groups with ongoing projects involving the company.

"We want to keep in touch with ST users as we would value their opinions at all times and their help on occasions," says Max Bambridge, the Atari UK boss.

Secretaries or chairmen of groups are asked to write to Philippa Kearney, Atari House, Railway Terrace, Slough, Berkshire SL2 5BZ. They should enclose the name of the club, names, addresses and telephone numbers of key officials, the number of members and the times, dates and locations of meetings.

BIRTHDAY COMPETITION WINNERS

OUR first birthday competition was a tremendous success, with thousands of entries pouring into the office for weeks. Our grateful thanks to the manufacturers, software houses and distributors who generously donated the prizes. If your name is listed below, you can expect to hear from the respective company in the next few weeks.

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Atari 1050 disc drive: Andrew Nicholson, Co emore.

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Asylum from US Gold: John Tanner, Eastwood; M.A. Bird, Swithen; Derik Keane, Dundee; Mark Warner, Hengrove; Peter Hewett, Penge; Philip Goodwin, Windsor; Gary Dickson, Stourton Grange; N.A. Winchcken, Jadesfield; A. Murray, Leeds; J. Skalicki, Aveley; David Peterson, Fife; David Smith, Owlseton; J.R. Tate, Plymouth; Trevor Grindle, Rotherham; E.M. Cowman, Tellegh; P. Fox, Hedgeworth; Tim Baker, Uphill; M.F. Hartley, Halesowen; C. Herrold, Wigston; Ian Bunting, Faversham; D. Healy, Redland; Adam Broderick, Dewsbury; Michaels, Gerle, Harrogate; T. Wallace, Pontefract; Paul Earnshaw, Nelson; Simon Phillips, Bury; Gareth Allen, O'Neill, Rushanis; Daniel Gouh, Great Yarmouth; M.J. Mescall, Sheston; Mellet; Andrew T. Lalear, Cannoes.

Miscellaneous software from Software Express (8 bit): S. Payne, Wittemsea; T. Thomas, Pate, Harrogate; Christopher, David Smith, Cowplain; Dee Simpkins, Purley; Steven Sheamin, Hull; Frank Luke, Glasgow; J. Hicks, Portland; M.J. Rehana, Chingford; D.A. Hyde, Gravesend; D.E. Challiner, Crewe; David Yevvng, Leeds; C.M. Shepley, Southminster; Steven Evens, Redditch; Edward Hughes, Warrington; Nirej Bath, Pandrah.

Miscellaneous software from Software Express (ST): A.G. Weeks, Fetcham; Stephen Schaefer, Hightown; M. Shaw, Dunstes; Adam Kennedy, Sinurpert; Chris Mercer, London; Gary Owen, Anglesey; L.G. Davies, Barry; Dan Banwell, Twickenham; David Smith, Sleaford; Jeff Cucksen, Newtownabbey; A.N. Beeby, Surbiton; Phil Hale, Fareham; Richard Maclnean, Staithwaite; David Hellus, Newhevan; Geoff Redburn, Milton Keynes.

Miscellaneous software from Silica Distributors: M. Payne, Saarkhil; P.G. Robinson, Sudbury; Hin Kavng Lng, Liverpool; E. Welsh, Crewthorne; John Buckley, Salford.

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Steven Burke celebrating

Birthday offer

TO celebrate its first birthday Compumart the Ateri mail order company is offering an Atari ST pack for £445 – a saving of £140

The pack consists of the 520STM with 500k drive and 20 3 5in discs.

Company managing director Steven Burke said "We have just completed a move to a new warehouse in Loughborough and as it is also our birthday we decided to make special offers to celebrate

For readers of *Atari User* the company is offering two free discs with every box of 10 bought

Now the Atari comms scene springs to life

A NEW wave of comms products is about to be launched for the ST market in the UK as the boom in sales of the machines continues unabated

The latest breakthrough has been made by Peter Connors a regular contributor to *Atari User* with a program called FLying STart which he is selling for £10

"I bought an ST to take the place of my ageing BBC Micro but I still wanted to be able to access services like Prestel" said Connors "I didn't set out to write a commercial package just something that I could use myself"

But now there is a good chance FLying STart could be taken up by one of the major comms software publishers and it has already been enthusiastically reviewed by Micronet

ATARI has entered the modem war in the United States with a 1200 baud full duplex Hayes-compatible device priced under $100.

It will serve Atari's entire range of ST and 8 bit machines and is expected to appear in the shops within weeks.

But the modem is unlikely to be seen in the UK due to the long drawn out process of obtaining specifications approval by BABT.

The package will work with any V21/V23 modem and has full colour or monochrome text and graphics It can handle scrolling bulletin boards and is fully menu driven

Connors is currently working on enhancements that will lead to a V 1 03 version to follow the existing V-1 01 product at a somewhat higher price

Meanwhile modem manufacturer Miracle Technology is putting the final touches to a powerful integrated ST comms software package called SuperTerm which it intends to launch on the Atari stand at the PCW Show in September

It will have standard Ascii and Viewdata/Prestel modes of operation based on the GEM environment with VT100 emulation Users can select from low or high resolution displays

SuperTerm will have capability for telesoftware downloading file transfer print frames to printer and carry an in-built telephone directory

Baud rate will be selectable between 300 full duplex up to 2400 full duplex and the complete package is expected to cost just under £50

Bundled with Miracle a new Hayes-compatible WS4000 modem It will be offered as a complete comms system for the ST at under £200

Trivial Pursuit for Atari

TRIVIAL Pursuit currently the world's most successful board game is to be released by Domark for Atari users early next year

With 70 million copies having been sold worldwide – three million in the UK – there was fierce competition among software companies to obtain the rights to produce a home computer version of the game

Domark's joint managing director Mark Strachan said "We're delighted that the Trivia people chose us

The game will be very similar to the board version with the computer displaying the board and running the game

A minimum of 3 000 questions will be included with the program some with text only but nearly half with sound and graphics

To make replacement questions easier to market Domark is using a new system UniLoad which will mean that other versions can use the same data tape

Strachan said We have already had 40 000 advance orders

It is expected to sell for about £14 95

TEENAGERS SUE OVER ATARI GAME

A MILLION dollar suit has been filed against the Atari Games Corporation by two teenagers from Redwood City California

The boys are claiming that the bestselling arcade game Paperboy released by the Warner Communications controlled company had been written by them

Mark Caeser 14 and Robin Hollingsted 16 say they sent an outline of the game to Atari back in 1983

So they were somewhat surprised two years later when they came across the game in a local arcade It involves a paper boy whose attempts at delivery are hampered by vicious dogs fast moving cars and a series of other obstacles

Since its release It is reported to have been a big hit in coin arcades across the States

The boys now have a top Californian attorney representing them in their case against the company

Atari officials are refusing to comment on the story insisting that they have yet to receive a copy of the action against them



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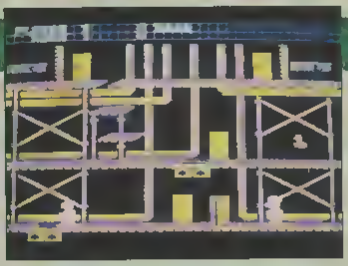
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Platform yawns



Program Bear Bally Burt's Brew Biz
Price £2.99 (cassette) £4.99 (disc)
Supplier Americana Software c/o US Gold Unit 2 and 3 Holford Way Holford Birmingham B6 7AX Tel 021-356 3388

Sorry to have to report that despite the intriguing title this game is nothing more than another one off the seemingly interminable production line of platform games. In fact the only unusual thing about it is the title. Score zero for originality.

The game is described on the packaging thus: "32 fast action screens of action-packed exciting fun as Burt wanders through the Brewing Factory."

There may well be 32 screens but after a few plays I was so bored that I had no desire to put that statement to the test. The screens I did manage to stay awake through were certainly neither fast-action exciting or action-packed. Snail-action monotonous and yawn-packed would be more apt.

The Burt of the alliterative title is a blobby pink figure who can run left and right (taking a bit of time to get up steam) and can jump sit down and fire bullets.

The game begins outside the factory where there are separate entrances for shipping production and control each of which leads to a different part of the factory.

Basically each screen is a series of stages dotted with doors through which the meanies without which no platform game is complete appear.

Each shooting meanie looks exactly the same as the last shooting meanie. Kill one and another eventually appears from the same door.

As well as meanies platforms and doors there are moving trucks escalators rolling barrels and blowers the latter gently floating Burt upwards to a higher platform. Moving off a certain edge of most screens usually takes you to another screen.

Don't ask me what the object of the game is – the minimal instructions were silent on that point. About the only thing they do tell you is that the game can be played by one or two players.

The gameplay was dull the graphics mediocre the use of colour unimaginative the animation basic and the sound below average.

Granted it is inexpensive but if you really want a cheap but enjoyable platform game better by far are Ollies Follies and Nuclear Nick from the same company.

Bob Chappell

Sound	*4*
Graphics	*5*
Playability	*4*
Value	*5*
Overall	*4*

Platform fun



Program Nuclear Nick
Price £2.99 (cassette) £4.99 (disc)
Supplier Americana Software c/o US Gold Unit 2 and 3 Holford Way Holford Birmingham B6 7AX Tel 021-356 3388

SURPRISE surprise. Nuclear Nick is yet another platform game. Nothing wrong with that provided the game challenges and entertains – and this one certainly does.

You control Nick the usual running jumping bimbo whose job it is to whizz around various platforms grabbing the goodies and blitzing the baddies.

The basic villains of the piece are patrolling roly-poly robots whose very touch spells lights out for our hero. Although Nick has no weapons he can strike back by eating what appear to be – I hope you're ready for this – radioactive hamburgers!

I say appear because US Gold sent no instructions with my review copy. But given the title the flashing of said burgers the fact that Nick immediately starts to pulsate and glow after feeding his face and the dire consequences for the robots it seems a fair deduction.

That being so the game deserves to win the equivalent of the Jules Rimet trophy for daffy plots not to mention the matter of questionable taste (no pun intended).

Gobbling down a jumboburger gives Nick several seconds worth of radioactive indigestion enabling him to neutralise as many robots as he can reach before his digestive system returns to normal. Once victorious Nick can progress to the next screen.

Further points can be amassed by gathering up small suspended bricks (nuclear waste antacid tablets?) along the way. Nick has five lives and 20 screens to cross each tougher than the last.

While the robots and burgers are always the same in appearance if not quantity each screen has a different configuration of platforms.

The graphics are crisp and attractive and though there is no music sound effects are generous and I think appropriate (have you ever swallowed a radioactive burger?).

The game is simple to get into while the difficulty of the screens range from taking candy from a baby to *expletive deleted*.

Despite its dubious scenario and unsubtle content Nuclear Nick is a pretty good platform game. And at the cheapo asking price it's a genuine bargain.

Bob Chappell

Sound	*7*
Graphics	*8*
Playability	*8*
Value	*9*
Overall	*9*

Question time



Product FQ – The Party Quiz Game
Price £13.95
Supplier Suncom c/o Software Express 514-516 Alum Rock Road Alum Rock Birmingham 8S 3HX Tel 021-328 3585

SINCE the advent of the Trivial Pursuit quiz game dining rooms have been buzzing until the early hours of the morning with questions and answers on a variety of general knowledge topics.

As parents and children recreate long-forgotten family evenings even the trusty TV faded into the background and the ever popular home micro began to feel somewhat neglected.

But fear not help is at hand for you micro addicts who suffer withdrawal symptoms from even one night's absence from your box of bytes.

Suncom has released a computer version of this popular family general knowledge game in the form of Party Quiz. You can liken it to the video game seen currently in many public houses.

You are provided with four neat and well built quick response hand controllers so that the game can be played without using the keyboard.

All the controllers plug in to one interface box which in turn connects to both joystick ports. There are four buttons on the controllers and they correspond to the numbered answers that appear on the screen.

There are two types of questions – a multiple choice which displays four possible answers with only one correct and a straightforward true/false variety requiring the use of only two of the four buttons.

Two discs contain all the questions with the Atari version on side A. These questions are pure general knowledge with no specialist subjects as in the table top game.

Once the game is loaded pressing Option displays a menu screen. From here you can alter the game format by selecting the number of players the response time for each quiz the number of rounds type of game and whether any of the four players is to be handicapped or not.

The response time can be set to 10 seconds five seconds or a challenging three seconds and a visible countdown bar in the main game reduces in length at a speed relative to this response time as you attempt an answer.

You can have up to 20 rounds with each round containing 10 questions.

There are also lightning bonus rounds where the computer randomly selects a player who is given 20 seconds to answer up to 10 questions. It then picks another player until all have had a crack at the bonus round.

The type of game can be altered between competitive and social. In the former only the first correct answer scores whereas in the latter all players may attempt an answer with all correct answers scoring.

Handicapping any player from the main menu screen immediately reduces his response time by half. His controller is automatically rendered inactive until half the response time has elapsed.

The computer automatically takes care of the scoring and at the end of the game all the players are rated according to their performance.

The game is obviously meant for the American market as the questions generally orientate around American culture history and general knowledge.

For example the question 'The area code for Las Vegas?' would probably leave even the most experienced Mastermind addict clueless.

There are no graphics in this game and the little use made of sound is restricted to highlighting the decreasing countdown bar but this does add somewhat to the tension when you are deep in thought.

The idea of four separate controllers is great and makes for quick responses but this game has been introduced too late as Triv a fever has already begun to dwindle.

It's a worthy effort but not for me. The general knowledge addicts among you may quite enjoy it but it's rather expensive for what you get – and you are going to have to brush up an awful lot on America.

David Andrews

Sound	*5*
Graphics	*N/A*
Playability	*8*
Value for money	*3*
Overall	*8*



Party Quiz comes complete with two discs a manual and four controllers

It's a great war...



Program Beach-Head II
Price £34.95
Supplier Access Software c/o Software Express 514-516 Alum Rock Road Alum Rock Birmingham B8 3HX Tel 021 328 3585

AS you'll have gathered from the title this is the long awaited follow-up to the very successful Beach-Head. And for the money this is better than the original.

Sub-titled The Dictator Strikes Back! It is a two-player game with your opponent being either another player or the computer. Against the computer... it doesn't matter which side you play for the computer will control the other.

Like its predecessor Beach Head II has four distinct sequences. The first Attack is probably the best. In it the Allies drop troops from a helicopter ready to begin the assault against the Dictator's stronghold.

The troops have to be parachuted evenly behind a four-section rear wall from which they must advance down the screen to a two-section wall.

From here they scramble towards the door of the enemy's lair and out of reach of the machine gun which all the time has been rat-a-tat tatting away at them leaving a pockmarked battlefield.

Men can be sent over the wall as a diversion and grenades can be hurled at the gun but the ultimate objective is to get at least one man to the door.

In Rescue escaping hostages have to flee across an open courtyard. The Dictator has four methods of stopping them – dropping stones from a wall placing mines from trap doors hidden in the courtyard and sending out tanks and rocket launching trucks. The Allies try to fend off all these attacks with a captured machine gun.

Escape has the hostages up in a helicopter which is under attack from the Dictator. Graphically this is the weakest of the four scenarios though still pretty exciting to play.

The final sequence Battle has the Dictator (the Dragon) and the head of the Allies (J P Stryker) facing each other in a head to head across an underground river.

Perched on long platforms the two hurl poontas (sharpened wooden sticks. It says here) at each other for several rounds.

The throws can be straight or curved and small speech bubbles appear to let you know the rivals innermost thoughts.

First one to get impaled with four poontas is a sissy and falls off the platform and into the river.

There is an option to practice any screen and an automatic demo mode to show you how it should be done.

I missed the speech synthesis of the Commodore 64 version but even so this is still a superb game.

The animated action and use of sound are a treat. The game offers bags of thrills and spills and is one of the best releases for the Atari this year. Not to be missed.

Bob Chappell

Sound	8
Graphics	9
Playability	8
Value	8
Overall	9

Good simulation



Program Solo Flight II
Price £9.95 (cassette) £14.95 (disc)
Supplier US Gold Unit 2 and 3 Holford Way Holford Birmingham B6 7AX Tel 021 356 3388

SOLO Flight II is an American real-time flight simulator which has been around quite some time. This is an updated version providing a better cockpit control layout and a built in flight trainer.

The simulation is based around the light monoplanes of the late 1920s and early 1930s particularly the Ryan S-T series and offers flying practice together with a Mail Pilot game in which you can put your learned flight skills to a considerably sterner test.

The screen display is unusual. The bottom half is taken up with the expected cockpit controls while the remainder provides a view not only of the landscape but also oddly enough of your plane.

Your viewpoint is from just above and behind your plane from which a shadow is cast at low altitudes. You can also switch to a left right or backward view from the cockpit.

While it might seem a bit strange at first it works out quite well and makes flying the plane that much easier.

The comprehensive and clear instrumentation includes indicators for throttle airspeed altitude artificial horizon vertical velocity flaps and VOR radial. There is also an altimeter fuel gauge lights for brake landing gear and engine overheat. DME (direct measuring equipment) ILS glidescope indicator and magnetic compass.

In Flying Practice mode you can select the American state you will fly across (Kansas Washington or Colorado) and the weather conditions clear windy or IFR (instrument flight rules – low cloud).

Or if you prefer you can simply practice landing.

You can also be accompanied by an on board flying instructor. The instruction takes the form of text messages such as 'You are too high. Push forward' which appear across the bottom of the screen.

Each message repeats until you obey it, but the tuition can

be switched off at any time by a single command There is no speech synthesis in the Atari version

In Mail Run mode your job is to deliver sacks of mail across different states to their destinations in as short a time as possible You can select the level of difficulty from student (easiest) to command pilot (most difficult) and decide which destinations and how much mail and fuel to carry



As the game progresses weather conditions deteriorate and depending on the skill level selected your plane may develop mechanical and instrument malfunctions

The graphics are fairly rudimentary and the display a little slow and jerky

Even so this unusual flight simulator is pleasantly easy to get to grips with particularly given the presence of the onboard instructor The Mail Run option is an added bonus

Enjoyable and entertaining the new Solo Flight has much to command it

Bob Chappell

Sound	5
Graphics	7
Playability	8
Value	8
Overall	8

The big topper

Program Ballyhoo
Price £27.95
Supplier Infocom c/o Silica Distribution 1-4 The Mews Hatherley Road Sidcup, Kent DA14 4DX Tel 01-309 0300

As you trudge along in the wake of the outflowing crowd, you thumb through your memories of this evening. Your experience of the circus, with its ballyhooed promises of wonderment and its ultimate disappointment, has been to sink your teeth into a candy apple whose fruit is rotten.

Never mind the outrageous prices, the [illegible]

WHAT connection is there between a sucker an Annie Oakley and a First of May? All those who shouted 'Circus!' give yourself a cuddly toy To put the rest of you in the picture a sucker is a circus goer an Annie Oakley is a ticket and a First of May is a novice circus performer

Now the only reason I happen to be knowledgeable about circus lingo is because I've been playing Ballyhoo Infocom's latest standard level text adventure In Ballyhoo all the action takes place in a circus where the shabbiness of this particular big top is matched only by the seediness of the performers

Loitering after the show was over I managed to eavesdrop on a conversation between the circus owner Munrab (try spelling it backwards) and a private detective It seems that Chelsea the owner's daughter has been kidnapped and might have been stashed somewhere on the circus lot Since the gumshoe appears to be about as competent as Clouseau I decided upon a little sleuthing of my own



The adventure is full of fun and originality and I got to meet many interesting characters For instance there is Tina a lady so fat she occupies two locations at once! When I tried to get a little closer to her massive bulk I was told 'The slope's too steep!

There's more to Comrade Thumb a diminutive Russian and the ineptly named Chuckles a surly clown then first meets the eye while a visit to Andrew Jenny (half man half woman) proves a most confusing experience And having my bumps felt palm read and being placed in a hypnotic trance by Rimshaw the incomparable are not things I shall forget in a hurry either

Then there are the animals Fancying my chances as a lion tamer I stepped boldly into the lion's cage to put them through their paces Exit stage right ripped to pieces but somewhat wiser Maybe there was better luck to be had with Mahler the fearsome gorilla The question was – should I enter his cage wearing that ridiculous gorilla costume I'd found lying about?

Drawing a veil over my experiences with Mahler I turned to my exploits as a high-wire artist Here I had the opportunity to excel – and would have done if some roustabout hadn't removed the safety net when I wasn't looking Result – back again to being the human platypus in one of the sideshows

The mystery and danger intrinsic to the plot of Ballyhoo is well seasoned with wit and humour I particularly enjoyed an encounter with the Egress – a rare but ferocious mammal – and elsewhere being able to vent my feelings during the moment between doing something painful and actually feeling the pain

Yes Infocom has done it yet again Ballyhoo is a superb adventure full of intrigue originality and intelligent humour Don't miss it

Bob Chappell

Sound	N/A
Graphics	N/A
Presentation	10
Value	10
Overall	10



Now let's get things moving...

Part Four of STEPHEN WILLIAMSON'S series on player missile graphics

THIS time I will show how to move players around the screen by using animation techniques.

Program I demonstrates the basic method for moving players. The first section, lines 50 to 150, contains the standard player missile initialisation routines that you will be familiar with if you have followed this series so far.

POKE 755,0 in line 50 switches off the cursor, so if you stop the program and want to switch the cursor back on, either press Reset or type POKE 755,2.

Moving a player horizontally is straightforward. You simply increase or decrease the value held in the horizontal register corresponding to the player you wish to move. A list of these registers was given last month, but in case you do not have a copy handy, they can be summarised as follows:

- Registers 53248 to 53251 are the horizontal registers for players 0 to 3.
- Registers 53252 to 53255 are the registers for missiles 0 to 3.

One problem with the horizontal registers is that you cannot PEEK them to find out the current horizontal position of the player or missile stripe.

If you type

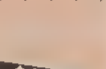
```
POKE 53248,140
PRINT PEEK(53248)
```

you would expect the micro to print the number 140, the value you have just stored in location 53248. Instead you get the number 0. So where has 140 gone? The Antic chip has taken 140 into its inner workings, altered the horizontal position of the player stripe accordingly and then immediately reset the value held at 53248 to 0 before the PRINT PEEK (53248) instruction has been handled. This is all very inconvenient if you want to keep track of the horizontal coordinate of the player stripe.

For most animation procedures we need to assign a variable to hold the current player stripe position. Line 170 of Program I uses the variable *HORIZ* to store the current horizontal value of the player 0 stripe, which is initially 130.

Line 180 assigns another variable,

```
10 REM PLAYER MISSILE GRAPHICS
20 REM BY STEPHEN WILLIAMSON
30 REM FOR ATARI USER
35 REM PLAYER ANIMATION
40 REM PROGRAM 1 PART 4
50 GRAPHICS 0:SETCOLOR 2,0,0:POKE 755,
0
60 PMB=PEEK(106)-16
70 POKE 54279,PMB
80 PMBASE=PMB*256
90 FOR J=0 TO 255:POKE PMBASE+1024+J,0
:NEXT J
100 FOR J=0 TO 11:READ A:POKE PMBASE+1
024+140+J,A:NEXT J
110 POKE 559,62
120 POKE 704,204
130 POKE 712,14
140 POKE 53248,130
150 POKE 53277,3
160 POSITION 6,10:? "USE JOYSTICK TO M
OVE PLAYER"
170 HORIZ=130:VERT=140
180 S=STICK(0):RESTORE
190 IF S=11 THEN HORIZ=HORIZ-1
200 IF S=7 THEN HORIZ=HORIZ+1
210 POKE 53248,HORIZ
220 U=0
230 IF S=14 THEN VERT=VERT-1:U=-1
240 IF S=13 THEN VERT=VERT+1:U=1
250 IF U=1 THEN FOR J=0 TO 12:READ A:P
OKE PMBASE+1024+VERT+J,A:NEXT J
260 POSITION 8,12:? "HORIZONTAL POSITI
ON =  ";HORIZ
270 POSITION 8,21:? "VERTICAL POSITION
=  ";VERT
280 GOTO 180
256 DATA 0,48,146,214,254,236,254,238,
236,170,68,16,0
```



LINE CHSUM	LINE CHSUM	LINE CHSUM
10 14906	20 18119	30 14706
35 13197	40 13773	50 6965
60 2778	70 2888	80 2702
90 7735	100 9405	110 2571
120 1030	130 1930	140 2560
150 2128	160 9210	170 3901
180 3501	190 9286	200 58806
210 3164	220 679	230 5474
240 6481	250 12410	260 3020
270 9332	280 1632	290 7670

Program I

S to hold the value of STICK(0) which is the status of the joystick The values are 11 – left 7 – right 14 – up 13 – down and 15 – centre

Lines 190 and 200 check to see whether *S* is 11 or 7 – joystick pointing left or right and alters the value of *HORIZ* by one according to which direction the player is to move

Line 210 POKEs the value held in *HORIZ* into the horizontal register for player 0, to move the player stripe one position to the right or left Each movement of the player stripe is equal to the width of one pixel

The display at the bottom of the screen gives the current horizontal value At a value of 48 the player starts to leave the blue area and moves across the background until if you continue to move the joystick left it will move off the screen You can continue decreasing the horizontal value although this will have no affect on the screen display

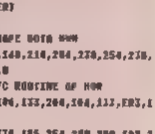
If the value of *HORIZ* goes below 0 or above 255 you will get an error message as the program reaches line 210 and tries to put the value of *HORIZ* into the horizontal register 53248 This is because you cannot poke a number more than one byte or less than 0 into a single memory address

To avoid this problem, it is normal for a player missile program to contain error trapping routines Program I does not have error routines so that you can experience what happens when you try to move a player too far but Program II does include one

So much for horizontal movement which is simple to operate When it comes to vertical movement things are a little more complicated It is not actually possible to move the player stripe vertically It will always stretch from the top of the screen to the bottom no matter how many or how few pixels are plotted within it

We saw last month how when you store the shape data into the appropriate player data area the distance within that area from which you start to load the data determines the vertical position of the shape This is why in line 100 the data for the player shape is loaded 140 bytes from the base of the player 0 data area to make sure that the bug appears part way down the screen

```
10 REM PLAYER MISSILE GRAPHICS
20 REM BY RICHARD HALLDAY
30 REM FOR ATARI USER
35 REM PLAYER ON/OFF/COLOUR
40 REM PROGRAM 1 - PART 1
50 GRAPHICS 0:SETCOLOR 2,0,0:POKE 752,
0
60 PMB=PEEK(106)-16
70 POKE 54279,PMB
80 PMBASE=PMB*256
90 FOR J=0 TO 255:POKE PMBASE+512+J,0
 NEXT J
100 FOR J=0 TO 12:READ A:POKE PMBASE+5
24+J,A NEXT J
110 POKE 559,62
120 POKE 704,104
130 POKE 53248,128
140 POKE 712,14
150 POKE 53277,3
160 POSITION 8,10:? "USE JOYSTICK TO M
OVE PLAYER"
170 FOR I=0 TO 4:READ A:POKE PMBASE+I
,A NEXT I
180 HORIZ=128:VERT=148
190 S=STICK(0):RESTORE
200 IF S=11 THEN HORIZ=HORIZ-1
210 IF S=7 THEN HORIZ=HORIZ+1
220 IF HORIZ<48 THEN HORIZ=48
230 IF HORIZ>192 THEN HORIZ=192
240 POKE 53248,HORIZ
250 IF S=14 AND VERT>12 THEN A=USR(PEE
K(560)+256*PEEK(561)+6):VERT=VERT-1
260 IF S=13 AND VERT<212 THEN A=USR(PE
EK(560)+256*PEEK(561)+6):VERT=VERT+1
270 POSITION 6,20:? "HORIZONTAL POSITI
ON =  ";HORIZ
280 POSITION 6,21:? "VERTICAL POSITION
 =  ";VERT
290 GOTO 190
300 REM *** SHAPE DATA ***
310 DATA 0,48,120,216,204,220,254,238,
206,126,96,16,0
320 REM *** M/C ROUTINE OF 140
330 DATA 104,104,133,204,104,133,203,1
69,1,177
340 DATA 203,133,205,254,200,200,192,2
,208,245,96
350 REM *** M/C ROUTINE DOES 141
360 DATA 104,104,133,204,104,133,203,1
69,2,177
370 DATA 203,200,145,203,136,136,192,2
,208,245,96
```




```
LINE CHSUM    LINE CHSUM    LINE CHSUM
  10 15784      30 15928      50 15700
  35 14757      40 14005      55  5305
  60  2778      70  2866      80  2301
  90  7235     100  9405     110  1971
 120  2858     130  2008     140  2918
 150  2135     160  9210     170  8167
 180  3681     190  1201     200  6286
 210  6603     220  8016     230  5207
 240  2164     250 13747     260 11741
 270  9626     280  5131     290  1015
 300  3688     310  7676     320  4671
 330  6373     340  7805     350  8316
 360  6606
```

Program II

If you alter line 100 by changing the 140 to 141 the bug will appear one pixel further down the screen 139 would display a player one pixel further up

It should now be obvious how to give the illusion of vertical movement We need a routine to move the whole of the shape data one byte further up or one byte further down in memory Line 250 performs this function

First line 170 assigns the variable *VERT* to hold the current value of the vertical position of the player in the same way as the variable *HORIZ*

Lines 230 and 250 check for the up and down positions of the joystick and increase or decrease the value of *VERT* accordingly If the joystick has been moved up or down then the variable *V* is set to one *V* acts as a flag When *V* is one then the vertical movement routine in line 260 is actioned When *V* is zero and therefore no vertical movement is required the routine in line 260 is ignored

The routine in line 260 is similar to the shape data loading routine in line 100 and loads the shape information into the player 0 data area Instead of adding a fixed value of 140 like line 100 the variable *VERT* is added to the base address of the player 0 data area (PMBASE + 1024) so that the bug will appear to move a distance equal to one pixel up or down

The data statement for the player 0 shape is contained in line 290 Notice that there is a zero at the beginning and end of this shape data which is there to erase the previously plotted pixel from the top or bottom of the last player shape

To see what happens when this is left out alter line 290 by deleting the two zeros and change the loop count in lines 100 and 250 from 12 to 10 so that the correct amount of data is read Now when you run the program strange things happen! A trail of pixels forms as you move the joystick up or down

The RESTORE statement in line

→

180 allows the data to be re-read in line 250

You probably won't be very impressed by the Program I demonstration of vertical movement. The bug is not very lively, travelling more like a snail than an insect with a rippling effect as the pixels are replotted.

There is not much that can be done about this. If we are to stick to Basic, the replotting routine in line 250 takes time, and there will always be a noticeable delay as the program keeps updating the information held in the player data area.

If you want to add some zest to the program you have to enter the realms of machine code.

Program II is an improved version of Program I that includes two machine code routines: one for up movement and the other for down.

Don't worry if you do not have a clue about machine code. The two routines can be copied and included for use in your own player missile programs without having to understand exactly how they work.

If you run Program II it will at first look very much like Program I with the same bug waiting for you to move it with the joystick. But when you move it up or down you will see that the animation is much smoother.

Line 170 reads the data contained in lines 300 to 370 – the machine code routine – and stores it in the unused part of the player missile data area. This unused area is not needed by the player missile system and is 768 bytes long for single resolution players and 384 bytes long for double resolution players – plenty of room in which to store machine code routines. See the player missile data area map in July's *Atari User*.

The first routine – 21 bytes long – is placed in the unused area from PMBASE upwards and the second routine starts at PMBASE plus 21.

The routines as they stand will control any player or missile up to 20 pixels in height. To use the routine for taller players alter the number 22 in line 340 to two greater than the player height and the 21 in line 360 to one greater.

Horizontal movement in Program II is handled in the same way as Program I. An error trapping routine has been inserted in lines 220 and 230 that stop *HORIZ* becoming less than 48 or more than 202. This means that the player cannot leave the playfield 0 area and, of course, it also prevents an error message occurring due to the value of *HORIZ* going below 0 or above 256.

Lines 250 and 260 control vertical movement by calling up the machine code routines.

VERT, the vertical coordinate variable, is first checked to make sure that it is not greater than 32 or less than 212 – when the player is at the top or bottom edge of the playfield – before passing control of the program to the appropriate machine code routine.

The formula for using the routine is:

A=USR (machine code address, player address plus vertical position)

Following this formula the call-up routine in line 250 becomes:

A=USR(PMBASE, PMBASE+1023+VERT)

The up machine code routine starts at PMBASE and the down routine at PMBASE+21.

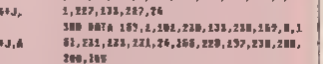
For the routines to operate correctly *VERT* must be increased or decreased by no more than one at a time.

After the routines have been called up and the player replotted *VERT* is adjusted by one ready for the next replotting operation.

Once you know the correct data for the up and down machine code routines then operating them is no more difficult than the pure Basic routine used in Program I – but the effect is much better.

Program III introduces another animation effect and another machine code routine. In this program the

```
10 REM PLAYER ANIMATION
20 REM BY STEPHEN MADSEN
30 REM FOR ATARI USER
40 REM VERTICAL ANIMATION
50 REM PROGRAM III: PART 4
60 GRAPHICS 0:POKE 755,0
70 SETCOLOR 2,0,0
80 PMB=PEEK(106)-16
90 POKE 54279,PMB
100 PMBASE=PMB*256
110 FOR J=0 TO 255:POKE PMBASE+1024+J,
0:NEXT J
120 FOR J=0 TO 96:READ A:POKE 2520+J,A
:NEXT J
130 FOR J=0 TO 25:READ A:POKE PMBASE+J
,A:NEXT J
140 POKE 559,62
150 POKE 704,204
160 POKE 712,34
170 POKE 53277,3
180 HORIZ=130:VERT=140
190 ?"STICK(0) DEVICE"
200 IF S=11 THEN HORIZ=HORIZ-1
210 IF S=7 THEN HORIZ=HORIZ+1
220 IF HORIZ<48 THEN HORIZ=48
230 IF HORIZ>202 THEN HORIZ=202
240 POKE 53248,HORIZ
250 IF S=13 THEN VERT=VERT+1
260 IF S=14 THEN VERT=VERT-1
270 IF VERT<32 THEN VERT=32
280 IF VERT>212 THEN VERT=212
290 A=USR(1536,PMBASE,PMBASE+1024+VERT
,32)
300 POSITION 6,20:? "VERTICAL POSITION
  =  ";VERT
310 POSITION 6,22:? "HORIZONTAL POSITI
ON=";HORIZ
320 GOTO 190
330 DATA 104
340 REM *** M/C VERTICAL ROUTINE **
350 DATA 104,201,3,208,81,104,133,205,
206,133,224,204,133,227,204,133,226,10
4,133,229
360 DATA 104,133,208,165,0,133,210,133
,212,168,177,224,145,226,24,165,1,101
370 DATA 224,133,226,165,0,101,225,133
,225,24,165,1,101,226,133,226,165,0,10
1,227,133,227,24
380 DATA 165,1,101,210,133,210,165,0,1
01,211,133,211,24,165,229,157,210,208,
200,104
390 DATA 217,197,133,205 ,96,96
400 REM *** SHAPE DATA ***
410 DATA 0,48,120,254,254,120,254,238,
238,170,56,16,0
420 DATA 0,48,28,28,56,48,56,48,48,48,
56,16,0
```



LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
10	12672	20	14062	30	12666
25	13922	40	12847	50	6501
60	2738	70	2720	80	2656
90	2703	100	7210	110	7544
120	8182	130	1721	140	2058
150	1938	160	1226	170	2481
180	1943	190	6695	200	6666
210	5816	220	8202	230	3184
240	4854	250	4866	260	4578
270	4888	280	7265	290	7568
310	9335	320	9833	330	1632
340	5917	350	12223	360	10725
370	13216	400	12960	390	4275
400	5656	410	7876	420	8750

Program III

shape data is not initially loaded into the player data area but is stored in the unused portion of the player missile area by line 120

Twenty-six numbers are read which are made up of two 13 number shapes The first is the familiar shape of the bug seen in Programs I and II and the second looks like the bug without its wings

The machine code routine is loaded into page 6 Addresses 1536 to 1792 – page 6 – are not generally used when Basic programs are running so can be used as an alternative location for storing machine code routines as long as these do not exceed 256 bytes in length

Again it is not necessary to understand how the machine code routine is written What the routine does is transfer the contents of a specified area of memory to another area of memory This can have many applications, but it is ideal for use with the player missile graphics system The format to access the routine is

A=USR (machine code address, from address, to address, number of bytes)

Line 280 uses this routine to transfer the contents of the first 13 bytes above PMBASE to the appropriate area within the player 0 data area Once again as in Program II the vertical position is decided by the variable *VERT*

Line 290 then takes the next 13 bytes above PMBASE and stores them in the same place within the player 0 data area

The effect is to display the bug shape on the screen immediately followed by the shape of the bug without its wings to give the illusion of flapping wings However this type of shape swapping animation is not restricted to two shapes Using more than two can create much more sophisticated animation – figures walking, or Pacmen gobbling for example

Whether you use this routine or those in Program II is a matter of personal preference I prefer the Program III routine because although it is longer – 81 bytes as against 42 for the other two – it is more adaptable

Try changing Program III by altering the shape data or including more than two shapes to create your own animation epic

● *So far, to keep things simple, I have shown how to display and animate one shape at a time Next month we will look at how to display more than one player, and at how players and playfields can interact with each other*

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Controlling mains appliances

The accent is on safety in Part 3 of LEN GOLDING's series on using your Atari to control devices

LET'S give your computer the power to control mains appliances. It can be operated directly from the keyboard, by a Basic program, or by external sensors such as light or heat detectors.

There are two independant channels, expandable to four and each channel can handle 750 watts. For now we'll look at the electronics and theory of operation. Next month we'll describe the practical construction and programming.

Safety is our first consideration because no matter what design is used, the control box must have a mains cable going in at one end and a joystick lead coming out of the other.

If ever the twain should meet, your computer — or at very least its PIA chip — will rapidly depart this life and may attempt to take you along with it.

This design has two separate stages of protection — an opto-isolator on the input circuit and mechanical relays to handle the mains voltage outputs.

Let's look at the opto-isolator first. Figure I shows in schematic form how it works — you may recognise the symbols from last month. It has two components housed together in a light-proof package. The input is a conventional light-emitting diode and the output is a phototransistor which switches off in darkness and on when illuminated.

The only link between input and output is a beam of infra red light and there's no way that high voltages can cross the gap. Your computer sees only the LED side — all the dangerous work is done by circuitry which it never needs to know about.

Since our controller has two channels we need two opto-isolators and for convenience we've used a dual type which has everything contained in a single 8 pin package.

A second level of mains isolation is achieved by using mechanical relays to do the actual switching. Relays come in many shapes and sizes but they all work on the same principle — see Figure II.

A coil of fine wire generates a magnetic field when current flows through it and the magnetic attraction is used to operate one or more sets of switch contacts. The coil uses little power and can operate on low voltages but the switch contacts can handle much higher voltages and currents.

Since the coil is heavily insulated from the switch contacts, mains voltages cannot get through to the low-voltage lines.

Figure III shows the circuit for the complete mains controller with its three distinct stages. Stage 1 is the LED circuitry which connects to the computer via a joystick port and operates on power from pin 7 (+5V).

Control signals are taken from pins 1 and 2 via resistors R1 and R2 to the base leads of TR1 and TR2 where they are amplified and made to drive LEDs A and B inside the opto-isolator. Resistors R3 and R4 limit the current through each LED to around 8mA.

The two jacks are optional — they connect to the joystick port's analog inputs so you can use external sensors — like light detectors or central heating thermostats — to control the switching action.

Stage 2 operates on a nominal 12V DC from transformer T1. The power supply is not critical so the circuit uses a simple bridge rectifier — BR1 — and smoothing capacitor — C1. The output from this network is around 14V when no load is connected, falling to 12V or so when the maximum current — about 500mA — is drawn.

An auxiliary output is provided on the terminal block so that you can tap this supply for other purposes if you wish.

When phototransistor A switches

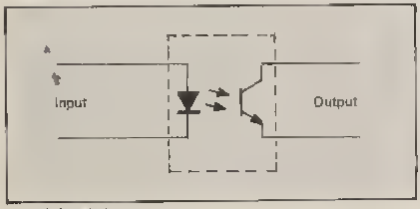


Figure I Opto-isolator

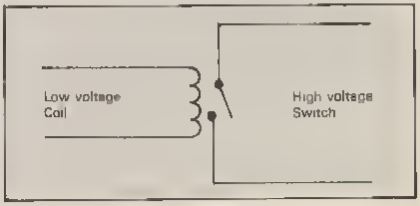
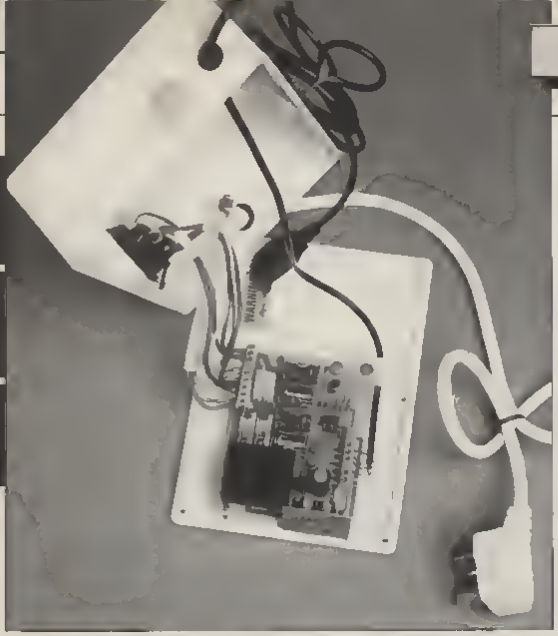


Figure II Mechanical relay



on its collector voltage falls towards 0V, causing TR3 to switch on. Current therefore flows through the coil of Relay 1, and switch SW1 operates. The same happens with TR4, Relay 2 and SW2 when phototransistor B is activated. Diodes D1 and D2 are included to suppress the voltage spikes which relay coils tend to generate.

Stage 3 is the 240V AC section containing the two relay switches each with a capacitor across its contacts to suppress sparking and mains interference. You can see that if everything is wired up correctly there is no electrical path from the mains supply to the computer.

Even if stage 2 were to become live – for example after an insulation breakdown in the relays or transformer – the opto-isolator still provides protection.

A printed circuit board is used to hold all components as this greatly simplifies construction. If you have facilities to make your own the foil pattern is shown in Figure IV with the drilling schedule in Figure V.

If you don't fancy making one yourself it's a lot easier to buy the commercially produced board from RH design – see details in the panel – especially since this comes drilled and tinned ready for use.

The basic design will suit most

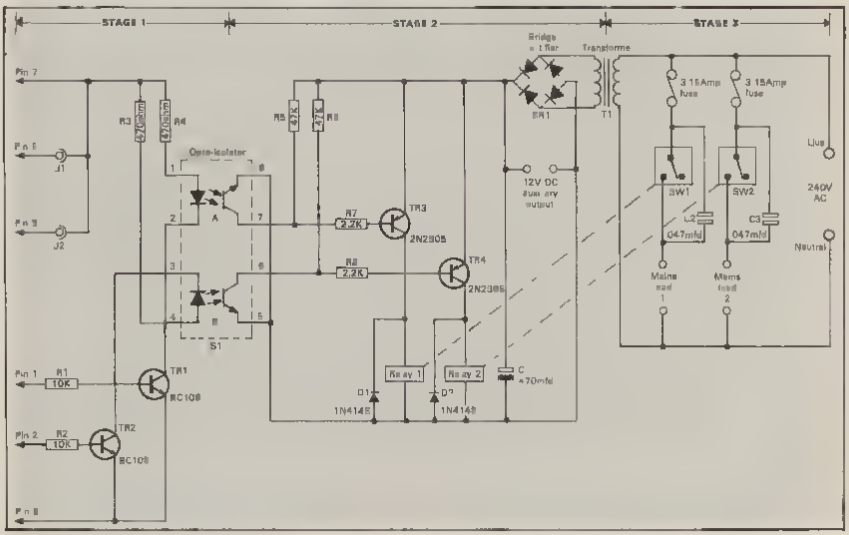


Figure III Circuit of mains controller

domestic applications and it can easily be adapted to handle specialised jobs. For example, you could use a different type of relay if won't fit on the PCB but leads to the coil can be taken from points A and B – Relay 1 or C and D – Relay 2 which are marked on the board.

You could drive two or even three relays simultaneously from each output should your application demand more current or a more complex switch configuration. It doesn't matter which way round the coils are connected, and the output transistors can each handle up to 500mA.

Mains currents in excess of 5 Amps should be kept off the PCB, so use a large screw terminal block or a junction box to connect the switch contacts of any off-board relays.

There is enough power available from the joystick ports to drive two extra channels making four in all. Use two PCBs and connect joystick pins 3 and 4 in place of 1 and 2 on the second board.

The specified transformer will supply enough current for all four channels, so you can omit T1, BR1 and C1 from the second board and just connect the 12V and 0V output terminals from one board to the other.

If you plan to drive several relays from each output ensure that their combined coils will not draw more than 500mA or you will need a more powerful off-board transformer. The bridge rectifier can handle 1.5 Amps at up to 35V.

● *Next month we'll cover the constructional details, testing and programming* ●

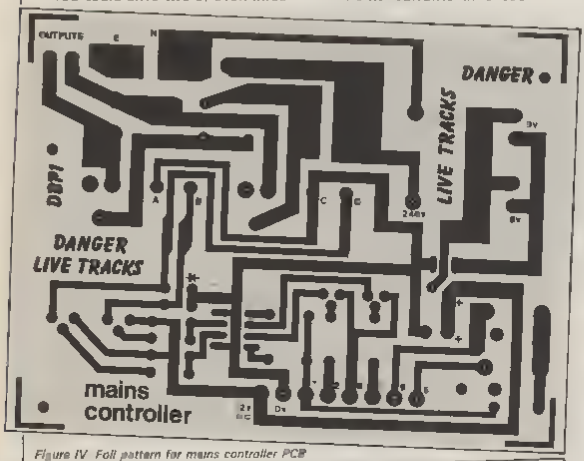


Figure IV. Foil pattern for mains controller PCB

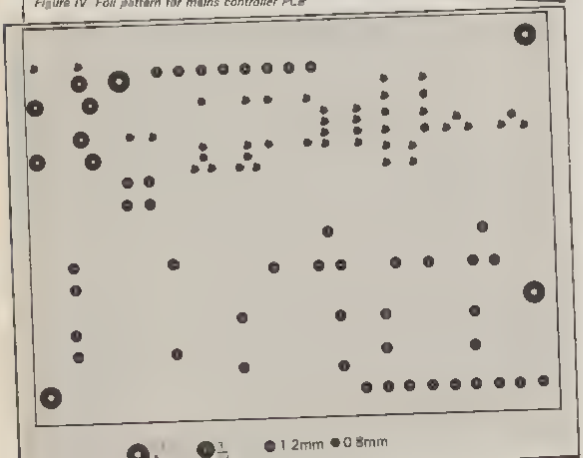


Figure V. Drilling schedule for mains controller PCB

PARTS LIST

Resistors **R1, R2** 10k (brown/black/orange) *Maplin order code M10K* **R3, R4** 470ohm (yellow/violet/brown) *M390R*. **R5, R6** 47K (yellow/violet/orange) *M47K* **R7, R8** 2.2K (red/red/red) M2K2

Capacitors **C1** 47Dmfd 25v PC electrolytic *FF16S* **C2,** C3 0.047mfd 250v AC suppressors *FF55K*

Semiconductors **TR1, TR2** BC108 transistors *QB32K* **TR3, TR4** 2N2905 transistors *QR17T* **D1, D2** 1N4148 signal diodes *QL80B* **BR1** W005 bridge rectifier *QL37S* **IS1** dual opto-isolator *YY62S*

Connectors **J1, J2** 3.5mm PCB jack sockets *FK02C* (optional) 1 8p n DIL IC socket *FJ63T*. 2 Euro facility chassis sockets *HL42V* (optional)

Miscellaneous 2 12V Flat relays *HY20W* 1 PCB mains transformer 9V *YJ63H* 2 Chassis fuse holders 20mm *RX49D*, 2 3.15 anti-surge fuses 20mm *RA11M* 1 Joystick extension lead (eg Tandy 276-1978)

Printed circuit board – order code *DBP1* – available from R.H. Design 137 Stonefall Avenue Harrogate North Yorks Tel 0423 508359 Price £3.95

Other components available from Maplin Electronic Supplies Ltd PO Box 3 Rayleigh Essex SS6 8LR Tel 0702 552911

Approximate cost £18 plus case

Going bats over Quasimodo

By Brillig

LET'S start with a success story Derren Dodds from Tyne and Wear has the answer for Joy and Dave who were struggling with Quasimodo from Synsoft a little while back. They wanted to know how to get the second jewel back to its casing. Well here's how.

Come back after getting the jewel and climb down the ladder to the platform From here you then jump onto the first rope in the series of three to the left, but you must not jump to the next rope until there is a gap in the bats

The gap will appear after 10 bats and you can then proceed Jump to the next rope and climb immediately to avoid being killed by the pesky bats You can then jump across to the next rope when there is another gap

Do not jump across to the last rope until a bat flies up behind you Then jump to the next rope go down and jump to the next ladder You then do exactly the same for the next lever

So there you are It was as simple as that Derren signs himself as a newcomer to *Atari User*, and a very valuable one at that if I may say so

Joy and Dave can now attempt to get the third jewel while I try to find out how Darren can progress after getting the skeleton from the horse in English Software's Mediator Perhaps Joy and Dave know the solution

Two people are stuck on The Pay Off from Bignose/Atari in exactly the same place They are both keeping each other company on top of the fire escape having disabled the alarm yet they are unable to get through the window without disturbing the guard inside

Messrs Purviss and Hillman are desperate to solve this one for their sanity and in Mr Purviss's case for the sake of his future marriage

To get past this obstacle you must remember that a jewel thief requires sticky fingers and this may lead you to a very professional method of stopping the glass from crashing into the bank and waking the dozy guard inside

Of course you will still need to find a way of getting the glass from the window frame so you may have to read more into this solution than is at first apparent

Nigel Burton has come up with the answer to my question on Hitch Hikers Guide to the Galaxy and the strange vocabulary identified by the Zorktools kit

Wimbgu is the equivalent of screaming However Woonbe is apparently the writer of a slimming guide book, Galexia Woonbeam As in all instances you should consult the source of infinite knowledge for further details A large T-shirt for your help is on its way Nigel, with my thanks

E Myskow also contributed a neat little drawing of the Wimbgu of Woonbe County which although not the winner was a worthy entry Mr Myskow is also struggling to get past Tarzan in Morden's Quest from Melbourne House

He assures me that he will persevere to solve this game and I can tell him that he is closer to solving it than he thinks In this game persistence will be rewarded time and time again

For this clue and a comprehensive map of the game I am indebted to Peter Dean The map is laid out very clearly and as Peter comments the password is the only obscure part of Morden's Quest

From the map I see that you ought to be able to trace a route avoiding Tarzan That should give me enough time to find the answer to the question

I also note from a previous letters column an enquiry about adventure writing programs for the Atari The only known program is Adventure Writer from Codewriter Inc who no longer trade

Gilsoft from who the program was licenced has no plans to release The Quill for the Atari so there will be no flood of amateur adventures as on other more fortunate machines

The only adventure I know of that is so written for the Atari is The Quest of Abraham Smee Andy Werwick advised me of its existence and also of the Glitch of the Month In Adventure Quest from Level 9

At the glass door in the Black Tower you do not have to hold the Mist Stone merely type IN and you will be there A medium size T shirt is on its way Andy and thanks for the info

Sorry I couldn't review the games I mentioned last month but they never arrived! Better luck next time ■



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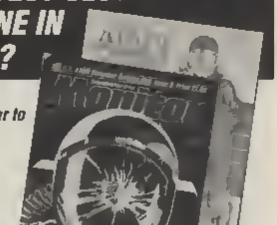
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CP/M Many people CP/M 80 packages are available. These run via the Atari CP/M emulator - some of which can be supplied free with issued Ask to details. Books also available.

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FRANK THE FRUIT FIEND

By
STEWART
BULLOUGH



OUR hero in this game is Frank, a greedy little fellow whose main aim in life is to collect and eat as much fruit as possible.

To this end you must guide him around eight different levels, each a little harder than the last, until he has devoured all of the fruit that lies scattered around.

Your time is limited though, and as you play you will see the timer at the bottom of the screen tick away relentlessly. You must find the fastest and safest route around each level in order to complete it before your time runs out.

Frank is moved left, right, up or down by moving the joystick in the appropriate direction. He can also jump by holding down the trigger button as you move the joystick. However he can only jump to something which is on the same level as he is.

If Frank can get right to the edge of a platform he can often jump that little bit further, and there are many shortcuts to be found by using this method.

Scoring is very straightforward – for each piece of fruit collected you get 10 points, and each time unit remaining upon completion of a level will gain you a bonus of 100 points.

After you've completed all eight levels you go back to level one at a higher difficulty setting.

There are four difficulty levels, and you can choose them from the main title screen by using the Select button. The higher the level, the less time you will get to finish each screen.

The machine code PMG routine was written by Anthony Hughes. This little routine is really good, and can store up to 48 different frames, so credit where credit's due for a great sub-routine.

After typing in the listing check it with the Get-It-Right! program – see Page 33 – and when it is all correct SAVE yourself a copy and simply type RUN.

The initialisation will take just over a minute, so be patient and wait for the game to begin.

```
0 REM ********************************
1 REM *     FRANK THE FAULT FINDER     *
2 REM *              by                *
3 REM *       STEWART BULLOUGH         *
4 REM *              from              *
5 REM *    HOSPITAL COMPUTING          *
6 REM *              for               *
7 REM *    ATARI USER AUGUST 1986      *
8 REM *                                *
9 REM ********************************
10 GOSUB 29600:POKE 559,62:POKE 710,4:
GOSUB 3050
500 S=STICK(0)
505 IF S = 7 THEN W=W+2:W-0 GOTO 515
510 IF S=11 THEN W=W-2:W=1 GOTO 535
520 IF S = 13 AND W<0 OR S=16 AND W(38
THEN 540
530 GOSUB 6000:GOTO 500
535 IF ST82G(0)=0 THEN GOSUB 6000:GOSU
B 7000:GOTO 500
537 GOTO 550
540 IF S = 13 THEN GOSUB 1000:GOTO 545
543 GOSUB 1100
545 IF ZZ=61 OR ZZ = 171 THEN GOSUB 660
547 GOTO 560
550 W=USR(CLOC,2,W + 2):W=USR(CLOC-1,W,
,0+M):W=USR(CLOC,0,M-W,L+W)
560 IF L=1 THEN GOSUB 1000:GOSUB 1050
570 IF L=7 THEN POKE W0,255:POKE W0,0
:GOSUB 6000
600 IF W=7 THEN W=0 L=1 GOTO 500
610 IF W=0 AND L()1 THEN W = 5 L = L-1
010 500
620 IF W=5 THEN W = W + 1 GOTO 500
630 IF W = THEN W=5 L = L-1 GOTO 500
650 REM ** JUMP **
700 W0=W-0 OL = W :L=11 M=0 JMP = 1 FOR V
= U TO V STEP -1 GOSUB 820 GOSUB 810
:NEXT U
705 FOR V = U TO V+10 STEP 2 GOSUB 820 G
OSUB 810:NEXT V:W=W-1 L=1 GOSUB 820 GOSU
B 820 GOSUB 810:POKE W1,0 GOSUB 1000
710 IF OL-7 THEN GOSUB 1050
715 W=W-1:W=W-1 OL JMP=0:RETURN
810 W=USR(CLOC-2 ,W,U,21 W=USR(CLOC-1,W,U
,W+0) W=USR(CLOC,W M,V,L+W):POKE W1,TOT
01 W=W+1:RETURN
820 IF W=0 THEN W=W+1
825 IF W = 1 THEN W=W-1
830 RETURN
865 REM ** CLIMB **
850 A=17:GOSUB 950
855 IF W=17 THEN W=11 GOSUB 880
860 IF W=13 THEN W=17 GOSUB 880
865 IF W=17 THEN W=15 GOSUB 880
870 IF W=15 THEN W = 17 GOSUB 880:GOTO 8
55
880 IF S=13 THEN W=USR(LOC-1,W,U W= W=
USR(LOC-2,W,U,2) W=USR(LOC-2 W,U,W+1)
GOTO 890
885 W=USR(LOC,W W,U,W+1) W=USR(LOC-2 W
,V,2) W=USR(LOC-1,W,V,A)
890 S=STICK(0)
895 GOSUB 4000:IF S()11 AND S()16 THEN
 920
900 IF S=16 THEN GOSUB 1100:IF ZZ=61 O
R ZZ=171 THEN U W=W-4:RETURN
905 IF S=14 THEN 915
910 GOSUB 1000:IF ZZ=61 OR ZZ=171 THEN
 W=W+4:RETURN
915 POP : A = L:7 GOSUB 1050:W=W+10:GOS
UB 940
920 S=STICK(0) IF A=17 THEN IF S=7 OR
S = 11 THEN POP : A=9:L=7:GOTO 500
925 GOTO 895
939 REM ** LOCATES **
1000 LOCATE INT(W 461/640/2),101(W/8-
2),ZZ:IF ZZ)168 THEN RETURN
1010 IF ZZ)40 AND ZZ(55 THEN RETURN
1015 IF JMP = 1 THEN 0=80SCO 11 JMP=0 GO
TO 1000
1020 GOTO 2000
1050 X2=INT(W 461/41 Y2 THEN(W/8-41 LO
CATE X2,Y2 YY = IF YY()22 AND YY()160 AN
D YY()41 AND YY()171 THEN 1000
1055 RETURN
1060 IF YY()169 AND YY()41 AND YY()170
 AND YY()47 THEN 1070
1065 RETURN
1070 SC=SC+10 COLOR 32:POKE W0 20:PLOT
 X2,Y2 POKE W0,60
1080 FG=FG+1 POKE W0,0 IF FG=NE THEN G
OSUB 5000 LEV=LEV+1 IF LEV=9 THEN LEV
= 1 LIV=LIV+1 OF DIF(1 THEN DIF=DIF+1
1085 IF FG=0F THEN FG=0 GOSUB 1000 GOS
UB 8000 POP : GOTO 500
1090 RETURN
1100 X2=INT(W-461/41 Y2 INT(0/8 2 S)-
LOCATE X2,Y2,ZZ
1110 RETURN
1999 REM ** DIE **
2000 POP : A 19 W=0 FOR V U-4 TO 200 ST
EP 6
2010 GOSUB 2160
2020 IF W(16 THEN POKE W,G0(0) W=W+1
2025 W=W+3:IF W=31 THEN W 19
2030 FOR T=0 TO 10 NEXT T:NEXT V POKE
 V1,0:GOSUB 2110 XY 106
2040 FOR V 196 TO YY STEP  6:GOSUB 210
0 NEXT U
2050 FOR V=YY+4 TO 200 STEP 4 GOSUB 21
00 NEXT U GOSUB 2110 YY=YY+6 IF YY-200
 THEN 2000
2060 GOTO 2060
2080 FOR X=0 TO 100 NEXT T LIV=LIV-1
2070 FL=1 GOSUB 3800 GOSUB 8000:GOTO 5
00
2100 W=USR(LOC 2,W,U W+1) W=USR(LOC,L
W,U,0):W=USR(LOC,0,W,U,W+1) RETURN
2110 FOR X=70 TO 10 STEP -20 SOUND 2,1
,0 15 NEXT T SOUND 2,0,0 0
2115 POKE W0 160:POKE W0,0 RETURN
2999 REM ** SCORE **
3000 GOSUB 3400 POKE 710 4
3010 IF LIV 0 THEN 3050
3020 POKE OL+9 2 POSITION LI-4 " "SCOR
E "; SC GOSUB 3200
3025 POKE OL+15 2 POSITION LI,10 " "LI
VES "; " LIV GOSUB 3200
3030 POKE OL+21,2 POSITION II,10 " "LE
VEL "; LEV GOSUB 3200 POKE W0 0
3035 IF FL=1 THEN GOSUB 3300
3040 FL=0 FOR T = 0 TO 500 NEXT T POKE 5
59 0 GOSUB 3400 GOSUB 29010 RETURN
3050 IF SC)HSC THEN HSC=SC
3055 POKE 708 56 POKE 709 166 POKE 711
 240
3060 POKE OL+9 2 POSITION 1,1 " "YOUR
SCORE "; SC POSITION 21,1 " "HIGH SC
 ORE "; HSC GOSUB 3200
3065 POKE OL+15 2 POSITION 1,3 " "YOU
R NAME IS "; NAME$ GOSUB 3200
3070 POKE OL+21 2 POSITION 0,16 " "POR
TS " ; PORTS GOSUB 3200
3075 POKE OL+25,2 POSITION 0 20 " "SEL
ECT  DIFFICULTY (+ " DIF GOSUB 3200
3080 POKE W0,0 RESTORE 9000
3085 FOR C = 5 TO 9 POKE 0:C IO 30 READ C
OL COLOR COL+31 PLOT 0,C READ COL COL+
R COL+31 PLOT 0,21 C NEXT 0 NEXT C
3085 IF PEEK(53279)=6 THEN 3100
3090 IF PEEK(53279)=5 THEN RESTORE+DIF+1 G
OTO 3097
3095 GOTO 3085
3097 IF OLF-4 THEN DIF=0
3100 POSITION 31 20 " "DIF GOSUB 3200 P
OKE W0,0:GOTO 3085
3105 POKE 559,0 GOSUB 3600
3110 GOSUB 29010 LIV=3 LEV=1 SC=0 FL=0
 GOSUB 8000 POP  GOTO 500
3200 FOR T 12 TO 5 STEP  1 POKE W0,T:0
EXT T:RETURN
3300 FOR T=0 TO 100:NEXT I IF TIM=PT(2
 THEN 3320
3310 FOR T=TIM-PT-1 TO 1 STEP  1 COLOR
 106:PLOT T,23 GOSUB 3360:NEXT I
3320 COLOR 175 PLOT 0,21 GOSUB 3340 PO
KE W0,0 POKE 53761,175 RETURN
3340 POKE W0 160 FOR V 175 TO 180 STEP
  1:POKE 53761 V NEXT U
3350 SC=SC+100 POSITION 21,4:" SC RETU
RN
3360 COLOR 32:FOR T 22 TO 0 STEP -1:IOL
OT 0,1 OOANTO 13,T NEXT T RETURN
3999 REM ** TIMER CHECK **
4000 PT=PEEK(19) IF PT TIM THEN COLOR
175:PLOT 0 21 GOTO 2000
4010 COLOR 106 PLOT TIM-PT 21 RETURN
4999 REM ** DRAW EL CAMINO **
5000 FOR I=0 TO 50 NEXT I 0=11 GOSUB 2
100 FOR T=0 TO 15 GOSUB 5100 NEXT I
5010 FOR T=16 TO 22 IF I IS 00 T=2I IN
EN 0=16 U=U-20 GOSUB 2100 FOR TT 0 TO
1 NEXT TT
5020 IF T 17 OR 1 23 THEN 0 31 U=U+20:
GOSUB 2100 FOR TT=0 TO 1 NEXT TT
5010 GOSUB 5100 NEXT I FOR I=0 TO 15 G
OSUB 5100 NEXT I
5040 FOR I=20 TO 37 GOSUB 5100 NEXT T
5050 FOR T=0 TO 20 NEXT I FOR I=60 IN
40 STEP  2 POKE W0 I POKE W0,0 NEXT I
5050 0=0 GOSUB 2100 FOR I=0 TO 56 NEXT
 I RETURN
5100 POKE W0,CL(1) FOR TT 0 TO 5 0PNT
11:NEIOOK
7999 REM ** ANIMATION **
8000 POKE 559,0 TOOP 2000 POKE 77,0 OE
STORE 8000+LEV0100
8010 READ COL
8020 READ X,Y,X1
8025 IF X -1 THEN 8010
8030 IF X= 2 THEN 8055
8040 IF COL=195 THEN FOR I=X TO X1 STE
P 2 COLOR COL PLOT I Y COLOR COL+1 PLO
T I+1,Y NEXT I GOTO 8020
8050 IF COL=61 THEN COLOR COL PLOT X,Y
 DRAWTO X X1 GOTO 8020
```

```
0065 0000 MF,COL FOR I=1 TO MF READ X,
Y
0000 IF X=-1 THEN 0000 COL,0,Y
0065 COLOR COL:PLOT X,Y:DEXT 1:X=0:FG=
0
0070 0000 0,V,D,C0,C1,C0,00,XIN,0C-A:0
.L=1 G0300 010 POKE U1,0:A=0:L ? TIM=T
AM-DIF
0075 0000 ?00,C1 POKE 709,C2:POKE 710,
C3:POKE 711,C4:COLOR 675:PLOT 0,11
0000 COLOR 174:0000TO 39,22 COLOR 106:
PLOT 0,21 0000TO 30,23:POKE 559,02 FOR
 T=0 TO 600 NEXT T 5=40 COL00 572
0050 PLOT 0,22:COLOR 172 FOR I=1 TO 11
N-1:POKE 00,5 PLOT 1,22 POKE U0,0:S=5-
1 0EXT T POKE 15,0.POKE 20,0 POKE 15,0
0055 RE?000
0100 0010 41,2,7,12,3 40,21,9,12,10,12
,0,52,40 2,2,10,1,0,22,4,0,25,41,10,20
,2,4,30,0,11,30,2,0,20,12 10
0110 0070 -1,0,0,105,1,2,2,4,2,9,12,2,
12,29,2,34,36,2 37,16,1,15,23,4,20,17,
6,22,5,0,11 12,0,45,15 0,30,1,12,4
0120 0020 7,11,0 10 13,17,21,12,24,26,
13 15,37,11,20,1 10 2,4 40 27, 2,0,0
0130 0010 40,11,2 0,11 0,30 0,25,2,14,
6,33,5 7,11,24,12 12,11 7,10,12,45,32,
21,25,21,-1,0
0140 0010 34,4,0 20,0,10,4,0,6,21 5,10
,16,26,44,36,13,2,10 45,46,5,24,25,21
-1,0
0150 0070 35,6,0 12 0 20,4,0,6,46,11,2
5,12 30 45,45,46,11,16,5 21,24,21,37,2
1 -1,0
0160 0010 30,0,0,34,0 21,2 10,6,17,11,
20,41,41,40,22 16,1 21,12,21 21 21
0170 0020 202,200,1 50,106,60,246,17,4
0
0100 0010 62,3,7,16,0,2 7,15,7,10,15,1
0,21,22,1,7,25,17,10,16,0,12,14,47,15,
17,1 0,30,0,12,-1 0,0
0150 0010 105 7,2 16 21,3,24 13,3,30,1
 7,1,4,7,9,11,7,24,32,0,27,12,5,16 23,
12,24,26,12,27,20 12 31 46,12,15
0200 0070 33,11,30,7,16,5,12 16,16,10,
17,37,15,10,50,20,30,25,24,15,37,-2,0,
0
0210 0010 20,17,7 0,23,1,11,7,45,11 12
,11,37,17,-1,0
0240 0070 30,9,0,24,1,0,6 26,5,22,10,2
6,11,12,16,-1,0
0200 0010 37,12,0,16 5 6,5,22,6,27,10
16,14,24,15,-1,0
0260 0010 40,16,0,5,30,6,17,7,47,13,
5,14,22,15,-1,0,185,19,1
0270 0070 00,200,0,205,104,00,52,20,27
0300 0070 43,2,2,5,2,12,43,4,11,12,0,6
,41,42,41,42,10,2,0,20,0,12,26,7,7,30,
2,0,36,45,32,27,8,13,-1,0,0
0310 0010 459,3,2,8,10,3,23,20,2,33,1,
4,4,40,0,9,21,0,20,12,12,40,22,13,27,2
,10,5,14,10,21,24,48,21,23,10,24
0320 0070 37 10,30,-2,0,0
0330 0070 47,23,0 0,00,0,24,5,42,9,20,
11,14,45,27,35, 1,0
0340 0070 34,12,0,22,0,0,4,22,6,15,11,
27,11 5,16,15,13,29,16,-1,0
0300 0070 35,4,0,14,0,21,0,2,11,10,11,
32,14,0,10,21,16,21,15, 1,0
```

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0360 0070 30,6,0,10,0,26,5,7,9 22,11,1
1,10,14,16,11,16, 1,0
0370 0010 155,12,2,24,2 22,0 42,44,2,5
3,22,11,3,15, 1,0,170 40,2,14,0 5 11,7
,14,4,47,17,13,11,10
0300 0070 472,200,0,54,195,40 245,49,2
2
0000 0010 62,1,1,23,4 0,9 6,0,14,11,7
3,15,17,49 17,17 20,10,1,2 40,17,11,21
,7 11,22,13,15,25,10 12,27 11 19
0010 0010 20 7 0,27,0,10,30,2,19,-1,0,
0
0020 0070 169,9,2,10,20 2,21,21,2 26,1
2,7,11,14,2,14 16,3 17,9,0,40,11,0,14
17,0 20,20,0,21 14 10,37,19,12,22
0030 0070 5 11,10,12,17 11,20,12,29,2
14,2,7,14,0,33,15,36 21,16,27,2 13 6,3
2,40,33,20,19,27,37,19,20,1,2,2 2,0,0
0040 0070 37,17,2 0,12,1,25,0,33,0, 1,
0 30,5,0,16,1,21,0,25,0,-1,0,35,7,0,10
,1 25,0,-1,0,40,10,0,10,0 30,0,-1,0
0000 0070 169,5,2,16,7,10 1 27 7,4,9,2
5,12,21,12 37 45,0,40,45,19,22,20 -1,0
0000 0070 170,7,7,30 2 21,7,25 9,22,10
 40,13,10,17,12,40,20,19,21,49 47 20,2
4,20
0070 0070 00,200,1,240,186 55 52,12,44
0000 0010 47,0,15 50,2,2,5,2,9,51,0,5,
9 6,11 13 9 10,22 30,2 11,10 13 10 17
3 4 15 2 3 21 15 40 22 6,15,27 2 4
```




```
0510 0070 26,16,19 35 2 0 30 41 17 16
0,7 20,7 12 -1,0,0
0520 0070 185,1 2,4,20 7,21 20,2,12,10
 3,19,45,0,17,23,4 20 2 5,1,30 0 35,10
 7 17 3,5,4,2,11,3 9 11,32 24 11 25
0530 0010 11 41,34,15 12,24,4,11,9 22,
15,27,4,18,7 7,10,0,10 10,11,14,16 15
17 10 10,24,10,22 25 45,11,11,19,24
0540 0070 17 45,30,-2,0,0
0550 0010 33,33,11,0,18,1,24,2 7,7,29,
9,15,17,-4,0,14,2,0,28,0,30,4 16,5,5,1
1,26,11,34,17,-1,0
0000 0010 15,4,0 25,0,22,6 17,9,33 9,2
6,13,7 40,17,17,-1,0 10,15,0,18 2 24,9
,15,16 2,13,26,17, 1,0
0020 0070 169,47,6,17,11,30 42 -1,0 17
0,22 7 25,16,2,35
0000 0010 46,200,0 54,105,40 245,49,27
0000 0010 43 2 16,20,1 2,0,4 12 46 5,0
,12,7,2,0,0 10,20,10,14,18,12,40 14,14
,2 40 16,10,19,20,15,23,22,2,0
0010 0070 26 9,15,29,10 41,10,10,15,14
,3 7,16,7,15,30 15,15, 1,0 0
0020 0010 165 1,2 9,20,2,21 15 4 34 18
 -6,15,1,7 2,11 7,22,3,0,4 6,3 7 20,0 2
1,24 9,25,37,5,10 13,10,14,27,12 20
0030 0010 29 12,30,2,12,3 5,12,6,11 16
,17,35,16,36,3,10,4,5 10,19,12 18 12 3
```


LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
0	4671	1	13553	2	4222
3	12517	4	4778	5	15254
6	6568	7	15172	0	3381
9	6653	10	8144	600	2006
600	5586	510	5585	525	7142
520	3733	530	0877	537	1631
540	5000	543	1929	595	0077
547	1618	550	13555	580	5970
570	8168	600	5227	610	7110
620	5179	630	5703	699	4054
700	55469	705	45856	710	4169
715	8030	040	46562	820	1026
870	3030	810	1498	897	6000
000	1776	056	4765	900	42745
000	47511	870	6305	000	10056
009	31024	052	7005	035	6792
000	11545	305	7305	910	17311
915	5708	920	11534	525	1009
925	0245	1000	45150	4010	6715
4015	7790	1070	1050	4080	10121
4005	1490	1000	40117	1005	1490
1070	9670	1000	20540	4005	19750
1090	1690	1100	0505	4110	1498
1555	3427	2000	0520	2010	4952
2020	0470	2075	1811	2030	40272
2040	2076	2050	45227	2000	1068
2000	0068	2070	6610	2100	42051
2110	40057	2115	5727	2599	5200
2900	2276	3010	3001	3020	9574
3025	40217	3030	42128	3035	4708
3040	12775	3050	6167	3055	6076
3000	47218	3065	11151	3070	44747
3075	45380	3080	20006	3005	4407
3090	7420	3095	1709	3097	1415
3100	5681	3400	3060	3110	41041
3200	0560	3300	7000	1250	40230
1270	14959	1140	10479	1150	6967
1400	17756	3999	0007	4090	10508
4010	6182	4599	9053	5008	13647
5010	16487	5020	41141	5030	9617
5040	5037	5050	13758	5060	0074
5100	0427	7999	7525	0000	5284
8010	1710	0020	2105	0025	2584
0020	2970	0040	18511	4060	11256
0095	0004	0000	48741	0005	7107
0070	14761	0075	15955	0090	15757
4050	20039	0095	1450	0100	14014
0110	15550	0120	10473	0130	12657
0140	11106	0150	41447	0160	10072
0170	5417	0200	13737	0210	45146
0220	10765	0230	7472	0240	7137
0200	7541	0200	0505	0270	5175
0100	10001	0310	15470	0320	2222
0330	7060	0340	9019	0350	5015
0100	0110	0370	17472	0300	5151
0400	15351	0410	5152	0070	15527
0430	16119	0440	15538	0450	10651
0000	11326	0470	51000	0500	15530
0510	7735	0520	15474	0530	15010
0540	1121	0550	13717	0500	14004
0570	7610	0500	5163	0000	15403
0010	9203	0020	45721	0010	15012
0000	5779	0000	15554	0000	40211
0020	0995	0000	14872	0000	5403
0700	15051	0710	7701	0720	14521
0730	11779	0740	11101	0700	14022
0700	10175	0770	41072	0700	12050
0790	5625	0000	15990	0010	10704
0020	15153	0030	10003	0040	14046
0050	11502	0060	12125	0070	12151
0000	51544	0090	15127	0100	40731
0010	15157	0015	0194	0020	45407
0025	0713	0030	15165	0035	0705
0040	15195	0045	0217	23522	0799
29000	11655	29005	29051	29010	0726
29015	15633	29020	14650	29025	10604
29040	11101	29043	24702	29065	0274
29050	03315	29051	11816	29052	12948
29052	21107	29054	17995	29055	12957
29056	44015	29057	14221	29060	7264
29055	5075	25100	13575	25110	7100
25120	6004	25125	9470	25140	12776
25145	7614	25100	9374	29455	1300
25160	5210	25105	0441	25170	45701
25175	0625	25100	3021	25185	40065
25190	5110	25195	0000	29200	10001
25205	14342	25210	6171	25220	12139
25210	14107	25295	10334	25000	1721
25610	12305	25620	12730	25625	6100
25630	7715	25540	0204	25560	0559
25060	9159	25670	14410	25000	11256
25590	0715	25200	7001	25790	2767
25795	9792	25000	4453	27010	49742



```
1,50,37,44,25,45,17 37,10 22,45 21
8640 DATA 35,19,38 1,28,4 6,28,3,-2 8
0
8650 DATA 52 37,20,0,9,2 5 6 38,7,28 8
,19,17,34,16,4,10, 1,6 30 20,0,30 0,13
 1,20,6 30 3 2,10,22 12 30,13,12,46
8660 DATA 23 17, 1,0,35,2,0,24,0,37 1,
16 7,74 7 7,10,24,47,45,17,20,17,-1,0
8670 DATA 40 4,0 26,0,10,7,1 5,31,5 10
 17,28 42 31 16 17,17 -1,0
8680 DATA 163,26,7,38,7,13,3 34,7,7 17
,19,14 24,44 34 10, 1,0,170,74,2 20 2,
32 7,2 4,22,46,28,14 38 18
8690 DATA 145 200,4 246,184 38 52,27 3
6
8700 DATA 42 1 2,7,1 13,12,6,6,7 7 12
 13,5,45 20 10 5,6,46,17,20 42,4,5,45,4
2,13,15 17 28 17,7 0 17,26 21,19,5 7
8710 DATA 25,4,21 20,21,23,32,2 4 14,2
,14 37,14,21, -1,0 0
8720 DATA 165,38,1,31,3 4,6,10 4,15,13
,4,14 38 4 24,32,4,33 12,5 31 26,5,37
9,6,48,10,7,19,16 6,17,23,8 24
8730 DATA 32 8,31,26,9,27,23 42,24,32,
12 33,33,14,36,23 16 24,29,17 22 35 40
,36 2,12 3, 7,8,0
8740 DATA 65,33,36,0,10 2,45,2,32,6,27
,7,42 44,39,12,23,44,3 17,44,47,31,12,
1,0
8750 DATA 34,12,3 23,2,38,5 8,11,32,41
,27,15,7 17,17,18,-1 0 35,3 7,18 2,27,
3 16,6,4 10,27,11,35 16 18 10
8760 DATA 28,45, 1,0,36,5,0,38,8,18,3,
23,6,37,7,7,10,23,10,12 47,22,15, 1,0
8770 DATA 209,5,2,10,5 1,7,37,14,2,42,
16,42,8,13,12,19,10,20 29,21,25 21 37,
23,-6,0
8780 DATA 170,36,2,19 0,6,7,10,7,4,12,
28,12,12,13,37,13,31,17,7,32 14,15,16,
28 22 24,31,24
8790 DATA 178 208 6,54,106,40 240,30 3
7
8800 DATA 42 1,2 5,1 9,12,3,6,7,3,16,1
7,7,7,9,5,2,28,16,28,23 21 12 15,22 8,
47,24,17,12,26,5,11,26,28 28 27 15,45
8810 DATA 28 10,10,29,17 44,23 17,17 3
5 14 17 36 15 21 36,2,8 38,8 44,-1 0,0
8820 DATA 165 7,2,1,23,2 14 34,6 25 15
 7,16,16,7,25,2 5,3,0,17 7,22,42,23,32
,12 33,34,13,35,27,47,28,4,10,5
8830 DATA 1 47 2,38,47,31,0 29,11,13,2
0 14,27,20 20 25 21 27 36 21,37,-2,0 0
8840 DATA 54,37,25,0,1,4,20 4 16 48,5,
14,22 15,22,10,-1,0,10 5,0,27 0,34 4,7
 5,26,7 1,15,28,16,20,40, 4,0
8850 DATA 39,0,0,16,5 2 10 27,17,41 40
,37,15, 1,0 40 23 0,19,5,24,10 11,10 7
0 10 -1,0
8860 DATA 165 5,2,13,2 23,2,27,2,2,6,2
0,6 26,11,2,12 11,12,25,17,34,17 22,20
,33,20 1 0
8870 DATA 170 0,2 17,2,25,2 25,2,31,6,
3,7 7,10,46,12,38,14,24,37,38,19,29,19
,20 20 21 21,31 26
8880 DATA 94 200,0,246,104,86,52,21,20
8890 DATA 7,5,7 4,7,4,1,1,3 2,3 1,3,2,
1 1,2 3,2 3,2,3,1,1,5,7 6,1,4,1 5,6,1
1,7,4,4,1,1,1,2 2,1 1,1,1,1 1,3
```

```
9000 DATA 1 4 1,7 3 7 1 7 3 1 1 5 7 1
1,1,7,6,1,1 5,2 5 2 5 4
9010 DATA 7 5 1 1 1 4 1 1 3 2 1 2 3 1
1,5,2,1,1,2,1 1 5 7 5 1 1 1 5 5 1
1,7,1,4,1,7,1 1 2 1 1 1 1 1 2 3
9015 DATA 6 4,4,7 1 1 3 1 1 1 5 2 1
1 1,7 5,1 6,5 2,1 1 1 2
9020 DATA 7,5 7,5 1 1 1 1 3 2 7 2 3 2
1,1,2,1,1,5,2 3 1 1 5 7 1 1 5 5 5 1
1,7,1,7,3 1,1 6 2 1 2 1 1 1 1 3
9025 DATA 1,1 4,7,4 7 3 1 1 1 1 5 2 1
2,5,2,5,1 1,5 2 5 1 1 2
9030 DATA 7 5 1 1 1 1 1 3 7 3 1 1 2
1 1 2,7,1,2,1,2,3 1 1 5 7 3 1 1 1 5 5,1
1,7 1 1 7,1,1 2 1 1 1 1 1 1,1 3
9035 DATA 1 1,1,7,1 1 3 1 1 1,1,6,2,5,
1,1,2,5,1,1 6 2,1,1 1,2
9040 DATA 7,5,1,6,1,5,1,1,3,2,1,2,3,2,
1 1,7,3,1,5,2,3,1,1 5,7 1,1,1,5,5,5,1,
5,7,1,1,1,1,1,7,2,1,2,1,2,1,1,1,3
9045 DATA 1,1,1,7,1,7,3,7,1,2,1,6,2,1,
1,1,2 5,1,1 5,2,5 2,5 1
28375 REM ** DATA & PMG MIC **
29000 ? "INITIALIZING FOR 1 PLAYER"
GTH TO1$73,60(35) CL(37) RESTORE 29010
29005 FOR T=0 TO 12:READ D:TOT(T) = DCR
T : FOR T=0 TO 35 READ D CL(T)=D NEXT T
FOR T=0 TO 37 READ D CL(T)=D NEXT T
29010 DATA 96,91,0,84,0 73,72,0,0 81,0
,72,0
29015 DATA 0,84,64 68,47,47,0,0,68,68
53,45,68,0,0,45,45,53,45,40 0,45,45,53
,40,40,0,45,45,53,47,47 68,68,68,0
29020 DATA 53,0,53,0,64 0,53,0 47,0,53
,0,64 0,0,0,64,72,0,0,0,0,64,72,0,0,0,
0,64,0,0,72 64,0 72,0,81,0
29030 POKE 106,PEEK(106)-20 GOSUB 31C5 0
```

```
*PMBE 553 0 PMB05E=PEEK(106)*4 PMB=PMB
05E*2^8
29040 FOR I 1536 TO 1756:READ A:POKE I
 0 NEXT I X=USR(1536 PMB5E)
29040 REM ** MEGATOR MAZE ROUTINE **
          ** BY A. HUGHES **
29045 REM ** MAZE DATA **
29050 DATA 104 104 104,104 210,6,24,10
6 4,141,219 6 165 0 162,1 157,200,6,20
2,16 250,165 7 157
29051 DATA 6 160 67 32 92,228,96,165,1
,141,220 6,160,194,194,170,494,194,157
,200 6,194,194,157 217
29052 DATA 6 404,404,157,294,6,462,1,4
57 200,6,469,0,144,228,6,96,573,220,6,
240,3 76 98,228
29053 DATA 162 1,189,200,6 208 6 202,1
6,240 76 98 229,142,216,6,169,0,157 28
0,6 141,221 6,189
29054 DATA 204 6,701,16,16 22,189 204,
6,10,10,10 10,133,205,173,221,6,24,105
 240,6,133,206,76
29055 DATA 152,6 573,221,6 24,405 1,14
1,221,6,165 204 6,58,233,16,157 204,6
701 16,40,213,76
29056 DATA 127,6,573,217,6,24,109,216,
6,133 204,189,6,133 203,169,255,145,20
3,226 208,251,189,212 6
29057 DATA 121 701 160,0,177 205 645,1
02,208,192,10,208,747,474 216,6,105,20
6,6,457,0,200,74,144,131
29080 DATA 0,0 0,0 0,0,0,0,0 0 0,0,0,0
,0,0,0,0,0 0,0 0
29092 REM ** JET UP PLAYER **
29100 POKE 54279,PMB05E:POKE 53277,1:P
OKE 704,70 POKE 705 26 POKE 706,116:PO
KE 623,4
```

```
29110 FOR I=PMB TO PMB+1792 POKE I,0 N
EXT I
29120 FOR I=PMB TO PMB+1920 STEP 16 DEB
UG S,E
29125 FOR Z=145 TO 146 DEBUG A POKE Z,0
 NEXT Z NEXT T
29140 DATA 0,9,24,24,28,28,16,0,16,16,
16,16,0,9 24,24,56,24,8,0,0,0,0,0,3,
24,24,24 24,24
29145 DATA 10,15,24,24,16,16,16,24,16,
15,24 24,0,0,0,24
29150 DATA 0,0,24,24,28,28,16,0,16,24
12,0,0 24 24 56 24,8,0,0,24 48
29155 DATA 10,15,24,24,48,100,66,102,1
0,15,24,24,60,36,34,102
29160 DATA 0,0,24,24,28,28,16,0,16 48,
32,0,0,24,24,56,24,0,0,0,12,4
29165 DATA 0,11,1,1,11,11,0 11,128,128
,240,240
29170 DATA 0 0,24,24,24,24,60,66,102,2
,2,10,15,28,28,28,28,16,18
29175 DATA 0,0,24,24,24,24,24,24,2,102,66
 66,10,15,56,60,60,48,0,0
29180 DATA 0,0,24,24,24,24,24,0,102,10
 15 24,24,24,24,24,24
29185 DATA 5,10,24,24,153,219,102,36,9
,153,24,24,24,24,24,12,15,129,129,255,2
55
29190 DATA 0,16,4,4,12,0,0,0,0,6,6,0,0
,0,0,32,4,4 6,9,56,56,56 56
29195 DATA 0 15,96,96,66,66 66,66,66,6
6,66 66,66 66,96,96
29200 DATA 10 15 36 102 219 153,24 24,
7,11,24,24 24,24,24 0,0 255 255,129,12
9
29205 DATA 0,15,32,32,48,16 16 16 96 9
6,96 96,16,16,16,48,32,32,6,9,28 24 24
,28
29210 DATA 0,15,6,6,2,2 2,2 2 2 2 2,
2,2,2 0,6
29220 DATA 0 9,24,24 24,24,24,24 24 24
,36,36,5,9,24,24 24 24,24,10,15,24,24
24 24,24,24
29230 DATA 0 0,24,24 24 24,231,231,
0,9 24,24,24,24,24,7 11 129,129,195 12
0,66
29239 REM ## REDEFINE CHARSET ##
29240 STE=PEEK(106)-4:GOSUB 29270
29610 FOR I=0 TO 1023:POKE STE*256+I,PEEK(
57344+I):NEXT I:POKE 756,STE:RETURN
29620 FOR L=33 TO 47:FOR T=0 TO 7:READ
A:POKE (L-32)*8+STE+T,A:NEXT T:NEXT L
29625 FOR I=0 TO 7*READ A:POKE 200+STE
+T,A:NEXT T
29630 DATA 0,0,10,10,10,42,168,32,16,0
,28,35,35,65,66,28
29640 DATA 168,32,68,200,255,253,255,8
0,10,24,82,89,82,5,5,5
29650 DATA 80,10,80 255,251,251,253,80
,5,4,40,40,170,170,170,40
29660 DATA 21 17 191,284,12 192,284,12
,132,132,34,34,136,136,32,32
29670 DATA 191,239,251,254,254,240 224
,128,284,251,239,191,191,47,11,2,170,1
70,170,134,170,130,130,130
29680 DATA 170,170 130,191 191,190 190
,170 170,254,254,255,255,254 254,170,1
70,2,2,2,2,2,170
29690 DATA 170 128,128,128,128,138 138
,170,170 2,2,0,0,2 2,170
29700 POKE 82,0 POKE 752,1 LOC=1560 LT
0=3 LEV=1
29790 POKE 53761,175*00=53760:POKE 537
61,169:01=53762
29799 REM ## SET UP SCREEN ##
29660 OL=PEEK(560)+PEEK(561)*256
29610 POKE OL+3 60 FOR I=OL+6 TO OL+20
 POKE I 4 NEXT I RETURN
```



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ATARI OWNERS WHAT ARE YOU MISSING?

At PAGE 6 Magazine we recently had a readers survey. Here's what some of our existing readers said.

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VISA

PAGE 6 - *COMPLIMENTING AND EXPANDING THE WORLD OF ATARI*

Get it right!

By André Willey and Richard Vennar

LAST December we printed an innocent looking little program called Get-It-Right! Since that time the December issue has sold like hot cakes, until we now find that we're completely out of stock.

Since many of you have been writing in asking about Get-It-Right! over the past few months we have decided to reprint it for you with a couple of extra features.

The purpose of this program is to provide you with an easy way to make certain that you have typed our listings in correctly, and to show you exactly where any errors are located.

Firstly sit down and type in the listing below. If you are using cassette rather than disc you should modify line 1010 as detailed in line 999 of the listing.

Once you're quite sure that you have got it right, SAVE a copy on to your tape or disc. This will be your master Get-It-Right! program.

Now to check a program you have just typed in from an issue of *Atari User*, use the following procedure.

Firstly SAVE a copy of the program you've just typed in on to tape or disc. This is your secure copy, just in case anything goes wrong.

Now create a listed version of the program by typing:

```
LIST "C:"
```

or

```
LIST "D:filename"
```

Note that the normal filename to use on disc is D:TEST, but you are free to choose your own.

Load your master Get-It-Right! tape or disc into memory with:

```
CLOAD
```

or

```
LOAD "D:GIR.BAS"
```

Type RUN and the main menu will appear. Option 1 will list a checksum to the screen, option 2 to the printer and 3 will quit the program and return you to Basic.

Enter the name of the file which you listed your new program to. Pressing Return on its own will use the standard filename of C: for cassette and D:TEST for disc.

Check each of the numbers the computer prints out against the numbers in the Get-It-Right! table in the magazine. Make a note of any lines where the number differs, which will need to be corrected later.

Now reLOAD the saved copy of your program. If the two lists of numbers matched completely you may RUN your program in the sure knowledge that it is as we printed it.

If not, check the problem lines against the listing and repeat the above process from the first step.

If you are working on a long program you may need to type:

```
[Control-1]
```

as the screen fills up to pause the display. Press it again to restart.

A few tips. If the error has occurred on a REM or a PRINT line it may not be fatal and your program may run OK.

If it occurs on a line with DATA, or machine code characters – those funny little graphics shapes – make sure that you have corrected the problem *before* you try to run the program.

All that remains for you to do now is type in the listing. For a bit of practice you can even check Get-It-Right! with its own checksum just for good measure. Unless of course you got it wrong. ■

```
10 REM ┌──────────────────┐
20 REM │  GET IT RIGHT!   │
30 REM ├──────────────────┤
40 REM │ Written by Richard Vennar │
50 REM │ Modified by  André Willey │
60 REM │                  │
70 REM │  (C) ATARI USER  1988  │
80 REM └──────────────────┘
90 DIM MEAD$(128),LINE$(128),FN$(6),SL
$(10),SCAS(10),SIZE(8),FN$(20)
100 TRAP 1:FLAG=0
110 OPEN #3,8,0,"E:":SETCOLOR 2,0,0:SET
COLOR 1,0,10:POKE 752,1
120 GOTO 9000:REM BOOT READ
130 GOSUB 1800:REM OPEN FILE
140 PRINT #3;"   GET IT RIGHT!":?
150 ? #3;"   ----------":?
160 ? #3;"1 - LIST CHECKSUM":? #3;"2 -
LIST CHECKSUM TO PRINTER":? #3;"3 - QUI
T":?
170 ? #3;"Enter your choice":GET #3,A:
IF A<49 OR A>51 THEN 170
180 ON A-48 GOTO 190,200,210
190 GOSUB 1800:GOTO 220
200 GOSUB 1800:LPRINT "Checksum Table"
:LPRINT
210 CLOSE #3:OPEN #3,8,0,"E:"
220 ? #3;"Enter filename to check, or
hit RETURN":? #3;"      Filename";:INPU
T #3;FN$:POKE 752,1:?
230 IF FN$="" THEN FN$="D:TEST"
240 OPEN #1,4,0,FN$
250 GOSUB 1800
260 REM
270 MEAD$="  LINE CHSUM  LINE LENGTH
LINE CHSUM  LENGTH":? #2;MEAD$
280 MEAD$="  ----------  -----------
----------  -----------":? #2;MEAD$
290 RETURN
300 REM GET A LINE
310 GOSUB 4000:REM GET LINE NUMBER
320 IF FLAG=1 THEN GOTO 400
330 GOSUB 4070:REM GET LINE
340 GOSUB 4200:REM TOTAL LINE UP
350 GOSUB 4300:REM FORMAT LINE NO
360 GOSUB 4450:GOTO 320
999 REM CASSETTE USERS CHANGE
      LINE 1010 TO
      IF FN$="D:TEST" THEN FN$="C:"
1000 PRINT "Save filename to check, or
hit RETURN":? :? "      Filename";:INPU
T FN$:POKE 752,1:?
1010 IF FN$="" THEN FN$="D:TEST"
1020 OPEN #1,4,0,FN$
1030 RETURN
1040 REM
1050 MEAD$="  LINE CHSUM  LINE LENGTH
LINE CHSUM  LENGTH":? #2;MEAD$
1060 MEAD$="  ----------  -----------
----------  -----------":? #2;MEAD$
1070 RETURN
4000 REM GET A LINE
4010 IF FLAG=1 THEN GOTO 4050
4020 IF OST>32 THEN GOTO 4050
4030 LN$(C,C)=CHR$(OST):C=C+1:GOTO 4010
4040 LE=C-1:RETURN
4050 REM CHECK SUM ROUTINE
4070 LINE$="":LINES(1,1)=CHR$(123):C=2
4080 GET #1,OST:IF OST=155 THEN LE=C-1
:RETURN
4090 LINE$(C,C)=CHR$(OST):C=C+1:GOTO 4
060
4100 FLAG=1:RETURN :REM END OF FILE
4110 REM FIND LINE NUMBER
4120 CHSUM=0 :TRAN 1
4130 FOR A = 1 TO LE
4140 CHSUM=CHSUM+ASC(LINE$(A,A)):NEXT A
:TRAN=TRAN*(1+(TRAN>999))*3 :IMEM TRAN=1
4150 RMEM 0
4160 RETURN
4170 REM FIND LINE NUM
4180 SL$="      ":L=VAL(LN$):SIZE=LEN(
STR$(L))
4185 C=1:LOOP 4190
4190 GET #1,OST
4200 IF OST>32 THEN GOTO 4050
4210 LN$(C,C)=CHR$(OST):C=C+1:GOTO 420
0
4260 LE=C-1 RETURN
4270 REM CHECK SUM ROUTINE
4280 LINE$="":LINES(1,1)=CHR$(123):C=2
4290 GET #1,OST:IF OST=155 THEN LE=C-1
:RETURN
4300 LINE$(C,C)=CHR$(OST):C=C+1:GOTO 4
290
4310 FLAG=1:RETURN :REM END OF FILE
4320 REM FIND LINE NUMBER
4330 CHSUM=0 :TRAN 1
4340 FOR A = 1 TO LE
4350 CHSUM=CHSUM+ASC(LINE$(A,A)):NEXT A
:TRAN=TRAN*(1+(TRAN>999))*3 :IMEM TRAN=1
4360 RMEM 0
4370 RETURN
4380 REM FIND LINE NUM
4390 SL$="      ":L=VAL(LN$):SIZE=LEN(
STR$(L))
```

```
4312 SUM$(0,SIZE)=STR$(L):RETURN
4390 ? "■■■
```

CALLING ALL CARS – ON AN ATARI 130XE

I HAVE had an Atari 130XE since last May and I am being plagued by a problem that has caused me considerable irritation over the last 11 months.

I wonder if anyone can suggest a method of stopping my machine from picking up signals from radio cabs.

It occurs only during tape and disc loading operations and drags in signals from up to 30 miles away. I suspect the problem is somewhere in the computer TV cable but have no idea how to stop it.

I have to disagree with L. Wheelhouse's comments on Firebird's Chimera. It is definitely inferior to Alien 8. The graphics are less detailed, less clear and it is mind-numbingly slow.

The loading screen is good but does not compare with those of disc games and only wastes loading time. I do agree that the pause mode is probably the best feature of the game.

However, Firebird must be congratulated for supporting the Atari – and at a reasonable price too.

If you've bought the game, write and compliment Firebird on it. This is the only way to encourage companies to support the Atari.

Can you include memory requirements in reviews as I'm blasted against games that use less than 48k? Also, with a software boom on the way, can you review more software? – **A. W. R. Crawford, Pancuk.**

Cartridge not needed

I HAVE just purchased an Atari 800XL for my children and have fallen in love with it myself. Mind you, I am so green you wouldn't believe it.

But the point of my letter is that I am told that I need Atari's tape CXL400Z to play certain tapes and to be able to save programs.

But all the shops I have been into do not have it. Could you help, please? – **R. W. Jackson, Surrey.**

● The item you describe is actually nothing more than the Basic cartridge as provided with the old 400 and 800 computers.

Your 600XL (and the 130XE) has the Basic language built inside the casing and so you don't need the cartridge at all.

When you are asked to Plug in your Basic cartridge and switch on, all you need to do is simply switch on.

If any program or game requires you to remove the cartridge, just hold down the Option key on the keyboard as you switch on. This will disable the built-in Basic and act as though it wasn't there.

Database on tape

I OWN an 800XL with a 1010 recorder, but after a fruitless search of the shops in my area I have found it impossible to obtain a database/spreadsheet on cassette.

Although I am learning programming, I am not good enough to write a program for my needs – I own hundreds of records and would like to be able to catalog them for easy access.

Therefore, could you please inform me of any database/spreadsheet and how to get it? – **R. Goat, Richmond, N. Yorkshire.**

● Unfortunately you're quite right – there isn't a decent database/spreadsheet available on cassette for the Atari.

Really, these applications need a disc drive to be effective as cassette handling is so very slow.

Your best bet would be to buy yourself a second-hand disc drive and get a copy of Mini Office II for the Atari when it is released shortly.

This features both a database and a spreadsheet plus a word processor, mailmerge, graphics package and communications software all on one disc. You'll find it the cheapest way to buy these items.

600XL upgrade kit

I HAVE good news for 600XL owners who have been looking for a cheap upgrade kit.

A firm in the States has one for $35 US – shipping included – that will make a 600XL perform exactly like the 800XL.

I recently installed one for a friend of mine in about 30 minutes and she now has 37,902 free bytes and can run any of the software I have for my 800XL.

The kit consists of two new RAM chips and three jumper wires, two of which require some simple soldering to install.

The instructions are simple and easy to follow. The firm is happy to ship overhere as long as payment is in US dollars – such as an international money order.

The company is Computer Service Land, 1073 W. Broad Street, Falls Church, Va. 22046, USA – **Bob Matiaks, USAF.**

XL-XE compared

I AM thinking of buying either an Atari 800XL or 130XE.

I can get an 800XL plus 1050 disc drive for £130, but the lowest price I have seen for a 130XE + 1050 disc drive is about £240.

I rather like the 130XE's styling, but this isn't the best criterion for choosing a micro.

I know it has an extra 64k of paged memory, but I have read that little software exploits this.

Does the 130XE have any other different features to the 800XL, and if so, are they supported by enhanced software? – **Marcus Groan, Manchester.**

● The 130XE is the same as the 800XL in most respects and has all of the features provided by its smaller brother.

It does of course feature twice the memory capacity. This is implemented as four 16k banks of RAM which can be switched in and out as required by the user.

Various software packages use this extra memory including the DOS 2.5 ramdisc, SuperScript word processor, SynFile+ database and SynCalc spreadsheet.

Also, Basic XE from OSS will allow you to write programs of up to 64k and provides a further 37k for data, strings, graphics and so on.

It also maintains complete compatibility with standard Atari Basic.

'Missing' memory

WHENEVER I type

PRINT FRE (0)

on my 800XL I get the answer 37902.

I know that the self test built into the computer uses some memory, but surely not 26k.

Is it possible that I could have destroyed a chunk of RAM by inadvertently switching on the computer/recorder in the wrong sequence?

If so, surely I would not have been the first novice programmer to do so – **Patrick E. Granger, Rotherham, South Yorkshire.**

● Don't worry, you haven't damaged your computer – this figure is perfectly normal.

Just be thankful you aren't using a 130XE as you'd have lost 90k of memory by your calculations. If that were the case.

Although the 800XL has 64k of memory the 6502 chip that it uses can only access a total of 64k – including all of the operating system in ROM, Basic itself, your screens and so on.

The OS is 16k long and Basic is 8k. The screen is about 1k and various special areas for input and output take up another 1k or so. Thus you have just lost 26k.

The area under Basic and the OS is still there as RAM but you can only get at it by turning one or the other off and thus sending your Basic program into never never land.

If you really want to access this extra RAM you must leave a small machine code program in command when you turn the OS off in order to stop the system from crashing.

Ramdisc on 130XE

I WISH to use the ramdisc facility on my 130XE offered by DOS 2.5 when using VisiCalc. Which disc do I boot first? – **Tim Brett Holt, Camberley, Surrey**

● Unfortunately Visi Calc comes on a protected disc with Atari DOS 2.0 provided.

It would be quite hard to reformat the disc to use DOS 2.5 so without any detailed technical programming experience you'd probably be best sticking with VisiCalc as it is.

Four line listings

IT said in the manual for my 800XL that no listing should exceed three lines, but in your October issue the Pontoon game had three listings of four lines.

So we made each listing in two lines instead of four. The game worked all right but is a bit fuzzy on the writing.

In the January issue you have a listing in Mr Humpy with four lines. We did the same and split the line in two. The game works quite well but I wonder if it is all right.

I have read the Atari handbook and it says you can write listings of four lines or more but does not say exactly how.

It just says to play about with the Ctr. Set or Tab key. Could you explain how to write these lines? – **N. Meadowe, Bideford, Devon**

● The computer can only accept a maximum of three screen lines of input for any given program line and there is really no way to get around this.

However there's nothing to say that you can't try and pack as much into those three lines as possible.

Firstly before you start typing in your program type:

```
POKE 82,0
```

This will set the margin to 0 so giving you back the two empty spaces at the start of each line.

If that still doesn't give you enough room to enter a given line use abbreviations. Thus if a line of a listing reads:

```
10 GRAPHICS 0: SETCOLOR 1,0,14:
POSITION 4,4: PRINT "HELLO"
```

try typing in:

```
10GR.0:SE.1,0,14:PO.4,4:?"HELLO"
```

The computer will understand the two as meaning the same thing and when you type LIST you will see the full version, not the abbreviations.

Consult your manual for the correct abbreviations for all of the Basic commands – most are the first few letters followed by a dot.

By using both of these methods there are no lines of program that you should ever have any problem with.

Don't forget someone had to enter them into the same type of computer in the first place, so they must go in.

ATARI USER Mailbag

WE welcome letters from readers – about your experiences using the Atari, micros, about tips you would like to pass on to other users, and about what you would like to see in future issues.

The address to write to is:

Mailbag Editor
Atari User
Europa House
68 Chester Road
Hazel Grove
Stockport SK7 5NY

Better disc labels

YOU may have noticed that it is very difficult to buy floppy disc labels and write-protect tabs separate from a box of floppies.

In searching for a suitable alternative I got a packet of self-adhesive coloured labels from a well known High Street stationers.

These labels seemed to be even more useful than standard write protect tabs since they would double as a colour coding system.

Naturally I used the real labels to protect discs that I must not write on under any circumstances. However that proved my downfall.

The write-protect circuitry in the Atari disc drive uses infra red light to sense the presence or absence of a write enable notch, and infra red goes straight through these labels.

I formatted two discs containing valuable programs before I realised what was happening. This type of write protection is worse than none at all since it inspires a false sense of security.

The moral of the story is keep trying to find the correct labels, or if you must use coloured labels use any colour other than red – blue or green would be best – **Jolly Roger, Winnersh, Berks**

Using checksum

COULD you tell me how to use your checksum. I have tried to follow your instructions in the March issue of Atari User but have had no success.

I do not understand your statement "Now load Get It Right! into the machine taking note of the instructions contained in the REM in line 999".

I have typed in all your games since I got my 800XL in January 1986 and only two have worked. It is so disappointing to sit for several hours typing in and then find nothing happening – **David Brunton, East Lothian**

★ ★ ★

COULD you please reprint your checksum as I have lost my copy of your corrected version – **Joe, Sale, Manchester**

★ ★ ★

I BOUGHT your December 1985 issue of Atari User and I also bought the tape for that month so I could use the checksum.

However when I tried to follow your instructions on how to load the checksum and then type RUN the program will not work. Please could you print the instructions more clearly? – **T. Hoskins, Gwent, South Wales**

● Your wish is our command. In response to many similar letters pleading for us to reprint the checksum as the original issue is now out of print we have done so this month.

We've even added a couple of extra features. So now you don't need to write in with problems with our listings – you can all find out for yourself where your typing mistakes are.

Silencing disc din

I HAVE an 800XL with disc drive and was plagued with a terrible din everytime I used the drive

Not knowing any better I thought this was normal, but after talking with John Lawson at Computer Support I found out there is a simple way to silence the drive

Just disconnect all wires to the drive, turn it upside down, undo the screws and turn the drive back the right way up

Then take off the lid, apply a very small drop of ear-ex to the head runners – being very careful not to get any on or near the head – and finally just put it all back together – **K J Newton, Hertfordshire**

Paint dump program

I AM the proud owner of an Atari 800XL disc drive cassette recorder and 1029 printer

The keyboard and disc drive came in a Dixons pack with which I received The Home Filing Manager The Pay off and Paint

When I added a printer to my system I chose the Atari 1029 this came with Atariwriter and Dump1029

When I booted up Dump1029 I discoverd to my dismay that the program would only dump 62 sector picture files

Rather then write my own dump program I decided to write a modifier program to turn Paint files into 62 sector picture files

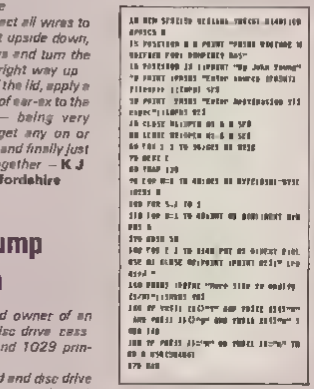
I worked out that in Mode 7 – which Paint works in – it took two bits to define each pixel as there are four colours in Mode 7 and there are also four different combinations of two bits – 00 11 10 and 01

Because of this it takes 40 bytes for each screen line in Mode 7

Getting back to the problem, Dump1029 would only accept pictures drawn in Modes 8 or 15 So to convert Paint files to Mode 15 files all I needed to do was duplicate each 40 bytes.

*Not quite so Paint does not use all of a Mode 7 screen, so extra zeros must be added to the end to make the total number of bytes up to 7680 (192*40)*

I have written the following self-explanatory program to overcome this problem – **John Young, Banbury, Oxon**



● We're glad you liked the 1029 dump program John and many thanks for the tip

We're sure that many other readers will like the extra facility of printing Paint files as well as MicroPainter and Touch Tablet pictures

The dump that doesn't

COULD you publish a 1029 screen dump because the one you printed did not work.

Also why have you not printed a review on the Eidolon Having heard that it is very good I would like to hear what you think about it before I buy – **G Shread**

● Have you thoroughly checked your typing to make sure that all of the DATA statements are correct?

We can assure you that the program does work as printed – as you can see from John Young's letter above he has managed to get it working with no problems

On the Yukon trail

IN reply to Robert and Karen Eventine's letter in the July 1986 Mailbag to find Yukon Yohan you must fill up the Hi score table

Once it is full play the game once more so that your score is bigger than the last score on the Hi-score table

Enter your name and the lowest score will be brought down off the table and your last score will go up Then two bulldozers will squash the abandoned lowest score and Yukon Yohan will arrive on a lift, walk over to the squashed score and kick it off the screen

Yukon can be either smoker or gum chewer I hope that answers your question – **Frank Driver, West Town, Peterborough**

● Matthew Burroughs of Ormskirk also provided this solution Our thanks to you both

Store data in ramdisc

I WOULD like to know if the Atari 130XE is a 64k or 128k computer as I am writing an adventure which is likely to take up more than 64k or memory

The manual said that to get 131 072 bytes – 128k – of RAM type the following

Poke 54017, 193+4* address + 16*mode

and then press Return It came up with Ready so I then typed

Print FRE (0)

and it came up with 37902 bytes free which is not 128k of RAM

Can you help me? – **Richard Powell, Woodhouse, Sheffield**

● The 130XE is indeed a 128k computer but you must remember that Atari Basic only supports 37902 bytes of memory after the OS and graphics overheads have been removed from the main 64k area The four extra 16k banks can be accessed as you describ ed

Perhaps better still you could use DOS 2 5 to store your data in to the ramdisc and read it back again as a file each time you need it The ramdisc is very fast so you shouldn't notice any appreciable delay

Flight simulator

IN your May 1986 Mailbag there was a letter from Alex Ford who was interested in flight simulators

Has he had a look at Digital Integration's rather good Fighter Pilot?

Could you help me find some books on Ataris No one in my area stocks them so where do I go? – **R Hadleigh, Redditch**

● Thanks for the advice on the flight simulators of which there are now quite a number including Jump Jet and Flight Simulator II

As to your question on books if you can't find anywhere locally why not try one of the larger mail order companies?

Both Software Express and Silica Shop should be able to help with most types of Atari book and also give you advice on which titles would best suit your needs

This would be far better than ordering blind from W H Smith for example

Monitor mismatch

I OWN an Atari 800XL with a 1050 disc drive and 1020 printer

A few weeks ago I was given an Amstrad CTV648 monitor but I found that the 6 pin plug wouldn't match with the 6 pin DIN socket of my Atari

I have tried to find information on how to connect the monitor to my computer but

nobody seems to know how

Can you please help? – **K Zannis, Lower Kersal, Salford**

● The Amstrad uses a system called RGB to connect with its monitor and the 800XL uses a completely different method known as composite video

Unfortunately there is no easy way to get the Atari to talk to the Amstrad monitor You will need to get a composite monitor rather than an RGB one

Cleaner graphics

HOW do the professionals draw graphics for games so it does not leave a trail and doesn't flash?

Can you give me a short program on how to drew moving graphics and can you also tell me how to combine two graphics modes? – **Merlin House, Heckley, Essex**

● Although your question is simple enough the answer is very complicated indeed To make a game look as professional as a purchased one you will need to write it in machine code

That said you will get some good hints and tips on how to get your games working a lot faster if you have been following our series on Player/Missile Graphics which started in the May issue

We covered display lists – which allow you to combine different graphic modes on a single screen – in Mike Rowe's series of articles which ran from July to December 1985

Simpler scrolling

PEREGRINE Hills solution to your May 1986 issue to Atari's rather fast scrolling was some what longwinded and I'd like to suggest some simpler methods of handling this problem

I think it's even mentioned in the inadequate Atari Users Manual that by holding down the Control key and pressing the 1 key the list will be halted, and repeating the action will subsequently restart it

In fact it stops screen output and will work with any form of output to the screen – even graphics

When you've found the section you seek the Break key may be employed as normal to return control to the keyboard

Another more elegant solution is to type in the following line as a direct command

POKE 622,255 GR 0

This tells the Atari to rewrite its display list employing the fine scroll capability and must be redone after each reset

Not only does it slow the listing of programs to a much more readable speed but it also looks very impressive – **Tony Barker, Australia**

● This tip is a useful one but only if you have an XL or XE The older 400 and 800 computers do not have this feature which is why we printed Mr Hill's solution

As you say for XL and XE owners POKE 622,256 is a very elegant answer to this problem

Antic chip playing up?

UNFORTUNATELY all is not well with my 800XL The graphic characters on certain commercial programs appear incorrectly

For instance on Atarisoft's Pole Position the tyres on the racing car begin flashing strange colours whenever other cars overtake

On US Gold's Dropzone an excellent shoot 'em up game – the Defender-style radar screen corrupts a part of the screen reserved for smart bombs

Also the scrolling sprite colours on the Hall of Fame do not work properly

On English Software's Elektraglide there appear to be three exits from the first tunnel when there should only be one

I know these errors are not caused by faulty software or head-alignment problems with my data recorder because I have tried using a friend's recorder to find the same errors and they do not appear on his 800XL.

My theory is that there is a

Trouble in that Cavern

WHEN I run the Cavern Escape program from the May 1986 Atari User I keep getting Error at lines 5042 and 5500 Could you tell me why this is so? – **T H Man, Nottingham**

★ ★ ★

I AM having trouble with Mike Rowe's Cavern Escape

Twice I have programmed the game and twice I have got Error 6 at line 6245

After 6½ hours of using the keyboard my patience was wearing a bit thin

The game does run but so far my son has only been able to find one key in Room 9

Where have I gone wrong and do I have to retype the full program? – **A Bushy, Hull**

★ ★ ★

I TYPED in Cavern Escape from your May issue and then CSAVEd it on to cassette

However when I ran the program the screen went blank as was stated but if I didn't press reset it would have stayed blank forever

After having pressed reset and typing RUN all I get is Error 6 at line 5500

I split line 5500 into four lines to find where the error was and it showed up a READ A

As a newcomer to the Atari 800XL I am baffled by this and would be grateful if you could tell me where I have gone wrong

I have checked my listing line for line and it is exactly as is printed in Atari User

One more query I have is that after line 6000 there is a line starting

5508 R=0

Should this be 6008 or is it a misprint? – **Allan Byrnes, Buckfastleigh, S Devon**

★ ★ ★

I AM having trouble getting Cavern Escape to work I typed it in corrected all errors using the checksum and sat back to enjoy the game

The screen went blank after I typed in RUN as it's supposed to – the trouble is that's all that happened

I have checked the programs checksum several times now and I find there is an odd discrepancy in the listing – page 20 – the following line appears between lines 6000 and 6010

5508 R=0

I included this line in my typing but whereas in your checksum the line is checked in the same order it is listed in my checksum it appears in its correct numeric place Please could you explain this?

Finally one small point is that in line 1190 the second pair of hash marks is not very clear Could you confirm that it is in fact a second set? – **Nigel Edwards, Leighton Buzzard, Beds**

● The extra line 5508 crept in to the listing by mistake and lots of people have pointed it out to us

However it doesn't make any difference – the program will run correctly with or without it – phew!

The three sets of characters in line 1190 are two inverse hash symbols (#) then an inverse hash and an inverse dollar sign and finally two more inverse hashes

If you had used the checksum and got it wrong the numbers would not have matched so we can only assume that if you did use Get It Right! you must have typed in the listing correctly

Anyway – the answer to all of your problems is – use the checksum You don't have any excuse now as the full instructions have been reprinted on page 33

hardware fault in the Atari's graphic chip which only affects certain software – the majority work without any problem

Do you advise sending my faulty machine to Atari or return it yet again to Dixons? – **Andy Barr, Chairman, Withernsea Computer Club**

● Yes it does sound rather like faulty hardware – probably the GTIA or ANTIC chips

You might consider returning the machine directly to Atari in the hope that the turnaround time may be a little better than via Dixons

The only disadvantage is that you will have to pay the carriage costs to get it there

Elite for Atari

COULD someone tell me where the Atari version of Acornsoft's Elite is?

There was an advert in January's magazine, but when I phoned them up they had ceased trading

Also is there an updated De Re Atari for XL/XEs? – **P Myles, Woking, Surrey**

★ ★ ★

AS the only UK magazine dealing with the best home micro can you try and get to the bottom of the rumours about Elite for the Atari

I wrote to Firebird just over two weeks ago, but have had no reply at all. Then in the month's C & VG I noticed a letter from a reader alleging that it has been smothered at birth by Acornsoft for being too good

Just what is the truth? – **Richard Daley, Poole, Dorset.**

● A number of people have been writing to us asking about Elite on the Atari and after a quick phone call to Firebird we can now set the record straight

Firebird was planning an Atari version of Elite over a year ago and early results looked impressive. Unfortunately the programmers working on the project split from Firebird and plans were shelved

A Firebird representative told us that the main problem was the lack of good 8 bit Atari programmers willing to take on the job

He added that if any professional machine code programmers who are reading this would be interested in tackling such a major project Firebird would be most eager to hear from them to talk terms

In any event don't expect an Atari version of Elite to be in your local shops within the next few months

Designer dilemma

I HAVE typed Player Designer into my 800XL but cannot get it to work

I have checked it line by line but all I get on the screen is 'Player Designer by Stephen Williamson. Please wait'

Can you please help?

Also in line 540 is it PMBASE or PMGASE as my copy of the program is not very clear? – **R W Holmes, Powys**

● It's hard to say where the problem is from your description – the mistake could be almost anywhere

Anyway now that we've reprinted Get It Right! you can easily check typing mistakes yourself

Line 540 says PMBASE not PMGASE so that may be where you've gone wrong

Text windows

I OWN an 800XL and cassette and have come across two problems

Firstly how do you put a text window into Graphics 0?

Secondly how do you do smooth scrolling in Gr 0 upwards? – **A R Groves, Eastville, Bristol.**

● A text window can be added to a Graphics 0 screen very easily by typing POKE 703 4 This will enable you to scroll the bottom four lines without moving the other 20

You must use PRINT #6 to print to the top portion though – just as you would any other type of screen with a text window

To scroll text upwards requires more work and there is no easy way to do this smoothly without some complicated machine code. Sorry

Intermittent fault

I HAVE a six month old 800XL

The problem is that while playing Cavern Escape the man suddenly went downwards on his own but would not go upwards

As I had already saved the game to tape I reset the computer and tried to type RUN. However the keyboard had locked up. So I turned off the computer for five minutes then turned it back on again. But I still got nothing from the keyboard

I then turned it off again and turned it on while holding down option for the self test

I tested the memory first – ROM is OK but on RAM 40 squares were green and eight red

So I turned it off again and switched on while holding down option. I then put all tests on, but this time all 48 boxes were green on RAM. Is my memory all right or should I take it back to the shop? – **Catherine Mason, Wigan, Lancs**

● It sounds as though you have an intermittent fault with your computer

As it is still under guarantee your best bet would be to take it back to the shop you got it from and ask them to either exchange it or send it back to Atari for testing and repair

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ELECTRONIC TYPEWRITER

From G.D. MASSEY

OF all the Five-liners that we have received this one is probably the most straightforward It enables your Atari keyboard to act like an electronic typewriter using its normal printer

The screen acts just like the old memo pad mode on the 400 and 800 computers except for the fact that control codes will go straight to the printer rather than doing their normal function on the screen Thus you can turn printer options on and off by sending the spacial codes Some people may also wish to add a POKE 752 1 to remove the cursor

The program was written in Class Five at Broadclyst Primary School – so Class Five thanks for your Five liner!

```
10 PRINT CHR$(125):OPEN #3,4,0,"K:"
20 OPEN #2:0,0,"P "
30 OPEN #1:5,0,"S:"
40 FOR GO=0 TO 1 STEP BIGET #1,A
50 PUT #2 A PUT #3,A GOTO 40
```

Get it right!

```
LINE CHSUM  LINE CHSUM  LINE CHSUM
 10  5560   20  7730   30  2750
 40  5186   50  4676
```

TWO FOR THE PRICE OF ONE

From RON SMITH

SOONER or later the Atari programmer needs to solve two problems – disabling the Break key and distracting the Attract Mode

Most solutions for the Break key problem suffer from the drawback of having to repeatedly execute code within the Basic program after each I/O operation or change of graphics mode

Presented here is a once-and-for-all five liner that solves the problem for most games and applications and throws in an answer to the Attract Mode problem for good measure These should form the first five lines of your program for earliest protection

The program uses just 24 bytes of machine code tucked away at the top of page 6 leaving the rest clear for data or other routines

The Atari displays a television screen once every 50th of a second, but has time between screens (the Vertical Blank) to leave a Basic program in order to carry out its own housekeeping

Two user-patchable locations are provided during this time where the programmer may point the computer to a short machine code subroutine of his own This routine uses the first of those opportunities and sets up an immediate mode (as opposed to the second deferred mode), Vertical Blank Interrupt (VBI) which resets IRQEN the Interrupt Request Enable byte at 53774 ($D20E) and ATRACT the Attract Mode timer and flag at 77 ($4D)

The great advantage of this sledgehammer approach is that once started the routine is executed automatically 50 times a second at no cost to the Basic program The approach is XL compatible BREAK vector notwithstanding

The program is constructed as follows

Line 10 is a belt and braces step setting up IRQEN and its shadow at 16 ($10) while the main routine is loading

Line 20 sets up the Immediate Mode VBI and points the Operating System at our routine sitting at 1779, ($06F3)

Line 30 executes the VBI and our routine becomes operational within 1/50th second

Line 40 contains the VBI initialisation and pointer data

Line 50 contains the instructions which set IRQEN to 112 and ATRACT to zero plus the jump that takes us back into the operating system s tasks before rejoining the Basic program

```
10 POKE 16,112:POKE 53774,112
20 FOR N=1760 TO 1791:READ A:POKE N,A:
NEXT N
30 X=USR(1760)
40 DATA 104,162,6,160,243,169,6,32,92,
228,96
50 DATA 169,112,141,14,210,169,6,141,7
7,6,76,95,228
```

Get it right!

```
LINE CHSUM  LINE CHSUM  LINE CHSUM
 10  6492   20  7688   30  2891
 40  6323   50  7296
```

Original, useful– or just plain fun!

IF you d like to have a go at writing some Five-liners of your own – and we pay £25 for every one we print – then we d like to hear from you

Try to make them original useful or entertaining After we d received the first couple of dozen programs to print your name on the screen or play a musical scale we began to get impatient for something more stimulating Let s see you use your imagination!

Also, please remember that you're far more likely to get one published if you send us a neat listing with good explanatory notes and a copy of the program on tape or disc Our staff haven t got the time to decipher little scraps of paper or type in illegible listings If we did, we'd never actually complete the magazine

Send your Five-liners in to us at Five-Liners, Atari User, Europa House, 68 Chester Road, Hazel Grove Stockport SK7 5NY

VARIABLE NAME LISTER

From VERNON YULE

THIS Is a very elegant Five-liner which will allow you to check all of the variables you have used in a program Type the routine into the computer and LIST it to tape or disc Then when you want it simply ENTER it back in again over your program in memory

After it has run you will be prompted to Delete Utility (Y/N) If you type Y the routine will delete itself by using the Return Key mode

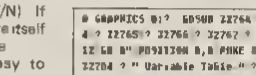
The program is very easy to understand The start of the Variable Name Table is found by PEEKing 130 and 131 The end of this table is found from 132 and 133 All of the variable names are stored between these two locations

Each separate name ends with an Inverse character, so anything over 127 is converted to a normal character (by subtracting 128) and a new line is then printed A string variable has a $ sign after it and an array has a (The routine adds the extra nn) for clarity

Line 32767 gives the option to delete the utility which is actually done in line 0 by printing the line numbers on the screen and using Return Key mode to enter them into memory

NB Make sure that your program does not use lines 0 or 32764 to 32767 Also the variable Z is used by the routine so that will always be added to the list

```
0 GRAPHICS 0:? #6;"DO";32764 ? 0:? 3276
4:? 32765:? 32766:? 32767 ? "POKE 842,
12:GO TO 0":POKE 752,1:END
32764 ? " Variable Table ":? "
";:? :? " ";:FOR Z=PEEK(130)+2
56*PEEK(131) TO PEEK(132)+256*PEEK(133
)-1
32765 ? CHR$(PEEK(Z)-128*(PEEK(Z)>127)
);:IF PEEK(Z)<128 THEN ? "nn";
32766 IF PEEK(Z)>127 THEN ? " ";
32767 NEXT Z:? :? "DELETE UTILITY Y/N
";:OPEN #1,4,0,"K:":GET #1,Z:? :IF Z=
89 THEN ? CHR$(125);:? :? :RETURN
```



LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
0	19690	32764	17404	32765	21439
32766	5281	32767	19262		

32 COLUMN SCREEN EDITOR

From JASON GRANT

THE text editor does not automatically adjust for a narrow playfield screen with its 32 column lines Here is a short program which will adjust the editor to allow you to use a narrow screen via an altered Display List Unfortunately this method does not work for the wide screen option

Line 10 sets the margins to display 32 characters the maximum on a narrow screen It then enters Mode 0 and sets DS to the current Display List address DL is used as a counter to set up the new Display List in Page 6

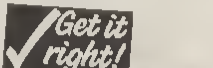
Line 20 puts 3 blank lines at the start of the display then begins to write out the 24 modified lines

Line 30 tells the computer where the next line of text data is located and increments ready for the next one

Line 40 then completes the FOR NEXT loop and sets the screen into narrow mode

Line 50 tells ANTIC where the new Display List is located, and away it goes!

```
10 POKE 82,0 POKE 83,31 GRAPHICS 0:DS=
PEEK(560)+PEEK(561)*256 DL=1520
20 FOR I=1536 TO 1539:POKE I,112 NEXT
I:FOR I=1 TO 24 POKE DL,65
30 POKE DL+2,INT(DS/256):POKE DL+1,DS-
256*PEEK(DL+2) DS=DS+60
40 DL=DL+3:NEXT I:POKE 559,22 POKE DL+
2,6
50 POKE DL,66:POKE DL+1,0 POKE 560,0:
POKE 561,6
```



LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
10	11766	20	11030	30	10594
40	7246	50	8249		

MULTICOLOURED BACKGROUND

From STEVEN CROWE

WE all know that the Atari has some amazing graphics facilities but how about a multicoloured background on your Graphics 0 text screen? The effect can easily be achieved with DLIs and a touch of machine code In fact it s really a four-liner!

Line 10 modifies the Display List to cause a jump to our machine code after each line of text has been displayed

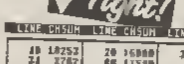
Line 20 loads the machine code into the ever reliable Page 6! The address is given to ANTIC by setting locations 511 and 512 and the interrupt is enabled with POKE 54286 192

Line 30 contains the data for the machine code routine

Line 40 contains the data for the colours of each of the 24 lines Each number is given by (Colour number * 16) + brightness If you use values lower than 6 then try POKE 709 14 in line 10 or you might not be able to read your text!

To remove the display either press the Reset button or enter a new GRAPHICS command

```
10 GRAPHICS 0:POKE 709,0 DL=PEEK(560)+
256*PEEK(561)+6 POKE DL-3 134 FOR X=DL
 TO DL+22 POKE X,128 NEXT X
20 FOR X=0 TO 30 READ D POKE 1536+X,D
NEXT X POKE 512,0:POKE 513,6 POKE 54286
,192:POKE 710,10
30 DATA 72,138,72,173,26,6,105,35,6 14
1,6,212,141,24 208,232,142,26 6 138,76
,233,23,208,5,169,0,141,24,6 104
31 DATA 170,104,64,0
40 DATA 25,42,58,74,90,106 122 170,154
,170,186,202,218,234,250,10,26,42 58 7
4,90 106,122,170
```



LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
10	18252	20	16880	30	15766
31	3782	40	13539		

80 column text plus graphics mode 8 equals the pro look

By R. and A. LINES

THIS program uses graphics mode 8 to produce an 80 column text display which can be combined with mode 8 graphics to produce professional looking displays in your own programs.

Before running this program SAVE a copy to disc or tape. This is very important because the program will rewrite itself then delete a large part of itself. This is to save you a lot of hard work trying to type the control codes in the program correctly.

The program will read the data statements and then write new program lines containing the string definitions for the machine code routine and the character set data. These strings are almost unreadable containing approximately 400 Escape and Control key characters.

After writing these lines, the program will delete all the data statements and most of the program elements involved in creating these strings only leaving three lines not needed for the program. These are lines 1230, 1240 and 1250 and they should be deleted. They cannot be deleted by the program because they are required by the delete routine! If you do not SAVE a copy before running and you have made any typing errors you will have to start all over again.

When you first run this program the screen will go black and the data statements will be counted down on it. When the counter reaches zero the screen will return to the normal graphics 0 display and you will see the strings being printed out and the cursor move down over the screen text.

This is followed by a few screens of line numbers which is the line deletion process taking place. When complete the program will return you to direct mode Basic with the familiar READY prompt. At this point the three lines mentioned earlier should be deleted.

Now SAVE the new program under a different filename to the original. It is this version of the program that you will use to produce your 80 column displays.

Some of you may be wondering how your Atari can start writing new parts of the program and deleting lines all by itself. This is because your Atari is brainier than the average computer.

Actually it is very easy to persuade your Atari to do the work for you – this can be achieved with one simple POKE. Using the POKE puts the computer in to Return Key mode. Poking 842 with 13 puts the computer into screen input/output mode. Poking 842 with 12 returns the computer to keyboard input mode.

This means that anything on the screen and below the cursor when this poke is performed will be treated as a direct mode command. Anything you require to be done is printed on the screen and the cursor is positioned above the commands. Then you POKE 842,13 STOP.

You must also have a CONT statement after the last command you want executed which will continue program execution at the next line after the STOP command. This next command should be POKE 842,12. For an example of how to do this see line numbers 820 to 900.

The machine code routine is called by the USR function.

```
Z=USR(ADR(PRDG$),
ADR(CHAR$),X,Y,ADR(CH$))
```

The first parameter is the address of the string that contains the 80 column program and the second is the address of the string containing all the data for the redefinition of the character set.

The third parameter is the X coordinate of the starting position of

IN order to show you how this routine works we have printed three demonstration programs. To use them you should first create your main program by following the instructions in the text.

After the working version has been created, delete lines 1230, 1240 and 1250 and SAVE it to disc or tape. This is now your master program.

For each of the three demo programs type NEW and then type in the lines. You must now LIST – not SAVE – a copy to your tape or disc and you may then checksum it if you desire.

To run them, first LOAD the master program, then ENTER the first demo to merge the two files. You could SAVE a copy of the merged program at this stage if you so desire. After you have RUN it you may ENTER the next demo, and after that the third.

Demo 1 shows an 80 column table of computer facts, Demo 2 shows what an adventure game might look like in 80 column, and Demo 3 shows graphics and 80 column text on a chart.

the line of text to be printed It can have a value between 1 and 80 but it should be remembered that text can only be printed on the same line – that is it will not continue on to the next line

The fourth parameter is the Y coordinate of the starting position of the line of text to be printed It can have a value between 1 and 185

The fifth parameter is the address of the string that contains the line of text to be printed in this case CH$

The USR function is provided at line 200 in the program although of course you may place a USR call wherever you desire one The one in line 200 is set up to be used as a subroutine with the demonstrations provided

Each line of text must be terminated by an @ because the machine code routine uses this character to determine when to finish printing

The normal keyboard characters can be obtained, and in addition a pound sign – £ – can be obtained by using Control-fullstop

Normal 40 column characters are drawn on an 8 x 8 matrix for instance the letter a is drawn as follows

Character	Binary	Decimal
. .	00000000	0
. ## .	00011000	24
#..#	00111100	60
##..##	01100110	102
##..##	01100110	102
##..##	01111110	126
##..##	01100110	102
.....	00000000	0

As we are using 80 characters per line each character can only be half as wide that is it is a 4 x 8 matrix therefore the character data is stored in pairs of characters For example B and C are stored as shown below

Character	Binary	Decimal
##..##	11000110	198
#.#.#.	10101000	168
#.#.#.	10101000	168
##..#.	11001000	200
#.#.#.	10101000	168
#.#.#.	10101000	168
##..##	11000110	198
.....	00000000	0

VARIABLES

CHAR$	Holds character set data
CH$	Holds text to be printed
PROG$	Holds machine code routine
NUM	Counter for data statements
I,D	For-Next counter
N	Read variable
Z	Dummy variable for USR function
X	X coordinate
Y	Y coordinate
A	Offset for line delete routine For-Next.

Main program

```
100 DIM CHAR$(384),CH$(61):P66$(234)
110 GRAPHICS 17 POKE 677
120 POSITION 2,2:? #6;"PLEASE WAIT WHI
LE    0870 IS 0F00 TO "
130 RESTORE 210 FOR I=1 TO 207
140 READ A POKE NUM+NUM-1 POSITION 9,5 ? #6
;NUM"  "
150 CHAR$(I,I)=CHR$(A)
160 NEXT I
170 RESTORE 220 FOR I=5 TO 234 READ A
NUM=NUM+A POSITION 9 5 ? #6 A%  "  P
OKE(I,I)=CHAR$(I):NEXT I
180 GOTO 320
190 GOSUB 2000 GRAPHICS 0+16 SETCOLOR
1,4,8:SETCOLOR 2,8,10 SETCOLOR 4,9,4:
GOTO 2200
200 Z=USR(ADR(PROG$) ADR(CH$),X,Y,A
R(CH$))
210 RETURN
220 REM CHARACTER DATA
230 DATA 4,4,6,4,8,8,6,0
240 DATA 168,170,14,10,14,10,8,0
250 DATA 2,74,226,196,164,234,72,0
260 DATA 66,162,64,192,160,64,32,0
270 DATA 36,66,66,66,66,66,36,0
280 DATA 138,138,138,196,164,160,72,0
290 DATA 0,0,0,14,0 32,32,64
300 DATA 2,2,6,4,4,8,72,0
310 DATA 68,232 164,160,166,164,68,0
320 DATA 204 162,68,76,138,138,100,0
330 DATA 162,135,136,172 226 68,64 0
340 DATA 448,438,438,198,164,160,72,0
350 DATA 68,170,170,78,162,162,76 0
360 DATA 0,0 60 0 68,0,0 0
370 DATA 0,32 78 128,78 32,0,0
380 DATA 6,130,66 36 68,128,4,0
390 DATA 4,74,224,238,234,138,686,0
400 DATA 198 168 168 200 168 168 198,0
410 DATA 206 168 168 174,168,168 206,0
420 DATA 238 136 136,232 438,136,132,0
430 DATA 174 164 164 228,664,664,674,0
440 DATA 234 42 42,44,42 670,74 0
450 DATA 138 442 138,138,138,138,734 0
460 DATA 164 234 234 170 170,170,164 0
470 DATA 198 470,470,202,138,138,132,2
480 DATA 198 460,468 698,162,162 472 0
490 DATA 234 74,76,76,76 74,68 0
500 DATA 170,470,470 670,736,76,74,0
510 DATA 178,470,170 74,466 464,664,0
520 DATA 230,36,36,68,68,632,238,0
530 DATA 140,132,68,68,68,36,44,0
540 DATA 0 64 224,64,64,64,66 56
550 DATA 98,120,128,198,138,430,230 0
560 DATA 0,472,176,698,168,668 698,0
570 DATA 0 32,32,408 670 672,102,0
580 DATA 0,96 528 634 782,676,138,132
590 DATA 0,132,628,206,164,164 164 0
600 DATA 0,72,0,74,76,74 74 428
610 DATA 0,128 128,138 642,138 74,0
620 DATA 0,0,0 176,170 178 664 0
630 DATA 0,0,0,698 170,670 678,138
640 DATA 0,0,0 102,132,138,142,0
650 DATA 0,0 170 202,536,138,100,0
660 DATA 0,0 0 170,170,70,74,0
670 DATA 0,0,0,170,74,166,667,32
680 DATA 0 4 4 232 68 132 210 0
690 DATA 76,68 68 66 68 68 76 0
700 DATA 4 174,10 10 10 10 4 0
710 REM MAKE PROG$ DATA
720 DATA 104 246,164 144 11 6,104 144
50,6,104,104,144 0 6 104 104,144 4 6 1
06,133,200,104 133,202,165,80,133 203
730 DATA 165,89,133 204 173 10 6 133 2
05,173,11,6 133,206 162 0,161 202 701
64,200 6,96,164,202,96,233 32 76 170
740 DATA 224 0,240,17,202,165,205 24 1
05,6,133,200 165 206 100,0 133 206,74
164,235 460,0,177 205,153,2 6 200,202
750 DATA 0,200,240,172 1 6,24,144,67 2
4,144,100,165,201 24,105,69,133,203,16
5,204,105 0,133,204,136,208,240,173,0
760 DATA 6,74,466,74,444,14,105,203,24
105,1,133,203 165,206 105,0,133 204,1
36,208 240,160,0 177,207,41,4,200,56
770 DATA 162,0,94,2 6,54,7,6,54,7,6,96
,7,6 232,224 6 240,239,173,0,6,41,1,20
8,67 162,0,30,2
780 DATA 6,30,7,6,30,2,6,30 2,6,232,27
4 0 208,229,24,144,48,24,164,154,162 0
30,2 6,30,2,6,30
790 DATA 2 6,30,2 6,232,224,0,200,239,
173,0 6 41 4,240,19,162,0 54,7,6 54,2
6 54 2,6 54,2
800 DATA 6 232,224 0 208 239 162,0 160
,0,189,7,6,7 208 245 703 165,203,24,1
05,40,133,203,165,204 168,0 133 204
810 DATA 232,226,0,208 231,238,0,6 165
```

```
,207,24,196,1,133,207,166 AND,10S,0 13
3,200,24,144,109
820 GRAPHICS 0:POKE 756,2:POSITION 2,6
830 ? "2000 PODES(1 80)=' CHR$(34) PRO
GS11 BB3 CHR$(34)
840 ? "2010 POKES(101 1003)=",CHR$(147);P
OKES(101,160) CHR$(34)
850 ? "2020 POKES(161,240)=",CHR$(34),
POKES(161,240),CHR$(34)
860 ? "2030 POKES(241,396)=",CHR$(34)P
OKES(261,254),CHR$(34)
870 ? "CONT"
880 POSITION 2,0
890 POKE 842,13:STOP
900 POKE 842,12
910 GRAPHICS 0:POKE 756,2:POSITION 2,6
920 ? "2000 CHAR$(1,80)=",CHR$(34),CHA
R$(1,80),CHR$(34)
930 ? "2000 CHAR$(101,190)=",CHR$(34),C
HAR$(101,160),CHR$(34)
940 ? "2070 CHAR$(161,240)=",CHR$(34),
CHAR$(161,240),CHR$(34)
950 ? "2000 CHAR$(241,320)=",CHR$(34),
CHAR$(241,333),CHR$(34)
960 ? "2090 CHAR$(321 383)=";CHR$(34);
CHR$(321,383),CHR$(34)
970 ? "CONT"
980 POSITION 2,0
990 POKE 842,13:STOP
1000 POKE 842,12
1010 GRAPHICS 0:POSITION 2,4:? "100
1020 FOR A=1 TO 8:? A+10;:NEXT A
1030 ? "CONT":POSITION 2,0
1040 POKE 842,13:STOP
1050 POKE 842,12
1100 FOR A=210 TO 1010 STEP 200
1110 GRAPHICS 0:POSITION 2,4
1120 FOR A=1 TO 20 ? A+10;:NEXT A
1130 ? "CONT":POSITION 2,0
1230 POKE 842,13:STOP
1240 POKE 842,12:NEXT A
1250 POKE 842,12 END
2100 CHR$(75,79)=CHR$(30):CHR$(30,30
)=CHR$(34):RETURN
```

DEMO 1 Computer Facts

```
2200 REM  80 COLUMN DEMO TABLE
2210 GOSUB 2420:GOSUB 2270
2220 RESTORE 2249:FOR I=1 TO 6
2230 READ R,Y,C$:GOSUB 290
2240 NEXT I
2250 GOTO 2250
2260 REM
2270 RESTORE 2300:COLOR 1:PLOT 0,61:FO
R I=1 TO 19
2280 READ RJ:Y2=DRAWTO RJ,Y1*8:NEXT I
2290 RETURN
2300 DATA 311,61,311,159,0,139,0,01
2310 DATA 73 61,73,139,99,139,99,91,12
7,61,127 139 171 139,171,61,221,83,221
,139,257 139,257,61
2320 DATA 311,61,311,63,0 02
2330 GOTO 2330
2340 DATA 26 63,Total  gemory    Rese
lution   Text      Pox 80 0
2350 DATA 6 74 Model        Price   Ba
N   for Basic     (Max)     (Max)    a
f Colours0
2360 DATA 3,65,Commodore C120  8269
1200      1120        320x200     80x25
      160
2170 DATA 3,76 Aamstrad CPC664   9319
  840         826        640X200     80x25
      160
2380 DATA 3,197,Enterprise 128   8250
 1200         718        672x612     84x24
      2560
2390 DATA 3,110 Memotech MTX512 8275
  806         666        150x192     40x24
      160
2400 DATA 3,129,Otari 1200C      8170
 1206         1006        320x192     80x24'
      1360
2410 DATA 3,180,' Using Atari User Mag
azine's 80 column program 0
2420 REM  TEXT IN DR
2430 DIM TEN$(603)
2440 R=0 ?:AB.TEXT$="Macro comparison
table"
2450 WH=PEEK(88)+PEEK(89)*256 DO=WH+TW
-40+8
2460 FOR ME=1 TO LEN(TEXT$):N A$C(TEXT
$(ME,ME)):IF N)127 THEN N=N-128
2470 IF N)31 AND N<90 THEN N=N-32 GOTO
 2490
2480 IF N(32 THEN N N+64
2490 TEXT$(ME,ME)=CHR$(N):NEXT DE
2500 FOR Z=1 TO LEN(TEXT$) X=ASC(TEXT$
(Z,Z)) DO=573449+R00 FOR BE=0 TO 7:POKE
 WZ+ME*40,PEEK(WZ+ME) NEXT BE:ME=ME+1
NEXT Z
2510 RETURN
```

DEMO 2 Adventure Game

```
2200 REM  80 COLUMN DEMO TABLE
2210 DIM T$(170)
2230 X=11:Y=0
2230 T$(1,81)="Outside Oldod Bank0"
2240 T$(81,162)="You are on the middle
 of the block on a street that runs no
rth-south 0"
2250 T$(163,243)="Immediately to the e
ast is the entrance to a massive build
ing  Next to the0"
2260 T$(244,326)="entrance is a sign a
nd a doorbell 0"
2270 T$(325,406)=")READ THE SIGN0"
2280 T$(400,480)="DOTSKRIPTS OF London
 0Look 0ook 0o pay 030 for a pint of b
lood  Painless, takes0"
2290 T$(407 567)="only an hour  Using d
oorbell for admittance 0"
2300 T$(568,640) =)EA310"
2310 Y$(640,729) "The Blood Bank door
is closed 0"
2320 T$(730,810)=")OPEN IT0"
2330 T$(811,891)="It's locked 0"
2340 T$(892,972)="RING THE DOORBELL0"
2350 T$(973,1053)="You already did tha
t, dron't 4Ny0"0"
2360 T$(1054,1133)="H00"
2370 T$(1135,1215)="I think you're wro
ng  I'm a computer, so I have a really
 terrific memory, an20"
2380 T$(1216 1296)="I'm almost positiv
e you already rang the doorbell  Could
n't 4Ny bo mistaken?0"
2390 T$(1297,1377 "H00"
2400 T$(1378,1458)="Hmmm  Well, I jus
t looked back, and I guess you didn't
ring the doorbell after0"
2410 T$(1459,1539) "Hell  Do you still
want to ring the doorbell?0"
2420 T$(1540,1620)="YES0"
2430 T$(1621,1701)="The bell rings  A
minute later, a tramped man opens the
door and beckons you to0"
2440 T$(1702,1782) "enter 0"
2450 T$(1792,1822) "0"
2460 FOR I=1 TO 1782 STEP 81
2470 CH$=T$(I I+80) GOSUB 280 Y=Y+A
2480 NEXT I
2490 GOTO 2490
2500 REM
2510 REM
```

DEMO 3 Chart

```
2200 REM  80 COLUMN DEMO BAR CHART
2210 COLOR 1
2220 RESTORE 2420
2230 READ R,Y CH$ IF R=999 THEN 2280
2240 GOSUB 290
2250 GOTO 2230
2260 REM=26
2270 PLOT 24,24 DRAWTO 24,170 DRAWTO 3
15,170
2280 X 1:FOR I 1 TO 14
2290 PLOT 24,170-I*10 DRAWTO 19 170-I*
10 Y 167-I*10 CH$=STR$(I*10): CH$(LEN(C
H$)+1) "0" GOSUB 280
2300 NEXT I
2310 RESTORE 2410 X=2 Y=170 FOR I=1 TO
 12 X=X+26 READ CH$ GOSUB 280 NEXT I
2320 X=2 RESTORE 2400
2330 READ SALES
2340 IF SALES=999 THEN 2390
2350 PLOT REM,170 DRAWTO REM,170-SALES
 DRAWTO REM+24,170-SALES DRAWTO REM+24
,170
2360 R.R+6 Y=100 SALES CH$=STR$(SALES)
 CH$(LEN(CH$)+1)="0":GOSUB 280
2370 REM=REM+24
2380 GOTO 2330
2390 GOTO 2390
2400 DATA 110,50,48,76,43,49,39,50,30,
90,120 140,999
2410 DATA Jan0,Feb0,Mar0,Apr0,May0,Jun
0,Jul0,Aug0,Sep0,Oct0,Nov0,Dec0
2420 DATA 1,6,Sales :n0
2430 DATA 2,14,1000'S0
2440 DATA 15,10,SALES OF 0T001 COMPUTE
RS $V00
2450 DATA 31,10,4000/D007ML7ER75T10
2460 DATA 999,999,X
2470 REM
2480 REM
2490 REM
2500 REM
2510 REM
```




Tired of typing?

Take advantage of our finger-saving offer on Page 47

Get it right!

The checksum table for the main program printed here is for the original listing. Once you RUN the program it will modify itself and hence give a different table of values. Make sure that you checksum it removing any typing errors *before* you RUN it otherwise you may have to type it all over again.

LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
120	5364	130	2917	140	30452
150	8043	160	6327	170	3594
180	3245	190	18031	200	3670
210	15347	220	7913	230	3458
240	8098	250	3208	260	4336
270	4758	280	4760	290	4247
300	6194	310	3875	320	3338
330	5846	340	4367	350	4588
360	5181	370	4064	380	3428
390	4727	400	4259	410	4374
420	5527	430	8086	440	5428
450	5453	460	4050	470	5459
480	5427	490	5442	500	5498
510	6492	520	5816	530	5364
540	4754	550	6715	560	4457
570	6247	580	5073	590	4725
600	5805	610	4598	620	4335
630	4079	640	4402	650	6738
660	4320	670	6691	680	4077
690	4615	700	4227	710	4371
720	4965	730	10856	740	16757
750	16242	760	16499	770	15424
780	18145	790	13899	800	13362
810	12783	820	16836	830	13342
840	6799	850	6167	860	6729
870	8042	880	3872	890	1248
900	2367	910	3206	920	3563
930	6739	940	7989	950	6595
960	6782	970	6767	980	6775
990	1248	1000	2527	1010	1296
1020	1543	1030	5820	1040	5806
1050	3020	1060	3206	1070	1542
1080	6297	1090	4766	1100	6219
1110	3020	1120	3206	1130	1248
1140	2916	1150	8056		

Main program

LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
2200	14655	2210	3228	2220	4597
2230	4039	2240	13451	2250	1676
2260	873	2270	8380	2280	6000
2290	7498	2300	4774	2310	13033
2320	3899	2330	3873	2340	13274
2350	10283	2360	13418	2370	12865
2380	13525	2390	13645	2400	12557
2410	14739	2420	7254	2430	1399
2440	9685	2450	6695	2460	12804
2470	6937	2480	2670	2490	5645
2500	21566	2510	3458		

Demo 1 Computer Facts

LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
2200	35863	2210	1001	2220	3156
2230	6720	2240	28162	2250	12987
2260	11639	2270	4923	2280	23453
2290	14724	2300	3412	2310	9893
2320	3737	2330	8348	2340	5707
2350	11478	2360	3872	2370	12937
2380	23999	2390	3318	2400	23960
2410	14711	2420	3297	2430	24382
2440	4298	2450	2803	2460	4428
2470	5295	2480	1345	2490	1890
2500	871	2510	871		

Demo 2 Adventure Game

LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
2200	16347	2210	1355	2220	2275
2230	5646	2240	1650	2250	1060
2260	12184	2270	21102	2280	2116
2290	160433	2300	1345	2310	12900
2320	3901	2330	2228	2340	40131
2350	15051	2360	31626	2370	29051
2380	1671	2390	1895	2400	22041
2410	36241	2420	6120	2430	25221
2440	8053	2450	5704	2460	27671
2470	871	2480	871	2490	871
2500	871	2510	871		

Demo 3 Chart

SIDEWINDER

The top selling Atari 48k game from FUTUREWARE
(See Atari User review June '86)

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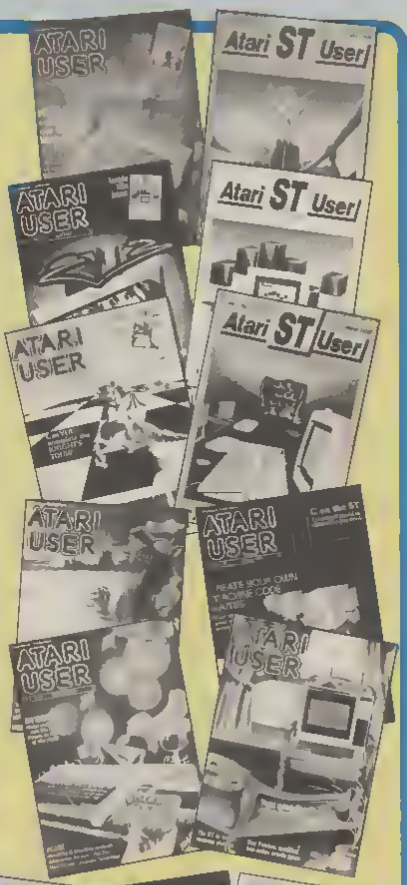
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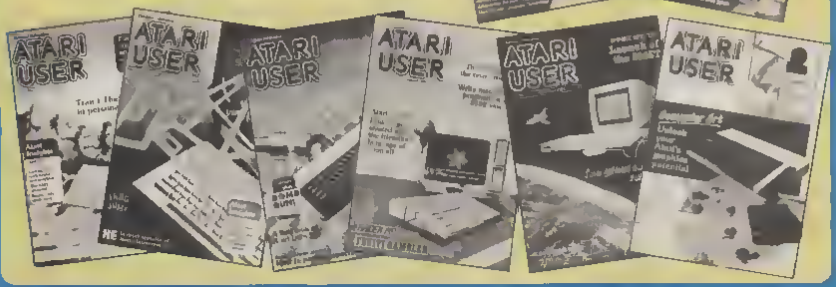
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July issue: Space Maze arcade game Central battery operated gadgets Atari in Poland, Rev 3 Basic four Player Missile Graphics Part 3 Five Liners No. 2 Adventuring, Game & Graphic-packages reviews American Scene, Mailbag News PLUS **Atari ST User** 3-D graphics in ST Basic Three C packages reviewed Making the most of the ST Reviews & ST News.

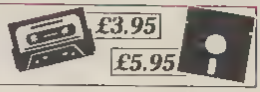
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OCTOBER. Pontoon: Twist? Bust! **Memory Dump**: Examine memory in hex and Ascii. **Display List**: Demonstration programs. **Wrap Trap**: Action game for one or two players. **Computer Canvas**: Make your own micro masterpiece. **Assembler Update**: Improvements for RAW assembler. **Ram Disc**: Make the most of the 130XE's extra memory.

NOVEMBER. Guy Fawkes: Help Guy escape from the guards. **Converse**: Teach your Atari to be a psychotherapist. **Display List**: Demonstration programs. **Bitwise Operators**: Utility to provide logical functions. **Circle**: Draw and fill a circle. ***Plus***: Freebie of the month – **Creepshow**: machine code pinball game.

DECEMBER. Countdown: Micro version of the famous TV game. **Get It Right!**: Atari User's own check sum program. **Disco**: Son et lumiere on your Atari. **List Utility**: Makes listing easier. **Display List**: Demonstration programs. ***Plus***: Freebie of the month – **Jane's Program**: machine code entertainment.

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APRIL. Synthesiser: Activate the hidden depths of the Atari sound chip. **Disc Index**: Keep track of disc files and free space with this index printing program. **Graphics**: Make the most of Modes 12 and 13. **Mancuna**: Can you beat the game that learns from its mistakes?

MAY. Cavern Escape: Can you help In I Go Joe escape from the labyrinths with King Munesbegs gold? **Player Missile**: Program to accompany the start of the series. **Spelling**: Automate those weekly school spelling tests.

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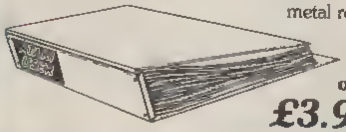
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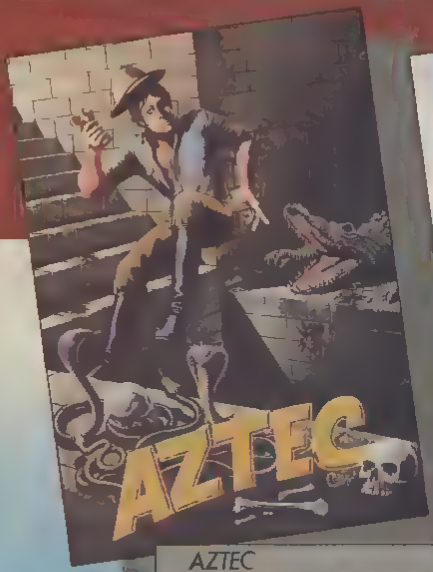
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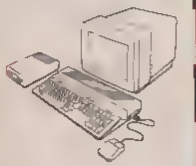
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Sales are hotting up with the sun



MIKE COWLEY reporting

AS I write this the weather would be more appropriate to Marrakesh than dear old Manchester Such is the surfeit of sunshine that we are no longer waking up to the sound of the birds coughing It is heat wave time in Britain which even during July and August is as rare as seeing Albert Tatlock buying a round in a re-run of Coronation Street.

So what has all this got to do with computers in general and the ST in particular? Well traditionally when people s thoughts turn to basking on beaches in Margate or Majorca it is the computer manufacturers who get browned off through lost sales

However it seems that Atari will be the exception this year with some skilful marketing ploys having dispensed with the annual summer time blues The company here in the UK reports it has been doing rather nicely thank you very much as a result of some adroit special deals

By offering the 520STM in various packages with savings of up to £196 sales have in fact more than held their own during the mid year term However a number of dealers are getting a little concerned about the knock on effect once the prices nee again.

Once people discover they ve just missed out on a good deal we ll find ourselves with a lot of unsold STs on our shelves for some time to come muttered one

Not that the Atari UK people go along with this. For they believe that people have become conditioned to short term promotions And if they really want an ST they will buy one Mind you it will be interesting to see whether or not they do decide to extend that special offer period

* * *

ONE other noticeable effect of the summer is the dearth of hard news – particularly on the computer front. As a result industry hacks become particularly prone to speculative rather than factual articles 'I think some of them sit on the loo looking up at the ceiling and then write whatever they imagine they see there' commented Atari UK boss Max Bambridge

Currently the computer press is suggesting that Atari has in the pipeline machines capable of everything from tap dancing to unarmed combat

The truth of the situation – according to Max Bambridge – is this. Atari is still well on target for the launch of the 2mb ST, the 2080 as it will presumably be called This will be a true 32 bit machine which because of its incredible speed will be multi user multi tasking

It will run Unix, thanks to Atari signing a licensing agreement with AT & T in the USA Existing ST users will almost certainly be offered the option to upgrade their machines to enjoy the same facility

But what about the all important price? Atari is still hoping to be able to offer the basic 2mb model at less than £1,000 If this proves to be the case, Commodore s Amiga may as well take its bouncing ball home

* * *

TECHNOLOGY, like Italian cabinets after the Second World War tends to change so fast that any attempt at long range planning becomes extremely precarious Just look at CD ROMs Atari is just beginning to think very seriously of the implications of the compact disc facility for software for the ST

Through its links with Warner Communications – the company from which Tramiel bought control of Atari – it could soon have a plentiful supply of CD ROMs For Warners are currently building a plant to manufacture the revolutionary discs

Now – according to The Sunday Times – compact discs may be about to become obsolete through a breakthrough in audio cassette technology known as digital audio tape

It is not surprising to discover that it is the Japanese who are behind all this DAT apparently aims to do for tape what compact discs have done for records – and threaten to do for software

The data retrieval concept of the CD ROM is in itself revolutionary This takes advantage of the sophisticated digital storage and retrieval technology developed for compact audio discs using it for storing text or statistics

In the CD interactive version proposed recently by Sony and Philips the text can be intermingled with diagrams or with still or moving photographs The CD ROM player very similar in size and appearance to an audio compact disc player can selectively take material off the disc and present it on the monitor screen

Researchers suggest there will be a strong demand in the area of reference works particularly where the CD ROM can provide audio effects and pictures Currently CD ROM players can cost anywhere from $700 to $2200 but it is expected that prices will soon fall to $500 then slump to around $250

Meanwhile back in the DAT camp its supporters are eagerly pointing out its potential for adaptation as a computer memory With the advantage of small size reasonable access time and a vast capacity of three billion characters of text – its storage potential is much greater than compact discs

Still the one consolation for compact disc manufacturers – and there are a lot of them about – is that there will be no further major developments in audio thanks to DAT until silicon chips can match its storage capacity and small size

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ST works out the cheapest

THIS month I'd thought I'd start by telling you that the ST is really the cheapest computer in the Atari range. Figure 1 shows a comparison of cost per k in pounds. I've taken the minimum system as the computer and one disc drive, but no monitor, since the ST computers can use a TV while not all of the ST range have this ability.

The Atari 2080ST is likely to be announced and released before Christmas and will have 2mb of memory. I've estimated the cost of the 2080 at around £1 150 without a monitor. The difference in cost between the 2080 and 1040 is likely to be greater than that between the 1040 and 520 because 1mb chips are more expensive than the 256k chips used in the 520 and 1040.

As you can see from Figure 1 the ST range is cheapest and getting cheaper all the time. In comparison the Commodore 64 would have a price per k value of £6.25. You can work out the value yourself for other home computers.

Coding capers

I HAVE had several letters this last couple of months that suggest that some of you are losing your way among the ever increasing number of code numbers that Atari chooses to attach to their new products. As a help through this jungle here is a rough and ready guide to the Atari ST range.

520ST. The original ST, now out of production. Dealers are likely to start discounting their remaining stocks.

520STM: The new base machine. Same as the 520ST but with a modulator that allows the computer to be used with a television rather than a monitor. Both low and medium resolutions are allowed on a TV but medium is almost unreadable. The original STs might be able to be upgraded to allow use with a TV but only from third party manufactures. Its £399 price tag does not include a disc drive which is essential and therefore will add another £150 to the price.

1040STF: A 1mb ST with a built in double sided disc drive (hence the F). No modulator means it cannot be used with a TV. See the June issue of *Atari ST User* for the advanteges of 1mb. Other than the larger memory the 1040 offers nothing that the other models do not have. It will run all software written for the other models but some software written for the 1040 (and the extra memory) will not run with only 512k. If you have your 512k ST upgraded to 1mb you will be able to run all 1040 software.

SF354: A single sided 360k disc drive (sometimes advertised as 500k but only 360k is useable).

SF314: A double sided 720k disc drive (sometimes advertised as 1Mb or 1000k). Holds double the amount of the SF354 but can still read single sided discs. The SF354 cannot use discs from the SF314.

SM124: The ST high resolution black and white monitor. Only allows the use of high resolution mode.

SC1424: The colour monitor. Allows the use of low and medium modes. Only one monitor may be attached at any one time.

SH204: The soon to be available 20mb hard disc from Atari. To cost around £650.

The range is growing every day but I'll try to keep you updated. If you see a + sign after the name of a 520ST or 520STM it means that it has been upgraded to 1mb. You should note that the 1040ST cannot be upgraded beyond 1mb without drastic surgery.

★ ★ ★

I've had several requests for information regarding packages for the ST from people who want to do serious graphics work such as CAD (Computer aided design). Very few such packages are so far available for the ST although

Q A

Send your Atari ST queries to: ANDREW BENNETT, Atari ST User, Europe House, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.

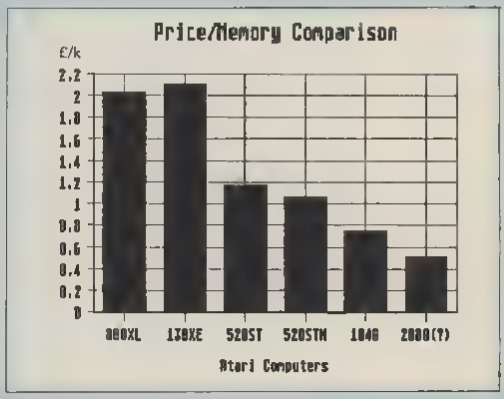


Figure 1

its graphics capabilities would seem to ideal for such uses

The packages cover a vast range in price from DEGAS at £19 95 to Graphics Artist at £495 The only solution is to have a demonstration at your local dealer to see if a particular product will meet your requirements One new program that may be of use to some of you is the latest from the keyboard of Tom Hudson the author of Degas It is called CAD 3D and will be marketed by Antic It should be available from Silica Shop by the time that you read this

★ ★ ★

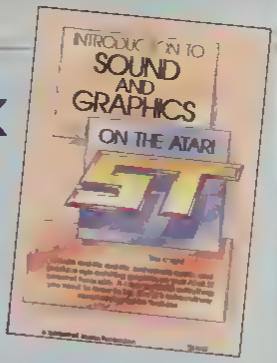
I m glad to see that so many of you agree with my comments about the BBC s Micro Live programme From what I can tell the BBC regards Micro Live as an innovation programme They seem to have lost their way somewhat by sticking to the BBC Micro over most other micros

Perhaps we ought to watch Channel 4 s 4 Computer Buffs when it returns if we want to find out more about the ST or indeed any other micro than the BBC!

● *If you have been using a 520ST and you switch to the 1040 or 1mb of memory, you will notice that programs take very slightly longer to execute and that the 1040 takes longer to boot up than a 520 This is because the 68000 processor inside the ST has to do a little more work when a program loads into 1mb than in to 512k The delay is nothing to worry about and is only really noticeable if you have been used to using a 512k ST*

● *If you are desperate to use low resolution and have only a mono monitor, don't buy a colour monitor just yet Several companies are working furiously to build modulator attachments for the ST, but they won t be cheap I ve heard mention of prices in the £75 range Cheaper than a monitor perhaps but you won t be able to use medium resolution because it is unreadable on a TV*

Useful book despite the padding



Introduction to Sound and Graphics on the Atari ST by Tim Knight (Compute! Books)

THE latest offering from Compute! – whose books have long been known to Atari users for their good quality and comprehensiveness – is for the ST

Sound and Graphics covers Logo Basic and Forth In seven chapters and 194 pages it takes each language in turn examining their use of sound and graphics

The book begins with the now obligatory section on setting up the ST This can only be of use to the reader who buys the book at the same time as his machine and finds that he needs more help than is given in the ST's manual to get his machine up and running

The book then examines programming in Basic Logo and Forth giving plenty of clear examples and smoothing over some of the rougher patches in the Atari manuals The chapter on advanced graphics gives information on various VDI and AES routines for achieving some tasks that aren t possible from ST Basic such as examining the position of the mouse and the condition of its buttons

The final chapter gives short reviews of some ST software that has most interested the author This and the first chapter can be regarded as nothing but padding which is the last thing that this helpful book needs Nevertheless its information is presented in a clear and helpful way with plenty of examples and it is heartily recommended I look forward to other productions for the ST from Compute!



ATARI ST

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When you buy one of the new Atari ST computers from Silica Shop you will receive a superb selection of packages absolutely free of charge. This package includes several applications and many games which will be of interest to both the novice and the experienced user. All Atari STs now have TOS/GEM in ROM and this includes the following:

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6) DOODLE *Simple but powerful graphics package* (works on mouse) colour systems
7) MEGAFILE 30 *Megafile 30 database* by Megadrive
8) NEOCHROME *A powerful graphics art and animation package* (works with mouse) colour systems
9) CP/M EMULATOR *Allows the use of Digital Research's CP/M software* on the new ST range

3rd PARTY SUPPORT

The power and speed of the ST range of computers is causing a flood of new software products to be released. Silica Shop has many of these titles in stock and are constantly progressing to add other packages and games as they are released. We hope that you can open demos and view all the latest packages and games including dozens of top games which can run on the ST. Feel free to call into the new ST area at Silica Shop and see a selection of the third party products which have developed and are working on products for the ST range.

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The operating system is in ROM, leaving RAM free for applications. BASIC and LOGO programming languages complete the package.

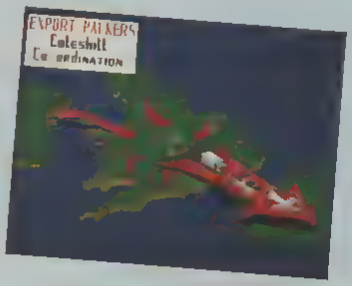
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As the American magazine 'Byte' commented, "for some time to come the 1040STF will be the clear leader in price/performance."

For the name of your nearest dealer, ring Teledata on 01-200 0200.

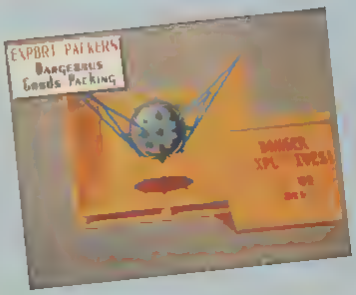
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The show that's worth seeing twice

By Peter Fellows

TAKE one Atari ST, one man with imagination, and add someone with artistic flair. Mix well with Degas and an *Atari User* Basic listing. Season with a tour round a warehouse – exciting stuff! – and a sense of humour. Cook for a couple of months and garnish with HippoArt. Result – a superb and professional presentation of a company's activities for a minimum outlay.

Clive Savigar, ST owner and director of Export Packers, a company dealing in freight forwarding, needed a method of attracting prospective customers to his stand at a forthcoming show. Slide shows can be boring and videos expensive, so when he saw HippoArt he thought 'What about a computerised slide show?'

We put him in touch with Kevin Bulmer, another ST user and an accomplished commercial artist. Kevin's artwork is popping up more and more in the computer press, and after a tour round their warehouse to see what freight forwarding was all about, he designed the pictures you see here.

Drawn with Degas, they were then converted to Neo format using the Basic program from a recent issue of *Atari User*. They could have been done with Neochrome direct, but Kevin prefers to work in Degas. The slides are then shown with HippoArt.

The crossfades and dissolves of this program make a really eyecatching and professional display, so much so that when the graphics were shown on a 27in Sony television in a Birmingham hi-fi showroom, the place came to a standstill! Experiment has shown that people almost invariably watch the show at least twice before moving on.

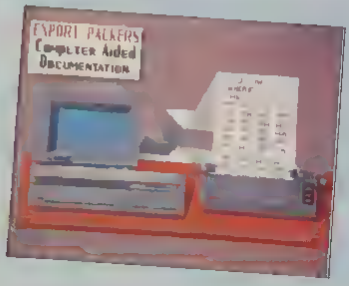
There is nothing new about computer presentations, but the ST's power and speed make eyecatching graphics easy. Throw the Haba colour digitiser into the recipe above and stand well back – you ain't seen nothin' yet!

Pictures drawn by Kevin Bulmer for Export Packers, Birmingham









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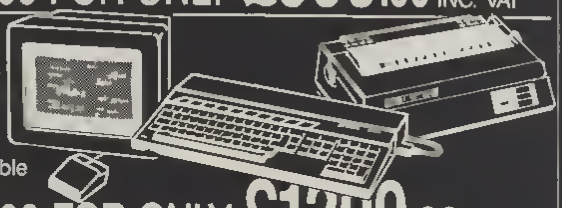
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Into top gear for an arcade spectacular



On the road in Major Motion

Program Major Motion
Price £19.95
Supplier Microdeal, 41 Truro Road, St Austell, Cornwall Tel 0726 68020

Reviewed by André Willey

IF you've ever played the arcade game Spy Hunter, you'll know what Major Motion is like. You play the part of a secret agent, driving a super powered racing car with all sorts of fantastic gadgets on board.

Imagine a cross between a James Bond car chase and Knight Rider and you won't be far off. As you drop down the ramp from the supply truck the battle commences.

You see the road as a plan view from above rather than the pole position style windscreen view and your task is to destroy the enemy Draconian vehicles but not to harm any civilian cars.

To do this your car has built in machine-guns but then the enemy also have some armoured cars which are completely bullet proof. To destroy these you must ram them from the side until they crash into the verge.

Luckily for you, your company is busy developing enhancements for your super-car and as the game progresses you can get more equipment from the supply truck. These items include ground-to-air missiles (to attack enemy helicopters), oil and smoke-screen generators to hamper vehicles chasing you, a sonic boom device to drive other cars off the road and a turbo thrust to leave the Draconians standing.

Each device is controlled from the keyboard which you can customise to your own requirements.

Unfortunately if you crash or are smashed off the road you've got to re-supply your brand new car. As the game progresses you will have to negotiate icy roads and twisty bends, meet Batman and The Evil Twin – a prototype of your own car, and armed as you are – and even change to speedboats for a fast race up the rapids. You may even see Rambo!

The colour graphics (you do need a colour monitor) are spectacular, well up to arcade standards and really do justice to the machine. The main title screen involves some 3D text rotation which is out of this world. The sound effects are quite good although a little infrequent with long periods with no sound at all.

The background music adds the final touch to the game, with the Mission Impossible and Batman themes setting the scene.

My only criticism of this otherwise excellent game is that there is no joystick option. The mouse may be useful for selecting files, but it is not really the best way to drive a car.

Most ST owners have joysticks as well as their mouse, so it seems a shame to spoil an otherwise fantastic game when the extra programming would be so negligible.

Even so, I still found the game very addictive and recommend it to any ST owner who wants a decent arcade game to while away those midnight hours.



Sound	8
Graphics	10
Playability	7
Value	9
Overall	9

A novel idea for starship experience

Product Essex
Price £39 95
Supplier Synapse and Broderbund c/o Software Express, 514-516 Alum Rock Road Alum Rock Birmingham B8 3HX Tel 021 328 3585

IN the magnetic disc that carries Essex there lurks an adventure game with a difference, an electronic novel. To quote Synapse and Broderbund: "An electronic novel picks up where the printed word leaves off . . we have discovered a remarkable new entertainment experience"

The program disc is packaged very insecurely inside the back cover of a hardback book. Its first chapters introduce the major characters, set the scene and lead into the adventure proper. Ninety five pages of introduction might put even the hardened adventurer off, but wait what's this? There are only 35 pages of text, the rest being left blank for your own notes, some hidden instructions on page 89, and advertising for other novels.

The book is a bit of a rip-off. Apart from setting the scene, which could just as easily have been done in the program, and justifying the title electronic novel, its main purpose seems to be as a security device for the game. Before you can start you are asked to type in a word from a certain page and line, the exact details of which change with each program boot. If you get the word right you can continue. If not, the program stops. It would be a commendable anti-piracy idea if only photocopying hadn't been invented.

The action in Essex takes place on board a colossal starship of the same name. Hideous Vollchon battle machines once more threaten the galaxy (what, you don't remember the last time?). Professor Klein has to be rescued and only Captain Dee of the Essex can do it in time.

You have to deliver secret papers to the elusive captain which it is hoped will convince him to help civilisation. You board a shuttle with various other people, including a midget with an inferiority complex and a walking, almost talking, lobster. These characters wander around the ship on a guided tour, generally getting in your way and saying silly things at inappropriate moments.

The game has a very sophisticated parser and allows complex multiple word inputs. You can talk to anyone on the ship – crew members, fellow tourists, auto lifts and even your equipment – but little seems to help. Time is short and you only have a limited amount of it before everything goes up in smoke.

Essex is intriguing and difficult. I haven't managed to do anything except get thrown into the brig for impersonating an officer, let alone save the universe.

One gets the feeling that the other characters are wandering around independently, and that you really are on a working ship. Things happen around you, voices scream over the intercom, security guards stop people and search them. On top of all of this, the ship falls to bits.

Usefully, Synapse thought to include a time slow command, which slows the rate at which these disturbing events happen, and a save game option for those of us who need to cheat fate on a regular basis.

Essex's screen display is divided into two sections. The upper is the result of your actions and a commentary on events; the lower your input screen. It looks a bit boring at first, but the descriptions and continuous frantic action make up for the lack of imagination in its presentation.



Reviewed by Jason Kingsley

Whether Essex is a remarkable new entertainment experience is doubtful. That it is remarkable is true. The game is a very different adventure, with abstract problem solving played down and interaction with people brought to the forefront. If you hate crowds, forget it.

Sound	*Not applicable*
Graphics	*Not applicable*
Playability	*8*
Value for money	*8*
Overall	*8*



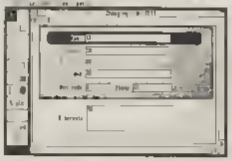
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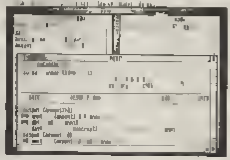
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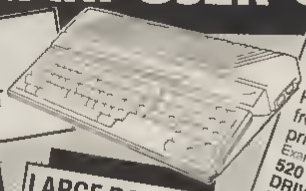
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Quiet drives enhance businesslike package



Gordon Taylor reviews the AS&T Starter System

THE AS&T Starter System is intended for the business or serious home user. It is based on the Atari 520 STM, SM 124 mono monitor and standard software bundle, but with twin floppy disc drives and a printer added to form a complete working system.

All units are fitted with mains plugs and tested before despatch. Even consumables are included in the shape of a box of 10 discs and 2000 sheets of fanfold paper. The whole package comes at the attractive price of £995 which represents a saving of £265 compared with a similar system using the standard Atari disc drives.

Notable components of the AS&T package are the twin floppy disc drives each of 1mb capacity unformatted. These very neat one-third height units are made by NEC of Japan and are compatible with both single and double sided 3.5in discs.

They are whisper-quiet in action which suggests that they are suitably gentle with your precious discs. AS&T have reduced the desk space required by mounting the disc drives in a bridge-like metal plinth which stands over the computer keyboard unit and supports the monitor.

Cabling is reduced compared with the standard Atari components by connecting the very low power consumption drives to the external computer power supply. If you wanted to buy the disc drives separately you would send your power supply to AS&T for modification under their exchange scheme which has a one day turnaround.

Owners of 1040s – which have internal power supplies – would require a separate power supply for these disc drives to avoid the need to open up the keyboard unit.

The printer in the Starter System is the MP-165 from Micro Peripherals a leading supplier of both branded and own-brand machines. This is a nine needle dot matrix unit capable of handling paper up to 10in wide with tractor or friction feed.

It has a rated speed in draft mode of 166 characters per second and is also capable of printing in near letter quality mode about a quarter as fast. It has a very complete specification and can print European and Japanese characters at 12 and 17 characters per inch as well as the standard 10.

It is even capable of proportional spacing when using a suitable word processor and printer driver and of printing bit image graphics for screen dumps.

The printer is Epson compatible although this standard does not extend to the NLQ mode. It may be controlled largely via software which is much more convenient than via hardware switches – whether on top or round the back – though these may also be used. The printer ribbon is also Epson-compatible and hence widely available.

The system includes the standard Atari software – the word processor First Word the programming languages Basic and Logo and a painting program Neochrome. The first is useful in the home or business while the others afford opportunities for writing your own applications and for relaxation.

It offers the serious home and business user a complete system for word processing and more while occupying a smaller desk area and costing significantly less than one using the standard Atari disc drives. It has ample scope for enhancement with new peripherals and software as user requirements change and grow. ■



A helping hand on the way to your first million



Reviewed by Peter Connors

Product Cashlink ST Accounts
Price £295
Supplier Cashlink Software Clogwyn Menor Rhyd Ddu, Caernarfon, North Wales LL54 7YS

IF you're an IBM PC or clone owner Cashlink Accounts for the ST is as welcome as a bad cold This accounting suite costs less than half the price of the PC or Apricot version, and runs three times quicker than on the IBM So how much does it cost, and what does it do so fast? The first is a short answer – £295 + VAT – but the second really needs a book all to itself.

Anyone setting up a small business needs to keep accounts You can get away with the back of envelopes for a bit if you aren t serious about making money but the taxmen catches up with you eventually

If your turnover – the amount of money that passes through the business – is big enough to qualify for VAT registration then eventually becomes just three months and customs and excise officers have been known to make midnight visits to offenders

There is also a positive side to keeping the books straight because if you need money to expand then potential backers need to see accounts they can understand

These figures tell them and you in what direction your business is heading – like a map good accounts avoid commercial dead ends and abrupt falls These accounts need to be recorded and presented in ways which fit in with standard accounting protocols

All the transactions you make are entered in ledgers – not those big leather books any more but disc files Every transaction can be entered in a general ledger and this can be subdivided into headings like purchase or sales

Purchases may have different VAT rates to be reclaimed from the VAT on your sales which in

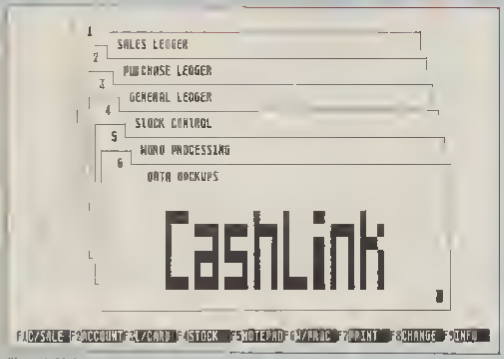


Figure I Main menu

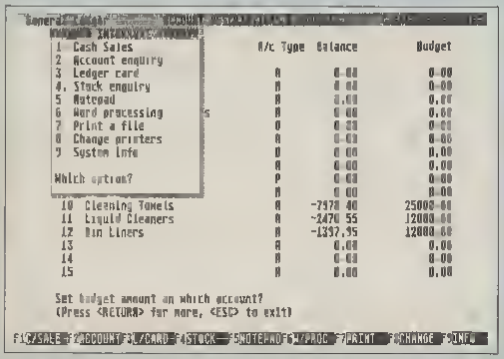


Figure II Intercept ability is most useful

turn may have different discount rates for customers each of whom will need sales printed on an invoice

Every time you sell something the stock of that item decreases If your stock of left handed guzzengers drops then you need to reorder before you lose customers with that traditional saying I m sorry but we re right out of them at the moment If sales are integrated with stock control then your customers shouldn t get nasty surprises like that

Each month quarter or financial year there will be demands on your accounts Slow-paying customers may need another statement of what they owe or even a final demand The VAT may need to be worked out or the Inland Revenue might want details of your employees wages

All that paperwork has to be printed out with the correct addresses and details Even with a word processor keeping track of all the bureaucracy in the correct formats involves a small business in laborious paperwork often with only part-time secretarial and accounting assistance Above all it is profoundly boring

Cashlink Accounts comes to the rescue by doing all this and more from within one program on the ST – see main menu screendump in Figure I It needs a 520ST and a double sided drive as a minimum configuration Both program and data can be held on one disc with this hardware line up but the bigger your disc storage the more accounts and stock items the system can handle

If you need the hardware as well Cashlink Software supplies inclusive packages up to the 10mb hard disc level Cashlink Accounts doesn t use Gem but instead uses its own windowing system which makes it possible to examine one section of the accounts while suspending work on another

This interrupt ability is available from pretty well anywhere within the accounting suite and is one of the most attractive aspects of Cashlink – see screen dump in Figure II From the main menu individual selections access sub-menus such as that for the general ledger in Figure III

For example from behind your executive desk at the centre of the world s largest left-handed guzzenger business you may decide you need a profit and loss statement – an instant update on the state of your business – and in the middle of that you might wish to check that day s sales and in turn you might want to make notes on them before you forget

The latter is possible because built into all this is a Wordstar-compatible word processing program which makes notes composes reports and letters and even prints labels for your monthly statements to customers Figure IV shows the WP main menu

Documentation is every bit as good as you would expect for the price The sections are divided up in the same way as the screen menus so it is very easy to find the information relating to a function

Cashlink Software has also shown awareness

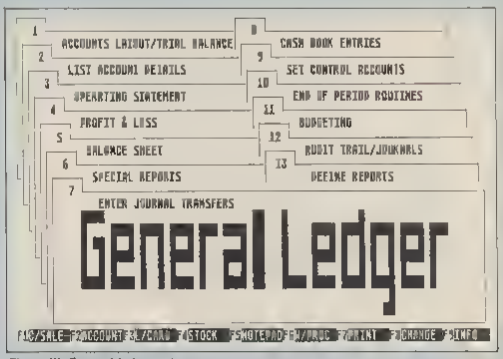


Figure III General ledger sub menu

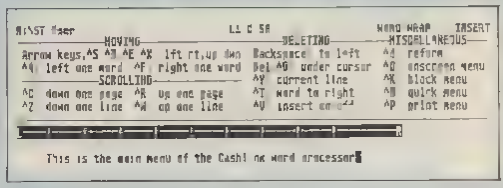


Figure IV Word processor main menu

of the needs of the small business user by including a step-by-step tutorial section in the handbook together with sample accounts Anyone at a loss with accounting terminology will find all the explanations they want here

Security hasn t been forgotten and it is necessary to enter a code related to the serial number before the program can be run Access to the ledgers is then controlled by different user-selected 13 character passwords for different parts of the accounts If you really must use a password like 1234 then don t blame Cashlink if you find a mouse in the works

So is it worth it? Even if you re a world expert on left handed guzzenger marketing and don t actually sit down at a keyboard or calculator yourself the reductions in secretarial and accounting costs will soon be evident compared with an all-paper system

If you run a one-man window cleaning outfit those savings will probably take a long time to appear However if you expect your business to grow rapidly – and we all dream – a computer based system such as this is indispensable After all nobody wants any hiccups on the way to the first million

Ten million is a problem however because the largest figure Cashlink Accounts will accept is £9 999,999 99p If that creates a serious difficulty for you there is only one answer – buy another ST ■

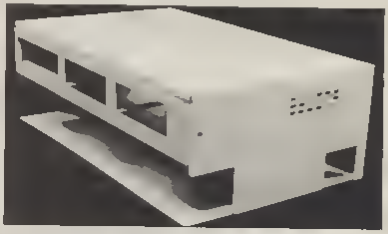
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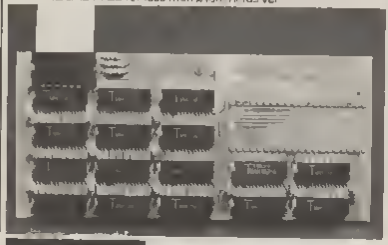
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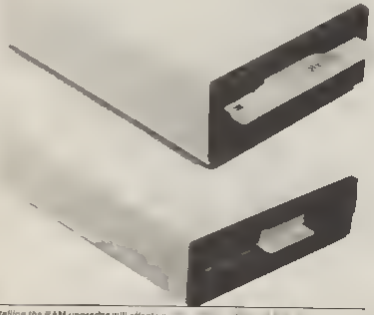
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No. 12 August 1986

NEWSLETTER

Help for the Boat People

MICROLINK is being used to bring hope to thousands of distressed Vietnam refugees living in the UK.

Their plight largely ignored these former Boat People have become a forgotten multitude of have-nots crowded into substandard dwellings.

Their families are dispersed and they are unable to find work or obtain help from social agencies because of language difficulties and their ignorance of the system.

But now MicroLink's telex and electronic mail services are easing cases of hardship by speeding the reunification of families and smoothing their path into Western society.

Many former Boat People are suffering because when they arrived in Britain the authorities assumed that being Vietnam refugees they were automatically Vietnamese.

In fact three-quarters of them were ethnically Chinese, speaking only a form of Cantonese and unable to understand the Vietnamese instructors hired to teach them English.

As a result they were classed as incapable and illiterate and many suffered severe psychological problems as a result of their failure to adapt to British society.

Because of their inability to communicate they could not even obtain adequate help from social agencies and hundreds ended up in squats and dingy hostels.

Shunned by the ethnic Vietnamese and even UK Chinese communities because they were considered inferior the former Boat People faced a bleak future.

But a Chinese Vietnamese Advice Centre staffed by voluntary social workers has been opened in London to help them and it is using MicroLink in its efforts.

Alf Jackson one of the volunteers said: "MicroLink's facilities will enable us to establish better communications with refugee agencies all over the world – particularly Hong Kong – and put dispersed families in touch.

"As well as the reunification of families our work is concerned with improved housing for the refugees and their integration into UK society for instance helping them set up in business."

CLIFF IS STILL TOPS

DESPITE what some critics might say the top show in London is the Cliff Richard musical Time.

At least that's the verdict of MicroLink subscribers according to the volume of bookings placed through TheatreLink, which is operated in association with renowned theatrical agency Edwards & Edwards.

Although Time has been panned by some of the critics it beats the long running hit musical Cats into second place in the MicroLink theatre-goers' Top Ten.

In third place comes Me And My Girl – another of the eight musicals in the popularity list – followed by 42nd Street, with Starlight Express in fifth place.

Another target for the critics Mutiny! comes sixth followed by perennial favour its thriller The Mousetrap and the comedy hit Run For Your Wife.

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Commonwealth link?

MICROLINK has been chosen as a potential medium of communication between the Commonwealth Secretariat in London and the organisation's 49 member countries.

A project is underway to assess various electronic mail and telex options in conjunction with the Secretariat's planned expansion of its computer facilities.

The aim is to improve the speed and efficiency of links between member countries and also with international bodies like the United Nations agencies and the World Bank.

The Commonwealth's own specialist databases will also be set up as part of the project which is expected to be completed in about two years time.

MicroLink is one of two systems we are experimenting with at the present time said Commonwealth Secretariat computer manager Peter Windle. "We have been impressed by its user friendliness and ease of use.

H&D Base well worth the effort



HAVING been a Dbase II freak for a long time I awaited the arrival of H&D Base from Chester Holmes and Oliver Duckworth with the anticipation of a pools winner waiting for his cheque. Why the excitement? Ashton-Tate's Dbase products have become so commonly used that they are virtually industry standards.

The main reason for their popularity is the versatility given by the vast range of commands and the ability to execute these commands from a disc file just like a Basic program. Where an off-the-shelf database is insufficient or would be cumbersome to use, Dbase II is often the answer. In fact a tremendous amount of applications software has been written in this command language, though often the users are unaware of it.

H&D Base, like Dbase II, is a relational database – that is, it can process information contained in several files which are related. Only two files may be in use at the same time, but these two files may be linked together so that movement within one file will result in a similar movement in the second.

The most efficient method of accessing a record is by means of indexes, and in this respect H&D Base is well-catered for. Indexing on a single field or a combination of fields. Only one index may be in use at a time, but up to seven indexes may be open – and therefore automatically updated – when data is added, deleted or amended.

Commands are simple English-like words and beginners should be able to create and use a database in a very short time. Basically you may type CREATE filename and follow the prompts. I created a simple database for appointments and the command LIST STRUCTURE would then display the database as in Figure 1.

The command APPEND then allows us to enter appointments into the database, and where repetitive data is common SET CARRY ON carries forward the data from the last record into the new. EDIT enables us to alter or delete the data already entered.

One delightful attribute of H&D Base is that deleted records are not actually removed from the database until the PACK command is issued, and this can be a lifesaver.

Having entered the data H&D Base now comes into its own. For example the command

```
LIST FOR DATE="25/07/86"
     AND AM=T
```

will list all morning appointments on July 25. The field AM has been set up as a LABEL field where it may only contain Y or T – for true, or N – for false.

Changing data en bloc may be done with the REPLACE command.

```
REPLACE ALL KEYWORD WITH "Fred"
FOR KEYWORD="Bert" .OR
KEYWORD="I C I"
```

will change all of the appointments with Bert or his company to now be with Fred. These very simple examples give an idea of what may be done.

H&D Base has its own report generator which, while rather unfriendly, works quite well. It saves your report on disc as a text file which may be edited with the command file editor or reused as it is.

There is no limit to the number of reports you may have other than the obvious one of disc space. If you need something special you can always write it yourself and the tutorial will assist. The editor is a definite improvement over the Dbase II offering, which must be the worst I have ever used. H&D Base's editor, while primitive, is quick and efficient, though very large command files can be a problem.

H&D Base is written in Forth and has the unusual ability of making all of the 200 or more words in the Forth dictionary available to the user. In addition bindings into GEM itself have been supplied with documentation on the disc. The manual is exemplary and better than Dbase's own.

It says it is compatible with Dbase II command files and programs ported over from an Octopus computer worked with only minor changes. The technical specifications of H&D Base are given in Table I.

The first version of the program nearly gave me a nervous breakdown. It had a lot of bugs, one of the most infuriating being that all error messages were in colour. I have only a monochrome monitor and thus couldn't actually see them. A telephone call to the States brought an updated copy four days later, cunng most of the bugs, but the indexing still wasn't right and it was still prone to crashing without warning.

Finally the production version arrived at my dealer and so I set to work in earnest. With each new version there were more examples and documentation. The current version now has a sample Gem application and also a set of

```
STRUCTURE FOR APPTS.DAT
INDEX IN USE: NONE
NUMBER OF RECORDS: 0
PRIMARY SELECTED
FLD  NAME       TYPE   LENGTH   DEC
01   KEYWORD    C      015
02   DATE       C      008
03   TIME       C      005
04   AM         L      001
TOTAL BYTES             00030
```

Figure I. The structure of a sample database

By SIMON TERRY



programs written as command files to assist the beginner in starting to use the program

Program development especially if you are using the Forth or Gem extensions can still result in a crash but mercifully that is now infrequent Shortcomings of the package are generally minor but the error trapping could be better The manual recognises that more error trapping will slow the operation but a simple display of an errant program line when a program aborts would help debugging a great deal

In terms of access speeds fast it ain t Use of a hard disc improves matters a great deal and since hard discs at reasonable prices are imminent – by the grace of Atari – large customised databases running at reasonable speeds are eminently feasible

The slow speed has a plus side however – the data files are remarkably secure A power failure in the middle of an editing session resulted in the loss of only two records which were still in the disc buffer the remainder of the file being perfectly intact

The Forth commands appear to work as do the Gem extensions and I used the Gem sample supplied to operate as a shell for some of my own programs without much modification

However to make the best use of these extensions some knowledge of Forth and preferably a Gem reference book would be necessary The Forth language gives access to the machine that Dbase II never had opening a lot of doors to comms networks hardware – for example remote cash terminals – and of course graphics The use of even the simple shell supplied gives the user the ability to run accessories an ability not normally available in a non-Gem program

Despite its idiosyncracies and the wealth of databases now available I use H&D Base more than any other If you are prepared to spend some time learning how to use this product you won t regret it and books on Dbase II should help the beginner – your dealer should be able to get them for you H&D Base costs £99.95

Maximum Specifications

Characters per field	254
Characters per record	2,000
Fields per record	97
Index key length (chars)	100
Records per file	Limited only by disc space
Numeric accuracy	9 digits
Character string length	254
Command line length	254
Variables in SUM command	5

Table 1

Atari ST User

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EDWARD SHARK reports

ONE of the biggest selling points of the Atari range in the US lies in the plummeting hardware prices

They have fallen to levels that are attracting a whole new generation of Atari owners who have leapt on the Tramiel Power without the Price bandwagon

Atari continues to forge ahead with software for the best-selling ST which is now outselling the Commodore Amiga many times over in the US thanks to the recent return of the Amiga to its old price of $1 600 (up by $500 after a summer promotional deal)

Not to be outdone Atari US is giving away a monochrome monitor to buyers of the 520ST and SF354 disc drive – that makes a mono ST system around the $450 (£380) mark

And 8 bit Atari owners shouldn't feel left out either even if the UK Laskys chain has seemingly abandoned such owners except for the 130XE which is still on display in downtown UK Laskys stores

For $99 (£66) you can get the 65XE machine complete with four items of software Star Raiders Pacman Donkey Kong and Skywriter worth $85 Not bad value

The 65XE seems to be taking over from the Atari VCS games cartridge system in the US which despite resuscitation by Atari at recent US computer shows (more of which later) is still being shunned by increasingly mature games computer buyers

Following the 65XE a tall is a $339 (£285) package featuring the 130XE disc drive and printer along with the Atariwriter Plus word processing package and four other software titles – Music Composer Star Raiders Defender and Home Filing Manager

Potential buyers have the option of replacing the 130XE with the 65XE for a $349 list price You might think that sounds a little too close for comfort to the above $499 ST package and you'd be right – some US dealers are shaving the 8 bit prices by as much as $50



Atari's leadership on the personal computing front was quite clear with their attitude at the Consumer Electronics Show in Chicago during June where they had the biggest and most prominent stand in the computer section

The entrance was flanked by two special displays 'See the Power of Atari' featuring video digitisers and 'Hear the Power of Atari' with linked music synthesisers providing the aural sensations

And no we're not just talking about the ST here – the displays were divided evenly into 8 bit and ST products

As with the PCW show in London last September Atari rented a block of 36 stands from the show organisers and sub-let them to US software houses

Again half the displays were allocated to the ST and the rest to the 8 bit machines perhaps representative of Atari's growing realisation that the public are a little worried that the firm may dump the 8 bit machines Above all else the message was clear at CES – Atari 8 bit machines are still alive and doing well

On the ST software front several distributors chose CES as a stand to unveil or announce forthcoming software packages for the 68000 machine

Batteries Included announced a wide range of ST titles in the home and office category including Thunder! their realtime spelling checker and I*S Talk a terminal program with a whole host of features including the spelling checker

Microprose had Silas Warner author of many top-selling computer games like Castle Wolfenstein and Robot-wars demonstrating Silent Service for the ST

Baudville Epyx Firebird and Strategic Simulations were some of the software companies who announced expanded support for all Atari products at the show

Several UK ST owners have complained of late that they are experiencing difficulty in getting connectors for standard monitors

One international firm which specialises in mail order for connectors of this type from DIY plug kits right through to custom connectors made to order are At Your Service, 2856 Leschburg Road Lower Burrell PA 15068 or call 0101 412 335 4477 and ask for Mark Spires.

The latest release available from Atari US this month is DB Master One an enhanced version of the program given away by US dealers last December



Also available is DbMan a dBase II clone with many extra features for the ST

On the 8 bit front Planetarium and Star Raiders II are beginning to make an appearance in US stores. Both titles were greeted very favourably at the CES and Comdex shows

Baudville Inc has three new titles of home and entertainment software Video Vegas (blackjack poker fruit machine and so on) and Ted Bear's Rainy Day Games for young people Contact them on 0101 616 957 3036

Karate Champ onship from Epyx will keep the 8 bit machine owners happy with very realistic animation of martial arts while for the ST Epyx are shipping Rogue and the revamped Temple of Apshai Trilogy

They also plan to release Winter Games World Games Super Cycle and Championship Wrestling for the ST series in good time for in good time for Christmas



I know many UK Atari owners have bought a modem for their ST, but are becoming frustrated by the dearth of good software available free for downloading on UK systems

While uneconomic for browsing two major BBS systems in the US are now open for free downloading of software for the price of an international phone call

First is the official Atari BBS – Atari Base – which is available 24 hours a day at 300 baud or 1200 baud (full duplex) on 0101 408 745 5308

Atari Base has more than 200 programs on line all of which are available as public domain software which, if downloaded at 1200 baud via an international phone call can work out at about £4 to £5 per downloaded program assuming cheap rate calls

Another BBS in the US which offers a wealth of free software for the ST is the Heate BBS which is accessible at the same speeds on 0101 713 955 9532

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