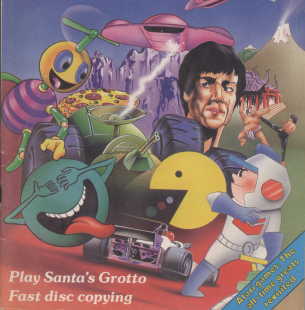


A Database Publication

# ATARI USER

Vol. 2 No. 8 December 1986 £1

*Inside  
this  
issue*



*Play Santa's Grotto  
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**£25 for you!**

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## Triple mode design

*The new Atari 7800 plays all Atari 2600 games without requiring an adapter, and its own design allows it to accept a wide range of peripherals.*

The system memory has two 2M x 8 bit static ram chips and one 16K x 8 rom. Ram chips are selected using the signals RAMECS1 and RAMECS2 as segregated in the Atari graphic chip.

The machine runs in three distinct modes - internal and Atari modes and 7800 compatibility mode.

The system automatically decides which mode to run in, depending on the cartridge plugged into the slot when power is turned on.

Audio in the 7800 system always comes from the custom TIA chip, possibly mixed in with the DAUD signal from the cartridge.

The video may come from either of two sources, TIA or Atari. When running in compatibility mode the 7800 system turns off the Atari chip and all video output comes from the TIA.

The keyboard connects via the joystick port. Vertical resolution is fixed at 320 by 192.

"The machine offers improved graphics and game play compared with the 2600 system, and competitive performance versus the 88 line", says Atari.

"It doesn't require an adapter to play 2600 cartridges and it will be launched with a full line of hit software titles".

All program listings in Atari Star are now available for free downloading on MicroLink, the UK's fastest growing electronic mail service. They join hundreds of programs already available in the telesoftware section, one of the most popular areas of MicroLink.

# Show debut for games machine

**AM exciting new Atari games machine will be unveiled at the Atari Christmas Show in London.**

The Royal Horticultural Hall, Westminster, has been chosen as the venue for the UK launch of the Atari 7800 - less than a month after its debut in America.

Atari describes the new-comes - which is expected to carry a price of £39.95 - as "a supplantment of our commitment to the games market".

The machine is intended to answer long standing criticism that the company has been neglecting its loyal army of games enthusiasts in favour of its upstream operations - in particular the ST series.

The new machine, which is due in the shops before Christmas, is expected to rivalise Atari 8 bit software production.

"A large number of new games will be available by the time the 7800 arrives in the shops", an Atari spokeswoman pointed.

Software houses are

clamouring for development kits and plenty of software will be coming in from UK developers.

The 7800 will be the centrepiece of Atari's major presence at the Christmas Show which runs from Friday, November 28 to Sunday, November 30.

The company has promised that visitors will be able to enjoy hands-on experience of the new machine as well as getting a chance to see its superb graphics.

## Bargains

"Atari has been accused of ignoring 8 bit users in favour of the 16 bit ST, but they have not been forgotten", new UK general manager Bob Giesdorf told Atari Star.

"We have new software for them and this will be on display at the show".

Altogether more than 100 stands will be loaded with new products and bargain buys from the leading Atari suppliers.

The spacious 20,000 sq ft exhibition hall will play host to big names like Software Express, Twiliter, GDS, Microdeal and Advanced Sys-

tems & Techniques as well as Atari itself.

This means the location is likely to see a repeat of the success at the first Atari Computer Show last March, which attracted 15,000 visitors.

Latest news of product launches at the show includes Protopop from The Moving Finger Company.

This back-up utility lets users make working copies of all their ST software, as well as formatting and copying discs, and costs £34.95.

Etemosh will be offering two co-ordinated graphics and sound packages for the ST - Prosprite Designer, price £29.95, and Prosound Designer at £49.95.

The firm is also launching Malcom, a new coming package offering access to both Protext and Telexon Daid as well as supporting Emuland and Kernal protocols. Price £29.95.

Etemosh single and double floppy drives for the ST will be available for £125 and £199. A 20Mb hard disc unit incorporating fully 64m co-ordinated software and desktop accessories costs £599.

## NEW UK SALES CHIEF

ANOTHER former Commodore executive has joined the Atari UK management team.

Paul Welch has been appointed UK sales manager, a position similar to the one he held at Commodore before leaving a year ago to become a

mail order software dealer.

Welch follows former Commodore colleague Bob Giesdorf to Atari. Giesdorf, now Atari UK general manager, was Commodore's UK general manager when Welch joined the company in 1981 as national accounts manager.

The two men struck up a rapport at Commodore and it was Giesdorf's recent move to Atari which tipped the scales away from two other attractive job offers Welch was considering.

Interviewed by Atari Star,

Welch revealed he had been offered the Atari sales boss position two years ago but had turned it down.

"Now that Bob Giesdorf has joined Atari it's a different proposition", he said.

"We had a good working relationship at Commodore and I'm sure we can make things happen for Atari."

"We intend to make Atari the pre-eminent brand in the UK micro market area more, concentrating on ensuring our machines are fully supported by top quality products".





## BUMPER TO BUMPER

CLASSIC pinball with a difference gets the arcade video treatment in Pinball Factory from Midlinton for the Atari ST.

In addition to the game of pinball, players can also design, build and edit their own scenarios.

They can create their ideal pinball machine, choosing from a multitude of bumpers, bats and other devices and placing them wherever they like.

Then, using a graphic drawing system, walls and solid barriers can be added.

The playing board can be illustrated with pictures, arrows and other designs which the ball will pass over during play.

Any of the ST's 16 colours colours can be changed as desired using the built-in art program, and there is a choice of more than 100 different shades.

Designs can be saved and loaded to disc. Price, including sample ready-to-play screen, \$39.95.

## Easier payrolls

A PAYROLL package for the Atari ST has been released by Ryle Data.

File-Wages is designed so that all PAYE, National Insurance and statutory sick pay information need only be updated once irrespective of the number of payrolls on the system.

Separate weekly and monthly payrolls for a number of companies can be held on the same disc.

Each payroll has its own file and password protection but all share systems, PAYE, NI and SSP parameters.

A variety of payment terms, periods and methods is possible. Employees can be entered on hourly-paid and payments can be made weekly or monthly by cash, credit transfer or cheque.

Standard payments and deductions are held on file, and pay details can be entered manually or automatically. Price £195.

# ON-LINE TO NORTH POLE

MESSAGES in Father Christmas need not depend on the efficiency of the postal service this year.

To ensure that every child can contact him before the big day, the jolly old fellow has gone on line up at the North Pole.

Equipped with an Atari micro no less, Santa has hooked up his workstation to the giant MicroLink

computer in the UK.

Now all the kiddies – or their parents – have to do is contact him in 10 seconds' time message via micro and modem.

SantaLink is the latest service being offered through the country's latest growing electronic mail and messaging system.

All MicroLink subscribers

have to do is type SANTA at the prompt when they go on-line, and that's that. The system takes care of the rest. And Father Christmas guarantees that every message sent to him will get through – and be answered personally – right up to Christmas Eve when he leaves to deliver everyone's presents.

## Package for pros

A MUSIC sampling system for the ST has been launched by Synthesizer Music.

The ADAP (Analog to Digital, Audio Processor) SoundBack allows the user to store up to 64 multi-samples in memory for instant playback and incorporates real-time digital effects processing – delay, reverb, reverse and envelope



following. The package, which is aimed at music, video and broadcast professionals, is already used by top artists Chicago and the Pointer Sisters.

Price £2,499.

## Data back-up

ATARI software producer Midlinton has brought out a utility providing data back-up protection for ST hard drive owners.

Backup duplicates the contents of the user's hard drive to floppy discs, minimising the risk of loss.

It also lets the user restore the floppy back-up to the hard drive.

Backup uses Game pull-down menus to offer numerous options with different types of mouse controlled back-ups and restores.

Intelligent routines give the choice of making full back-ups of the entire hard drive, back-up of newly created or modified files, or back-up simply by date.

The user can make an "image" back-up, transferring logical sectors to counterpart floppies. Price \$39.95.

## 24 HOUR TURN ROUND

A NEW concept in electronic publishing from Lightning Graphics allows Atari ST users anywhere in the country to buy Scanart digital typesetting for as little as 15p per 24 page.

It is intended for companies and individuals involved in graphic design, printing and publishing who cannot afford the cost of high quality traditional typesetting.

### Access

Lightning offers training and a manual along with 100 worth of free typesetting and access to its electronic mail system.

Text is keyed in conventionally on the micro and instead of making up the copy the user inserts special codes supplied in the manual.

These codes signify typical marking up functions such as type size, line size and line length.

Copy is sent via electronic

mail directly on to Lightning's Scanart typesetting system.

Once processed – 24 hours in the normal turnaround – Scanart printouts are sent back to the client by post or special courier.

## All set to move up

ATARI believes it is poised to move into fourth spot in the UK micro sales chart.

Senior executives at the company's HQ are celebrating. Industry reports that Atari 8 bit machine sales will soon displace the Commodore 16 in the rankings.

"Latest figures show we are only a fraction behind fourth place right now", a spokeswoman told Atari User.

"We're confident that the current trend will continue and we'll be challenging Amstrad for third place soon."

"The second picture confirms the progress that Atari has made to regain its pre-eminent position in the UK micro marketplace."

"Naturally we're all delighted to hear that independent industry research portrays us in such a favourable light".

## Record release

A MANAGEMENT system for C programmers using the Atari ST has been released by Microdeal.

Easy Record handles up to 16 indexed record files at one time, with eight key fields in each record file and eight subfields in each key field.

Each key field has a maximum of 123 bytes.

The system allows record access through a variety of logical functions and has a fast, multi-way, random record storage facility.

Transaction processing allows related files to be kept consistent with start and end into transaction functions.

Easy Record allows specification of key fields, supports key field values, creation of files from existing open files, and creation of files from definition files and/or blocks.

It also allows integer, unsigned, long, float, double, string and name independent string key data types, and C source code is included. Price £28.85.

Also new from Microdeal for the ST is Mighty Mail, a comprehensive mail-ordering database with GEM full down menu price £29.95.

## Movie music

SPECIALIST in computer software for the music industry, German-based Steinberg Research has begun distribution operations from new premises in Delfordshire.

It has also announced its first product for the Atari ST, an aid to synchronising music in film and television studios.

Called the SMPTE - Society of Motion Picture and Television Engineers - generator, it will be totally interactive with the revised Pro 24 program - a multi-track recorder - and connect to the ST via the RS232 port.

The company claims this combination will set new standards in sequencing movie time code. The SMPTE generator itself will be available separately for about £600.



Shovel Knight: The control panel

## Christmas games roundup

A VERSION of the hit arcade game Gauntlet has been released for the ST by U.S. Gold.

The game, which generated a lot of excitement when released in its original coin-in-the-slot format last year, offers multi-player capabilities as well as sophisticated graphics.

A choice of four characters is available with 160 levels of difficulty.

The object is to combat waves of attacking monsters while competing for food, treasure and magic potions. Price £24.99.

Also new from U.S. Gold is the first in a series of MegaGames compilations.

Shovel Knight for the Atari ST bit series features four previously released titles - Super Rascal, Dragons, Blue Max 2001 and Pen Approach. Cassette price £9.95.

\*\*\*

THE first two in a series of Level 9 triplets have been released for the ST and 8 bit machines to Rainbow Software.

Extensively re-written, Jewels of Darkness comprises three of the most popular Level 9 ST adventures - Colossal Adventure, Adventure Quest and Dungeon Adventures.

The second package, Shovel Knight, features Shovel Knight, Return To Eden and Worm In Paradise, all running on the 8 bit range as well as the ST.

Both packages come com-

plete with a 64-page novella incorporating a 12-page play-guide.

Jewels of Darkness is available on disc, price £19.95. Shovel Knight is available for the ST on disc, price £19.95 and for the 8 bit series on disc or tape for £14.95.

\*\*\*

FOUR new ST games have been released by Microdeal.

Electronic Pool is a colourful video pool game featuring a high score table, realistic sound effects including reggae music. Price £19.95.

Pinball Factory allows the user to customise his own pinball games and save them to disc. Incorporating graphics,

test audio and sound it costs £24.95.

Shuttle is a graphic simulation of the NASA spacecraft. Featuring music from the film 2001 A Space Odyssey, the package costs £24.95.

Karate Kid II is the game of the film.

An Daniel LaRusso the player must battle against powerful adversaries, finally meeting the evil Chozen in the castle of King Shogun where the secret of the drum must be discovered.

The program features full-size animated characters and sounds £24.95.

\*\*\*

LATEST release from Demand for the Atari 8 bit series is a version of its bestselling package Trivial Pursuit Genius Edition.

Offering all the facilities of the popular board game together with animated graphics, the program is available on disc at £19.95 and cassette at £14.95.

A Young Players Edition is also available for the XL and XE at the same price.

\*\*\*

All adventure question time for users of Level 9 software is to be held in Reading on Saturday, December 13.

Owners of 8 and 16 bit machines are invited to present the forum where Level 9 representatives will be offering adventure hints and tips and giving away free gifts.

The event will be held between 11am and 1pm at the Orion Computer Store, Harris Arcade, off Prior Street in Reading.



CARTOON favourites from the popular Master of the Universe television shows will feature on new software for the Atari ST. A licensing deal has been signed by Marvel and

US Gold to bring out separate arcade and adventure versions of a game starring He-Man, Battle Cat and Teela in their fight against the evil Skeletor.

**An event NOT to be missed!**

# Atari Christmas Show

**Royal Horticultural Hall  
Westminster, London SW1**

**Friday November 28 10am-6pm  
Saturday November 29 10am-6pm  
Sunday November 30 10am-4pm**

The first ever Atari Show last spring was an outstanding success. From all over Britain Atari enthusiasts flocked to London to find out all they could about their favourite machine.



Soon the record-breaking Atari Show will be back - with three days devoted to the exciting developments in this expanding market. Make a note in your diary **NOW** to make sure you don't miss this great Christmas extravaganza!

- All the latest software from publishers in both the UK and USA
- New hardware releases from Atari and other major companies
- Experts from Atari User and Atari ST User to answer your questions
- Experience the fascinating world of computer communications
- Everything on show from stocking fillers to complete Atari systems

Whether you're a new user or a seasoned addict, you'll find the show overflowing with ideas to help you expand your computing horizons!

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Saturday, Nov 29, 10am-6pm  
Sunday, Nov 30, 10am-4pm**

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# Good as new

**Program:** *Star Raiders* ©  
Piranix £14.99 (also only)  
**Supplier:** Atari, c/o ZDL, 2-4  
The Waves, Matherley  
Road, Gillingham, Kent DA14  
4QR  
Tel: 07-308 2131

**STAR Raiders** was introduced in 1979 when the Atari 400/800 machines were launched, so *Star Raiders II* represents a landmark in Atari history.

Does it shape up, is it worth buying the new one and is it as good as the original?

The answer is yes, but don't buy it expecting a carbon copy game with flashier graphics as it's a modified version of the unmissable *The Last Starfighter*.

Seven years on and the Zylon is up to their old tricks, this time with better weapons. They have improved their defences and have the capacity to introduce more ships into the fray.

To defeat them you will have to protect the cities of the

Galax IV star system and destroy the attack bases of the Piranix star system, while the Zylons build their new ships.

Each star system has a number of planets with cities or attack bases and to succeed you will have to move between and around the systems.

There is a new graphic representation of the star systems, with planets, moons and stars, looking more like pages from a colour encyclopedia than a computer game.

Also shown are space stations and Zylon squadrons in transit.

When you select a planet on the System Chart you're given a lot of information, including the number of cities or attack bases there, the type of terrain and the number of enemy ships surrounding it.

When you warp there the planet is represented as a scrolling landscape below you. *Liberty Star* doesn't handle



you well in combat. She doesn't seem to turn at all and there is no aft view.

She won't pull up or drop when engaging enemy ships, and you can't adjust your speed in deep space.

The Zylon ships tend to present themselves to be shot down so there is no hunting in this game.

A different type of enemy ship appears when a predetermined number of lower types are destroyed.

Be careful - I have often hit a *Hy Fighter*, seen it catch fire, and then had it hit back at me in its death throes.

Docking is fully supported,

which is just as well as your ship has very small fuel tanks.

Refuelling and repairs take a large portion of your time but there is no penalty for leaving a ship or base in judgement time.

I heartily recommend this game, probably the best to have appeared since *Star Raiders I*. The number of tasks involved mean that any limitations are satisfactorily overcome.

**Rob Anthony**

Sound	..... 5
Graphics	..... 5
Playability	..... 5
Value for money	..... 5
Overall	..... 5

# Pitching it right

**Program:** *Hardball*  
Piranix £7.99 (also only)  
AT 1.99 (also only)  
**Supplier:** CBI Direct, c/o ZDL  
Michael Way, Matherley  
Road, Gillingham, Kent DA14  
4QR  
Tel: 071-350 2036

**HARDBALL** is the first simulation for the Atari of the very popular American sport, baseball.

On loading, a series of choices are presented, covering two player and computer versus player games. A menu segment shows team members and offers the opportunity to substitute men or move them about the field. Action then passes to the main screen which is split into two sections.

The upper half shows the pitcher and the batter, with the

outfield and the umpire who looks like an overgrown gorilla behind the batter.

On the right is an inset diagram of the whole pitch or even the running route maybe seen.

The lower portion of the screen gives details of the scores and displays the batting and pitching choices in large red and blue boxes.

Each player chooses a batting or pitching method by using his joystick and pressing the fire button.

The pitcher then chooses where to place the pitched ball and the catcher will move his glove to the relevant position.

The ball is pitched and the batter now has to try and hit it by choosing a direction with the joystick and swinging the bat by pressing the fire button.



If he hits the ball, a ball view of the field appears showing the running men and the fielders chasing the ball.

If he misses, the umpire will call Strike and, providing the batter has had less than three strikes against him, another pitch may be made. After three strikes a batter is out.

After three strikeouts the whole team is out and the teams change over. The game ends when both teams have batted nine times.

Music plays throughout the

game, and although you can't turn it off, there are several different tunes.

Graphics are brilliant, especially the movement of the pitcher. However it is very difficult to play at first, and takes several hours of practice to hit the ball regularly.

**Stephen Foster**

Sound	..... 10
Graphics	..... 10
Playability	..... 4
Value for money	..... 7
Overall	..... 7

## South Pacific

**Program:** Screaming Wings  
**Price:** £7.99 (casualist), £9.99 (hobby)

**Supplier:** And Ait, 73 Pennes/  
Street, Weymouth, Dorset  
300A  
**Tel:** 0957-830 1500

If you've ever fancied yourself as a pilot taking on hordes of enemy aircraft single-handed then this is your type of game. Fans of the arcade game 1942 will no doubt notice more than a passing similarity, although the enemy seem to have adopted different attack tactics.

You command a Lockheed Lightning Fighter, taking on the waves of Japanese fighters and bombers that come swooping in as you patrol the South Pacific.

You take off from your carrier at the start of each wave and land again before the next - providing you survive.

Destroying certain planes gives you limited extra

firepower or Destructor Smart Bombs.

Your plane can also perform up to three loops to get out of those awkward little situations, but you do get an extra bonus for keeping them.

As this is controlled by the spinner you usually end up not being able to use them to any great advantage anyway.

The larger fighters take a bit more killing and the bomber almost refuses to be shot down, which means using different strategies on different planes.

Fortunately all is not lost, for occasionally you are joined by another plane which acts as a shield for a while - who said obsolescence was dead.

joystick response is good although I felt the plane was a bit restricted as it is confined to the lower quarter of the screen.

The game is quite addictive, with a definite feeling of 'just one more go' whenever you

lose all your lives.

Graphically the game falls down a bit - the planes are rather outshining, especially your own.

The background is quite well designed and scrolling is very smooth, and the planes swoop and turn quite convincingly.

Some planes seem to have the ability to fly backwards (pretty clever, these Japanese), but this doesn't really detract from the game.

Sound effects are good but an unimaginative horn plink track is the background. However, you can turn the

tone off but leave the sound effects on.

Overall Screaming Wings is a fairly average shoot-'em-up. If it keeps you occupied for a few hours but the lack of variety in later screens and having only one level means once you have played it a few times the appeal fades.

As the price is worth trying it out before parting with your money.

**Mark Powell**

Sound	9
Graphics	7
Playability	8
Value for money	7
Overall	7

## Humble servant

**Program:** The Slave  
**Price:** £19.99 (hobby)

**Supplier:** M.J. Company (Japan)  
Street, Dorset, DT1 10Z  
(mail order only)

The Slave is a suite of programs which allows you to write an adventure of up to 120k, which will then reside on one side of a disc.

First you should map out your adventure on paper, ensuring it is as close as possible to how you wish it to turn out - testing and correcting your adventure is not the easiest thing to do.

You can now define your location descriptions (which compile up to a full page of text), messages, objects, and verbs/ nouns - up to 255 of each.

An excellent feature, Examine, is available to provide a more detailed description of an object if necessary.

Each verb or noun can have several synonyms, thereby increasing the vocabulary.

The Editor allows up to 10 exits to be defined for each location.

If you have ever written or attempted to write an adventure, you will know of the usefulness of flags. With The Slave is equal to the task with the obnoxious 255.

Some are pre-defined, for example the number of objects carried.

Now comes the hard work! To solve your adventure, a player will require actions/ replies to the commands he enters. To write the logic for these responses you are given S4L, The Slave Adventure Language.

S4L is a language akin to a powerful Basic, it has 73 main commands but these can be combined to give over 344 variations, some of which

enable you to introduce sound, music and colour changes into your masterpiece.

After you have produced all the necessary files, you are shown how to bring them all together to form the finished adventure.

The Slave also includes a debugging program and a facility to design a simple life page using Graphics-8 characters.

The 128 page manual, although well written and at times amusing, is occasionally

difficult to understand but careful re-reading will eventually clarify any points of doubt.

All in all The Slave is excellent value, and a must for any budding adventure writer.

**Ron Greenham**

Ease of use	7
Command Facilities	10
Documentation	8
Value for money	10
Overall	9



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## Classic mould

**Program:** Starquake  
**Price:** £18.95 (suggested)  
 £12.99 (sale)  
**Supplier:** Bubble Bus, 87 High Street, Romford, Essex RM8 1HQ  
 Tel: 07552 355962

COME on, admit it. There must have been a time or two when you've cast an envious glance at those arcade adventures from Ultimate for the Spectrum and wished they were available for your Amstrad.

As joyous no-more, Bubble Bus has produced *Starquake*, an original program for one that that is graphically very much in the mould of those earlier ultimate classics.

You control Blob, an evilish little dumpling who must scout the nooks of an alien planet and smash various items.

The planet's core has gone critical - Blob's job is to find it, fill it with the right objects and thus stabilise it. Ah, the wonders of modern technology!

Blob is delightfully animated, bouncing this way and that along semi-firm as he explores the caverns.

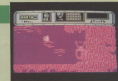
Being subject to the normal rules of gravity, when he tumbles off the edge of a precipice he falls until he meets the ground again. No damage is done unless he strikes something nasty on the way down.

His headfall can be slowed by pulling back on the joystick. This causes a small platform to appear under him and stop him dead.

This facility can also be used on the ground - fast and repeated pulling back on the joystick creates a ladder of these dissolving platforms which can be used for getting at otherwise inaccessible places.

Blob can also get airborne by lighting on what looks like a white break-block. Once on it, he can fly slowly around the caverns.

Another fast way of travelling is by using one of the



transporter booths. To activate, you must guide Blob into a booth, type in the code of any of the other booths and bingo - he's there.

There are hundreds of different caves, each one a separate screen. Wander off the edge of the screen and another one up.

The caves are filled with alien vegetation, machinery and neatly animated flying bats.

Energy is lost each time Blob is touched by an alien but he can zap them, and he loses a life if he tumbles into such fatal items as travelling machinery or a spiked pit.

Blob has 5 lives and a limited amount of energy, zap and platform-building points.

Everything about *Starquake* impresses, from the title screen to the high-score table, from the use of colour and sound to responsiveness and playability.

Bubble Bus has produced a superb game. *Starquake* is top-notch fare, quality dripping from every byte.

**Bob Chappell**

Sound	4
Graphics	4.5
Playability	5
Value for money	4.5
Overall	4.5

## Modest tasks

**Program:** Quest For Dexterity  
**Price:** £2.99  
**Supplier:** Ray-Brite, Liberty House, 222 Regent Street, London W1R 3DE  
 Tel: 01-429 0958

HANDY doing something unusual today, the becoming an overlord of the universe! That's the modest task this text adventure sets you.

To achieve your ambition all you have to do is get an out-of-order teleport booth back in working order.

The snag is that this booth is situated on a somewhat hostile planet over 2000 light years away.

You start onboard the starship Nebula which is itself out of action - does nothing work in this part of the galaxy? Finding out how to get the ship going is your prime task.

On the flight deck there's a control panel, terminal and viewstreet but try as you

might, there doesn't seem any way of bringing them to life.

Up by the main drive waits the deflector's initiation level seems pretty low - perhaps that's something to do with it.

A large crate in the hold possibly holds a clue but how do you get it open?

You could always try leaving the starship via the liftoff, but that results in suffocation through lack of air.

Wearing a disoriented space suit doesn't help, either - its air level is zero. This opening sequence should give you plenty to think about.

The display is fairly conventional. Your location, possibly exits and visible items are described in the top half of the screen while input and responses appear in the lower half.

There's no scrolling - the screen clears each time you execute an action that carries a positive result.

The game's vocabulary



consists of 99 verbs and 182 nouns, commands being of the usual verb-noun format.

If a command is not recognised by the program, it helpfully tells you whether it is the verb or the noun that is not understood.

The descriptions are fairly detailed and there are over 35 locations to explore.

The text is librate, the game well organised and,

despite the program being written in Basic, response time is fast.

*Quest For Dexterity* is an enjoyable if unoriginal adventure. At the price, well worth buying.

**Bob Chappell**

Sound	n/a
Graphics	n/a
Playability	5
Value for money	5
Overall	5

# Four channel model controller

Part 7 of LEN GOLDING's series on using your Atari to control devices

If you've ever wanted to link your Atari to Lego and Meccano kits, slot-car racers, miniature railways or computer-driven buggies this model controller is for you. It can even handle your Christmas Tree light!

The controller provides independent on/off switching for up to four motors, relays, solenoids or other low-voltage devices. It can also operate as a four-channel speed controller, or as a two-channel reversing switch so you can make a buggy move forwards, backwards, left or right at different speeds under

full software control.

Each channel can drive a dozen torch bulbs for children's disco displays - including chaser lights - and there are even some limited applications in robotics.

Figure 1 gives the circuit in schematic form. Each of the four outputs is driven by a two-transistor power switch which enables the key currents and voltages from the joystick port to control currents of up to 5 amps and voltages of up to 24V at the outputs.

We explained transistor switching action back in the second article of

this series (MAY/March/July 1986).

Figure 11 shows the printed circuit board pattern for those of you who want to etch your own but, as usual, a commercially-made PCB is available from Rini Design.

The component layout is shown in Figure 11 and construction is very straightforward so that anyone can attempt it. Start by soldering the resistors and diodes, making sure the diodes are connected with their silver bands to the top. Then fit the BC108 transistors and all connecting blocks.

Band the leads of each TIP127 transistor at right angles and spaced

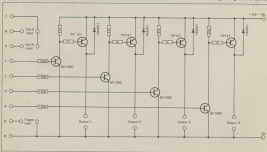
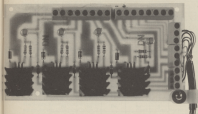


Figure 1: Circuit diagram for main board





them slightly to fit the PCB holes. Smeer a small amount of silicon grease on the back of each transistor then bolt the four transistor and heat-sink assemblies into place before soldering the leads.

Make sure that the heat-sink vanes cannot touch each other or the gadget will not work properly.

Cut the joystick cable to length, desolder the socket end, then wire each of the nine leads to its appropriate point on terminal block 1, as indicated in Figure 11. Use a P clip to secure the joystick cable and take any strain.

Motors require far more current than a joystick port can provide, so the next thing you need is some kind of low-voltage DC power supply. This design allows a very wide latitude—anything from 4.5V to 24V is acceptable.

At high output currents the voltage delivered to your load may be almost 1V less than the full supply voltage.

A properly stabilized mains power supply unit is best, but these are expensive and not really necessary for things like motors, solenoids, relays, lamps and other non-electronic devices. Battery eliminators intended for transistor radios or computers give good results, but the cheap ones cannot usually supply currents above 1 amp.

DC power packs designed for model railways, slot cars and construction sets will work quite well and even a car battery charger should give acceptable results, though the output

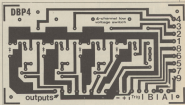


Figure 12: PCB full pattern (x200: 500)

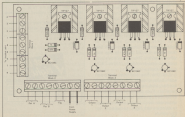


Figure 13: Component layout on reverse side of PCB



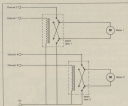
begin to do this with Double Pole, Double Throw — or DPDT — relays.

Each relay is run from two channels — one for the on/off function and the other to select forward or reverse. Any BACnet relay will work provided the coil and contact ratings suit your application.

An acid- or PCB (DGPS) is available for use with two of Maglin's ultra-miniature relays, which can each handle 2 amps at up to 24V. Choose the coil voltage which best suits your power supply — 5V types will operate on 4.5V to 7.5V, while 12V types work on 9V to 15V.

The foil pattern and layout for this PCB are shown in Figures V and VI. The 8-way terminal block is connected pin-for-pin to terminal block 3 on the main board, using flexible wires or rigid pins cut from 2.5 sq mm mains cable. Table II gives the numbers to PORE instructions 54016 for the various matrix operations in this mode.

You might like to consider building a Lego model tank with a separate motor for each track, or a model car with some kind of servo to operate the steering. You could fit only one reversing relay and still have two



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[illegible]

100

on/off channels available – to control a model train and two signal lamps, for example.

External sensors can be connected to the main board at terminal block 2, as shown in Figure 10. Joining the two pins marked Trig will cause the number in address 644 to change from 1 to 0. Try wiring a microswitch to operate when your buggy hits an obstacle, or when a robot hand closes.

The other two inputs (Port A and Port B) each measure the amount of



Figure 10. ACB cell profiles: Not under consideration.



Figure 10: Consistent Method (in absence of model controller, MC)

Number in B4210	Left Motor	Right Motor
0	off	off
1	off	off
2	forward	off
3	reverse	off
4	off	off
5	off	off
6	forward	off
7	reverse	off
8	off	forward
9	off	forward
10	forward	forward
11	reverse	forward
12	off	reverse
13	off	reverse
14	forward	reverse
15	reverse	reverse

Table 10. *Myrica maritima* Survey Data

electrical resistance between their two contacts, and store the result at address `R04` (or `R1` or `R3`).

A 430 $\Omega$  variable resistor placed across one of these lines will return a number from 1 to just over 300 and this could be used to measure the degree of rotation in a servo shaft, or the angular movement of a robot arm.

Alternatively you could fill a cadmium sulphide cell, whose resistance varies according to the level of

## Gadgets

**Illumination** — see *Atari User*, June 1985. Arrange for your train or slot car to break a beam of light when it passes a given point and you have the basis for an accurate position sensor or two counter.

That should give you plenty to think about over the Christmas holiday period. Why not try out some ideas of your own and let us know how you get on? ■

All components available from:  
Maplin Electronic Supplies  
P.O. Box 3  
Rayleigh  
Essex  
SS6 8UL  
Tel: 01709 577111

Cloud boards are available from  
R.H. Design  
137 Stordall Avenue  
Harrington,  
North Yorkshire  
HG2 7JG  
Tel: 0475 556016

Main printed circuit board (DIP4)	CS10
Relay: Relay-40 (DIP4)	CO40

<sup>1</sup> <http://www.fishbase.org>

### PARTS REQUIRED

**Hypothesis 1**

- 4 BC108C transistors
- 4 TIP123 transistors
- 4 Wired potentiors
- 4 55401 diodes
- 4 5501 resistors (Brown/white/red)
- 4 47k resistors (Brown/violet/orange)
- 4 1k resistors (Brown/black/red)
- 3 2-way pc terminal blocks
- 2 8-way pc terminal blocks
- 1 Cable P-clip 3/16"
- 1 Tube silicon grease
- 1 Pack 884.1 2" bolts
- 1 Pack 884 nuts

**Table 1**

- [illegible]

**Abstract**

Figure 1 consists of two bar charts, (a) and (b), showing the percentage of respondents for different levels of agreement with the statement 'The government should do more to help people who are struggling financially'.

Chart (a) shows the percentage of respondents for different levels of agreement with the statement. The x-axis represents the level of agreement (Strongly agree, Agree, Disagree, Strongly disagree) and the y-axis represents the percentage of respondents (0 to 100). The data is as follows:

Level of agreement	Percentage of respondents
Strongly agree	10
Agree	40
Disagree	30
Strongly disagree	20

Chart (b) shows the percentage of respondents for different levels of agreement with the statement. The x-axis represents the level of agreement (Strongly agree, Agree, Disagree, Strongly disagree) and the y-axis represents the percentage of respondents (0 to 100). The data is as follows:

Level of agreement	Percentage of respondents
Strongly agree	15
Agree	35
Disagree	30
Strongly disagree	20

- |   |                            |                                   |
|---|----------------------------|-----------------------------------|
| 1 | 8-way pc terminal block    | PK-30P                            |
| 1 | 4-way pc terminal block    | PK-730                            |
| 2 | Ultra-miniature DPT relays | RM-40C (5-way)<br>RM-80C (12-way) |

[illegible]

A joystick extension lead is available from Tandy stores (cage 276-15784) or from large computer shops, priced around £3.50.



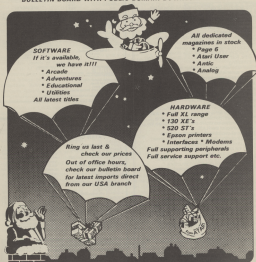
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**WHEN** you wake up early on Christmas morning and reach out to dispel the shadows by turning on your trusty brass lantern, what adventure will you hope to find stuffed in your battered leather knapsack at the foot of your pile of straw?

Perhaps you've already read up your mind. If not, get out a piece of your best parchment, with your quill still write the words *Jewels of Darkness* on it, address it to Santa's/o the North Pole and shove it straight up the chimney.

Who doubted that there's no such person as Santa Claus? How dare you call yourself an adventurer!

Published by Rainbird, and available for both the ST and 8 bit Atari computers, *Jewels of Darkness* is a collection of three superb early adventures from Level 9.

The trilogy comprises *Colossal Adventure*, *Adventure Quest* and *Dungeon Adventure*. All have been comprehensively updated to include graphics — no less than 800 colored illustrations — a 1,000 word vocabulary, multi-command input, multi-tasking (type ahead regardless of what's happening on the screen), and incredibly fast response times.

Even without all that technological wizardry these adventures would still be among the best around. *Colossal Cave* is an all-time classic and this version is rated by many, including my humble self, as the finest ever. No self-respecting adventurer worthy of the name should be without it.

And just what king's ransom does this regal collection cost, I hear you ask in indignation? My answer fell off its perch and almost died laughing when I told it, so believe yourself for a shock.

For the 8 bit Atari you get this Imperial trilogy on three separate cassettes, or one disc, handomely boxed, complete with a 64 page novella, for the incredibly low price of

£14.95. That's less than a fiver an adventure, not counting the smashing packaging and book. The ST version costs slightly more, at £19.95.

So there you are. *Jewels of Darkness* has got to be the adventurer's bargain of the year. And Rainbird promises more of such delights. Watch this space.

To give you some more ideas for Christmas presents, whether for your

## By Brillig

friends or yourself, I've listed my 20 favourites.

Fans of Infocom titles there, but they happen to be the crown prince in my book. I know of no better reason for owning a disc drive than being able to play Infocom adventures.

Now to this month's hints and tips. Nigel Morse from Doncaster wants to know how to deal with the snowman and the dragon in Rainbird's *The Pawn*. Nigel's difficulties with the snowman are dealt with in Hint 'N' Tip, but can anyone tell me how to get Nigel past the dragon?

Dragons have also stamped Eric Nolan of Dublin. These creatures seem to cause adventures more problems than anything else. Eric needs help with those in *Enchanter* and *Feasibility Experiment*. In the latter, he'd also like to know how to fight his lamp.

Eric has another problem — can anybody tell him where he can find the drum for the soldier ants in *Return To Eden*?

Next issue I'll be back with more hints and tips to aid you in your struggles, together with the start of a reader's Lifeline corner. If you'd like to be listed in Lifeline write in with your name, address and which adventures you can help others with.

Until then, I wish you a joyous Christmas and an adventures New Year.

### BRILLIG'S TOP SCORE

1. *Witch-Maker's Guide to the Galaxy* (Infocom)
2. *Jewels Of Darkness* (Rainbird)
3. *Zork I* (Infocom)
4. *Planetfall* (Infocom)
5. *The Pawn* (Rainbird)
6. *Lords of Time* (Level 9)
7. *Pirate Adventure* (Adventure International)
8. *Zork II* (Infocom)
9. *Trinity* (Infocom)
10. *Enchanter* (Infocom)
11. *Adventuriland* (Adventure International)
12. *Sorcerer* (Infocom)
13. *Spellbreaker* (Infocom)
14. *Price of Magic* (Level 9)
15. *Lords of Khorne* (Alavon PEO)
16. *Golden Baton* (Charnel 8)
17. *Wishbringer* (Infocom)
18. *Zork III* (Infocom)
19. *Morden's Quest* (Melbourne House)
20. *Sorcerer of Claymorgue Castle* (Adventure International)

### HINTS 'N' TIPS

**ENCHANTER** — Infocom  
To deal with the dragon.  
LIP BRAD NOGE HES U

**FEASIBILITY EXPERIMENT** — Digital Fantasy  
To overcome this dragon's fiery breath.  
FLES OLD NOON ANOW ADWE SU  
To fix the lamp.  
ACOW ADNA LUD DENV DY

**THE PAWN** — Rainbird  
Snowman a barrier?  
ETH WERA MOYE ALSO NAME OMOO ERU M  
Then simple.  
DHT FWA ANOW STE M

**ZORK I**  
Is the thief bringing you to grief in combat?  
NOLEWETS DEBY FSE FAK YTSU HERT  
ERAU OYNE SNOR TTEH TEVA HUCY STW DMER DMEN T  
ELBA ULAY SANH TEMO SMH SHTY JSHS NAHT CART SD

IT really doesn't seem twelve months since you were sitting round the dinner table looking into that enormous Christmas turkey does it? But, 'tis the season to be jolly, and for many of our readers that means getting out all the old favourites – games which haven't seen the light of day since last Christmas. If you remember, the twins thrashed granny at Missile Command and Uncle Tom spent most of the afternoon trying to get his dog across the road ...

For seasoned owners the Atari will naturally be a star performer at Christmas but spare a thought for the newcomers who took advantage of the marvellous Diodes and Caves bargain packs during 1985. They have probably never seen Frogger, much less the other classics.

The problem is that alongside these masterpieces there was, frankly, a lot of rather highly priced rubbish. So, if you're among that vast majority of Atari owners who don't remember the excitement of buying an original 16k Atari 800 for the bargain price of £845, read on and get a few ideas for this Christmas.

There are really only two one-places to start when talking about all-time classic Atari games – and that is with **Star Raiders**. Released on an 8k cartridge at £34.95 (now available at under a tenth), this game was a milestone in the computer games industry. Indeed, I know a good few

# Classics for Christmas

ANDRÉ WILLEY looks at the very best games, old and new, for Atari users

concentration. When you drop out of hyperspace your short-range trackers kick back into life and with the red alert siren ringing in your ears you engage the shields and the attack computer and commence battle.

As your on-board systems sustain damage and you run desperately low on fuel, you must choose your moment to warp out and dock with a friendly starbase for repairs.

**Star Raiders** is extremely addictive and a must for all serious games enthusiasts.

Staying with the space theme for a while, there can be few who have not seen the arcade machine **Defender** and the Atari cartridge is one of the closest representations available. You have all the excitement and speed of the original. Blasting aliens like there is no tomorrow as you rescue people from the clutches of the evil galactic baddies.

If you liked **Defender** then you'll love **Dragonfire**. This was released a little more recently but very quickly gained the classic label. The theme is the same as **Defender** but this time you play a space man with a jet pack and a laser gun.

No games overview would be complete without a mention of **Space Invaders**, and there have been a whole host of variations on this arcade standard. The closest to the original machine is probably **De-Luxe Invaders** from Rolan, but

Atari's own **Space Invaders** cartridge is pretty good too.

The **Galaxians** cartridge has its merits in terms of fast moving aliens, but the cream of the lot must be **Invaders** from Sirius software. I last saw this priced at £21.99, but it was worth every penny.

Each wave of aliens is different. Firstly a bunch of swooping and diving craft which are quite easy to knock off, then craft that fly off into the distance every so often.

These are followed by ships made up of coloured spheres which will separate and bounce all over the place if you shoot them down. The next wave features centipede-like



people who actually looked out their £845 just to play this game and it still holds up well today.

**Star Raiders** is a space combat simulator with a through-the-window flight display. The aim is to defend your Starbases from attack by the evil Zylon empire.

To do this you hyperspace your space ship around the galaxy to areas which your long range tracking system shows have a high Zylon fleet



aliens which snake their way towards you at an alarming pace.

As you progress through the levels these different types of ship gang up to try to obliterate you. Accompanied by some of the most original – not to say downright rude – sound effects I've heard for years, this game is one of my all-time favourites.



One of the strangest computer games I've come across – and I highly recommend it – is **Joust**. You play a space-age knight in shining armor, astride not a horse but a giant flapping bird.

The controls are simple – left, right and press the button to flap (ignavly brings you down again, often with a bump). Combat is straightforward but, especially as a two-player game in which both riders play on the same screen, it is hard to beat for sheer enjoyment.

Moving on from the space attack games, there are a number of family



games. The most obvious of these is **Pac-Man** – which I don't really think needs any further explanation other than to say that it is one of the best versions available on any micro, even today.

**Frogger** is another arcade classic which has made a successful move to the Atari home computer – complete with cars, logs, turtles and even Mrs Frog. This one still has great appeal.

Another Frogger-like game is **Preppie** – which features a little fellow who must cross the road and river in order to collect golf-balls which have gone out of bounds. Again, this has lasting interest and some pleasant motifs.

If you want a bit more of a challenge, look no further than **Miror 3048er**. This is probably top of my own personal list of favourite arcade games, simply because there is so much to it.

You play **Beatty Bob**, a gold prospector who is trying to find his way through the radioactive mine. Along the way there are radioactive creatures who kill on contact, but which you can destroy after picking up certain objects – rather like Pac-Man's power-pills.

The real appeal of **Miror** is that to complete each level you must leave your footprints on every bit of floor you can see – and that often involves

a lot of leaping about, not to mention using the teleporter lifts and falling down slippery slides at just the wrong moment.

There are 10 completely different screens and as many difficulty levels of each screen – making screen 10/level 10 an almost impossible task. This game is a must for all game-a-holics, and no collection is complete without it – or its sequel **Beatty Bob Strikes Back**. Still on the levels and ladders theme, you should also look out for **Donkey Kong**, **Lode Runner** and **Popeye**, all of which still hold up very well today and provide hours of fun.

If you wish to add a combat element to this idea you could try **Bruce Lee**, in which you take the part of our hero in trying to defeat the bad guys and exploring a temple at the same time.

The simulation enthusiasts have not been forgotten in the Atari games field, with the excellent **Pole Position** car racing game still selling well, even if it has been a little out-dated recently by **ElectroGlide**.

**Fight Simulator II** and **Mercenary** both boast excellent 3D in-flight graphics, with **Mercenary** having the added bonus of the space theme and lots of exploring and bargaining to do.

Sports fans can try their hands at **Summer Games**, which is a real joyous weather and can be very competitive when played in a four-way. **Decathlon** is good too, but I think that **Summer Games** just takes the edge.

Martial arts fans who were not satisfied with **Bruce Lee** should take a look at **International Karate**. Although only released recently this will quickly become a classic and should feature in any serious games player's collection. It allows you to take your karate more seriously, with various kicks, punches and moves available to you, plus full scoring and match play rules.

That collection should see you through December 25th. However, when Boxing Day comes around and the relatives have all gone home, how about sitting down with something a bit more brain taxing – and what better choice than an Infocom adventure?

Adventures are not everyone's cup of tea, but if you want one that will appeal to almost anybody, give the

**Witch Hiker's Guide to the Galaxy** a try. You may be stuck on it till next Christmas, but whatever else you do you'll keep on coming back to it for one more try.

The characters are well rounded, the puzzles intriguing and infuriating and the situations really vary. It took me absolutely ages to get through the screening door on the Heart of Gold spaceship, but that feeling of euphoria as it finally did open surpasses any amount of alien-blasting.

In this brief survey I haven't really been able to scratch the surface of the enormous number of games available for the 8-bit Atari. For example it would be well worth your taking a look at such all-time hits as **Caverns of Mana**, **Sea Dragon**, **Encounter** and **Missile Command**.

Hopefully I have been able to give some of the newer owners a few ideas for Christmas and reminded the old faithfuls to dust off the candle box, get out the spare joystick and have a very Merry Atari User Christmas. ■

The titles listed below are available from the following suppliers:

**Missile Command** – **Electronic Arts**, **Star Raiders**, **Defender**, **Space Invaders**, **Galaxian**, **Joust** and **Donkey Kong** – **Atari**.

**Frogger** – **Sierra On-Line**, **Del-Lux Invaders** – **Polybit**, **Sea Dragon**, **Dragon**, **Phantom**, **Beatty Bob Strikes Back** – **American**.

**Bruce Lee**, **Pole Position**, **Lode Runner**, **Summer Games** – **U.S. Gold**.

**Beatty Bob Strikes Back** – **Sierra Software**.

**Miror 3048er** – **Sierra Software**.

**Popeye** – **Parker Brothers**.

**ElectroGlide** – **English Software**.

**Fight Simulator II** – **Sub Logic Corp.**

**Mercenary** and **Encounter** – **Novagen**.

**Defender** – **Activision**.

**International Karate** – **Spectrum**.

**10-in-1**.

**Witch Hiker's Guide to the Galaxy** – **Infocom**.

\*Indicated no longer easily available, but with a little hunting about, readers could probably find some old stock.

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Red Brown (Blue Green)	4.00	4.00	4.00
Green (Red Brown)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
Combinator (G.P.)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
Green (Red Brown)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
Combinator (G.P.)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
Green (Red Brown)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
Combinator (G.P.)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
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Red Brown (Blue Green)	4.00	4.00	4.00
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Red Brown (Blue Green)	4.00	4.00	4.00
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Red Brown (Blue Green)	4.00	4.00	4.00
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Green (Red Brown)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
Combinator (G.P.)	3.00	3.00	3.00
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Combinator (G.P.)	3.00	3.00	3.00
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Green (Red Brown)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
Combinator (G.P.)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
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Red Brown (Blue Green)	4.00	4.00	4.00
Combinator (G.P.)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
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Red Brown (Blue Green)	4.00	4.00	4.00
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Red Brown (Blue Green)	4.00	4.00	4.00
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Red Brown (Blue Green)	4.00	4.00	4.00
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Red Brown (Blue Green)	4.00	4.00	4.00
Combinator (G.P.)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
Green (Red Brown)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
Combinator (G.P.)	3.00	3.00	3.00
Red Brown (Blue Green)	4.00	4.00	4.00
Green (Red Brown)	3.0		

# SANTA'S GROTO

Have some festive fun with  
**MIKE ROWE's** latest game

**IT'S** Christmas Eve and all over the country stockings are being hung and chimneys swept in preparation for the following morning. All is happy and cheerful and the world is at peace.

But wait... at the North Pole all is not so well - poor Santa is in a panic. He's polished Rudolph's nose, checked the oil level and tyre pressure, got his AA route map ready and is about to depart when he finds the boot of his sleigh is empty. Those mischievous little elves have pinched all the presents and hidden them!

Only six hours to go to Christmas Day and the presents are scattered throughout the catacombs of Santa's Grotto. Your is to guide Santa around the catacombs, collecting as many presents as possible before the time is up.

To make things worse, the elves have hidden several sacks in rooms where you will have to solve a puzzle to get at them. Each sack contains 10 presents so it's worth going for them, but remember that you cannot waste too much time in these rooms as Santa doesn't want to linger.

Luckily Santa has a map of the catacombs, but unfortunately it's difficult to fold and he can only see one small section at a time. So go to it - think of all the unhappy children tomorrow if you fail - not to mention the fact that your present might be in there somewhere!

Santa's Grotto is a one player game where the object is to rush around the 100 screen maze collecting as many presents as possible. Each time you play a completely new maze will be created. You control Santa with a joystick in port one and to collect a present all you have to do is touch it. The time limit is displayed at the bottom of the screen.

Not all presents are necessarily obtainable but you must get as many as you can before midnight. And there are 10 magic locations which will transport you to one of the elves' secret lairs. Here you will find a sack containing 10 presents, but to get it you must solve a little puzzle.

At the end of the game the number of presents you have collected will be displayed and a rating of your performance will be given.

The program is commented with names to give some idea of what's going on, although to save on typing these can be omitted without affecting the running of the game.

The main part of the game runs on a custom Display List screen which is largely made up of Graphics 2 lines, with the maze being drawn using a custom character set. Santa is made up of two player missiles, thus giving him two colours. He is moved using a small machine code call stored in M2.

Screen initialisation, the character set and the player missile graphics are done in lines 2000 to 25000 and the data for this starts at line 25000. The screen drawing routines begin at line 3000.

The main routine for the program is on lines 100 to 190, with subroutines for moving Santa at lines 60 to 95. These are put at the beginning of the program to give a little extra speed where it is most needed. Lines 200 to 990 control the puzzle solving sections.

Once you have typed it in don't forget to Save a copy before you run it. There is some machine code used which could crash the computer if mistyped.

If you have any problems typing it in, don't forget to use Get It Right! to help you - or why not download a copy from MicroLink?



TTO











HAVE you ever accidentally wiped out a couple of days work simply because you forgot to back-up your main work disc? Most programmers have — probably it seemed just too much bother to go through all that tedious disc swapping involved in a duplicate disc operation.

If you've ever had this problem, Once-Over, Program I, is the solution you have been looking for.

It is a disc back-up program that can copy an entire single density disc in just one pass.

To do this you must have a 12000E — or an upgraded 8000E — because the program uses the extra 8Ks of banked memory to store part of the 80K of data from the disc. It will not allow you to duplicate commercial copy-protected discs.

Once-Over is designed to be easy to use and very fast. The options available to you are displayed on one main menu screen.

Option 1 will read a single density disc from the source drive into the Once-Over buffer. You can monitor the progress of the load by watching the fuel-gauge at the bottom of the screen.

Option 2 saves out all the data in the buffer on to the disc in the destination drive. This operation may be carried out as many times as you

# Once-Over

**Back-up your discs quickly and easily with RICHARD VANNER's single pass disc duplicator**

like if you want to make multiple copies.

Option 3 toggles write verify on and off. If it is selected, the data will be checked back after it has been written to the destination disc. This has the side effect of slowing down the duplication.

Option 4 toggles the format disc function. The destination disc will be formatted before any data is written to it.

Option 5 changes the source disc drive number. This option will cycle through drives one to four.

Option 6 cycles the destination disc drive number from one to four.

Pressing System Reset will allow you to exit from a load or save operation. The contents of the buffer will remain intact.

Type in the Basic listing and save

it, then place a formatted disc in drive 1 and run the program. If an error occurs then the data is not correct and you should use Get it Right to track the problem down.

Once the data is correct it will create a nine sector disc file called ONCEOVER.D65. This is the Once-Over machine code file. To use it, simply go to the DOS menu and use the binary load option — L.

This file is completely self-contained and may be copied on to any of your work discs. You could even rename it as AUTORUN.SYS and have it run automatically on power up.

For machine code programmers I have also provided the full assembly listing — Program II — which will create exactly the same object file as the Basic version.

## Program I: Basic listing

```

1 1000 REM ***** ONCE - OVER *****
2 1010 REM ***** TITLE *****
3 1020 REM *****
4 1030 REM *****
5 1040 REM *****
6 1050 REM *****
7 1060 REM *****
8 1070 REM *****
9 1080 REM *****
10 1090 REM *****
11 1100 REM *****
12 1110 REM *****
13 1120 REM *****
14 1130 REM *****
15 1140 REM *****
16 1150 REM *****
17 1160 REM *****
18 1170 REM *****
19 1180 REM *****
20 1190 REM *****
21 1200 REM *****
22 1210 REM *****
23 1220 REM *****
24 1230 REM *****
25 1240 REM *****
26 1250 REM *****
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29 1280 REM *****
30 1290 REM *****
31 1300 REM *****
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37 1360 REM *****
38 1370 REM *****
39 1380 REM *****
40 1390 REM *****
41 1400 REM *****
42 1410 REM *****
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46 1450 REM *****
47 1460 REM *****
48 1470 REM *****
49 1480 REM *****
50 1490 REM *****
51 1500 REM *****
52 1510 REM *****
53 1520 REM *****
54 1530 REM *****
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57 1560 REM *****
58 1570 REM *****
59 1580 REM *****
60 1590 REM *****
61 1600 REM *****
62 1610 REM *****
63 1620 REM *****
64 1630 REM *****
65 1640 REM *****
66 1650 REM *****
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68 1670 REM *****
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79 1780 REM *****
80 1790 REM *****
81 1800 REM *****
82 1810 REM *****
83 1820 REM *****
84 1830 REM *****
85 1840 REM *****
86 1850 REM *****
87 1860 REM *****
88 1870 REM *****
89 1880 REM *****
90 1890 REM *****
91 1900 REM *****
92 1910 REM *****
93 1920 REM *****
94 1930 REM *****
95 1940 REM *****
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97 1960 REM *****
98 1970 REM *****
99 1980 REM *****
100 1990 REM *****
101 2000 REM *****
102 2010 REM *****
103 2020 REM *****
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112 2110 REM *****
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115 2140 REM *****
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[illegible][illegible][illegible]

品名	规格	单位	数量	单价	金额
1. 水泥	42.5	m <sup>3</sup>	100	120.00	12000.00
2. 砂	中	m <sup>3</sup>	200	30.00	6000.00
3. 石子	20	m <sup>3</sup>	150	40.00	6000.00
4. 钢筋	Φ12	t	5	2500.00	12500.00
5. 木材	杉木	m <sup>3</sup>	10	1500.00	15000.00
6. 砖	240	m <sup>3</sup>	1000	100.00	100000.00
7. 石灰	III	t	20	100.00	2000.00
8. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
9. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
10. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
11. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
12. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
13. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
14. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
15. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
16. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
17. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
18. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
19. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
20. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
21. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
22. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
23. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
24. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
25. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
26. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
27. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
28. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
29. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
30. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
31. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
32. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
33. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
34. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
35. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
36. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
37. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
38. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
39. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
40. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
41. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
42. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
43. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
44. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
45. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
46. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
47. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
48. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
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50. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
51. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
52. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
53. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
54. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
55. 碎石	20	m <sup>3</sup>	100	45.00	4500.00
56. 卵石	20	m <sup>3</sup>	100	35.00	3500.00
57. 碎石	20	m <sup>3</sup>	100	45.00	4500.00</

### Programs II: Assembly Language

[illegible]

```

% 计算 1 到 100 的和
sum = 0;
for i = 1:100
    sum = sum + i;
end
% 显示结果
disp(sum)

```

[illegible]



[illegible]

## CENTRONICS INTERFACE



- Transparent to all s/w  
- no driver programme necessary
- Connect direct to 600 or 800/XL  
or 130 XE – or to disc drive if fitted

FCC SYSTEMS LIMITED

**\$59.99**

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COMPUTED  
===== ADDRESS  
=====



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# ATARI MADNESS

[illegible]

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*I still having problems with a data storage program in Basic.*

```

10 DIM A(1000),B(1000)
20 FOR N=1 TO 5: INPUT A(N)
30 FOR N=1 TO 5: INPUT B(N)
40 FOR N=1 TO 5: PRINT
50 NEXT N

```

*It seems to print out the five strings previously entered, but just jumbles them up.*

*In saving and loading information, variable names hold some memory. After opening channel 3 to the cassette and typing:*

```

10 FOR N=1 TO 50
20 PUT (A,B)N(1) TO 3
30 NEXT N

```

*... then loading it back:*

```

10 GET N(1)
20 IF NOT N THEN
30 NEXT N(1) TO 50

```

*... it does not seem to work. Please could you help me out?*  
— **Andrew Shuttleworth, Garsington, Lancs.**

■ The answer to your first query is easy — you are trying to use `PRINT` as a string array, which is not what it is at all.

`PRINT` refers to a portion of a single string `B$(1)`, beginning with the first character.

Atari Basic does not have string arrays as such, and `DIM B$(1000)` simply reserves 100 characters as the maximum length for `B$`.

To get around the problem you must set up a long string, say 2,000 characters, and use substrings to represent the elements of your array.

Send our reply to David

## Drawing the line...

*I own an Atari 800XL. When I use the DRAW command it draws a character box (Character=40x80). Could you tell me what I can do to draw that box of boxes? — **Edwin Dickinson, Middleborough, Cleveland.***

■ It sounds as though you are trying to use `DRAW` with a text screen. As the computer can only put characters on a text screen, it does its best to

draw them as the best it can. In the December 1985 issue for an example of how to do this.

In your second query the only thing which would seem to be at fault — assuming you have remembered to `DIM` your array and `OPEN` the file correctly of course — is your `PRINT (A,B)N(1)` at the end of the first line.

This will only print a carriage return on the screen, and should be replaced with a `PRINT (A,B)N(1)N(1)`, or, simpler still, with `PRINT A,B`.

Other than this, your program should work fine. Let us know how you get on.

## Aligning tape heads

*Are there any tape head adjustment packages for the Atari as there are for most other makes of computer?*

If not, would it be possible for you to give me some tips on adjusting the tape head? — **Peter Gaudin, Lincoln.**

■ There aren't any commercial tape alignment kits for the Atari that we know of, but it's not too hard to do a reasonable job yourself.

Firstly, on some recorders you'll need to remove the casing to get at the alignment

screws. This is started on the assembly that holds the pins' record head, and allows you to move the head up and down very slightly. This is known as the 'vertical adjustment screw'.

Put a music cassette in the recorder and press Play. If you can record one yourself with nothing on the right hand audio track you will get even better results — assuming your stereo's heads are properly aligned.

Now tune `POWER 54010,52` to start the tape running, and adjust the screw until the best sound comes out of the TV loudspeaker. Be very careful not to touch the head itself with the screwdriver, or you will have to demagnetise the head again afterwards.

The head should be correctly aligned when the music is clear — simple, isn't it?

If you don't feel confident of doing this without damaging the recorder, some dealers will be able to do it for you at a nominal cost.

## Window on the 1020

*As usual I find the instruction manuals provided by Atari are almost without exception useless. The manual for the 1020 Plotter Plotter is no exception.*

It was with great pleasure therefore that I heard about the Visiograph Plot Window as this piece of equipment has a very good version on the 1020 and I find that Atari might do well to copy it. The Plot Window itself is also very good.

As I understand it these items are out of production but the manufacturers — Visiographics, 7, Sparrow Drive, Rugby, Staffs, CV35

2PT, Tel: 08554 78030 — will have a number in stock at approximately 25 per set. — **Roywood Price, Canine, Cardiff.**

## TV time for 800XL

*I have recently bought an 800XL computer with a cassette recorder and games.*

There are approximately 1000 people in my school but none of only one who has owned an Atari machine before a 400.

The Atari computer has good capabilities and impressive sound and graphics, especially when compared with other machines. So, why is it so comparatively rare?

Incidentally, I have just read in the July issue about BBC TV programmes neglecting other makes of micro.

This is not strictly true. On Tuesday June 24, the BBC programme *Tales of a Number* had on it an 800XL machine with the game *Rescue on Fractalus* running.

I find the Atari to be a prime example of a home computer and shall so should say with Atari for years to come. — **S. Patterson, Portland, Newcastle-upon-Tyne.**

## Missing eight squares

*I have just bought an Atari 800XL, with which I am pleased, but I have a slight problem.*

When I use the memory test included in the brochure, instead of 48 squares appearing on the screen there are only 40. Is this normal or is

something wrong with the computer? — **D. Buckingham, Walsall, West Midlands.**

■ The number of letters we get on this one is incredible! We thought that by now everyone had got it sorted out, but as new users come along they all run straight into the same frustration we all confronted when we started out.

The answer is that you will get 40 squares if you go to the Self-Test from Basic by typing **BYE**. This is because 5% of memory is still taken up by the Basic language itself.

If you hold down the Option key as you switch on Basic will be disabled and you will be able to get the full 48 squares.

## Space Maze messages

*I have two queries. First of all, I used to type in your program Space Maze from Atari User's July issue and the PPO of the program kept crashing. I have*

**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  
Hemel Hempstead  
Stokeport SG1 5NY**

crash many times to correct this line but nothing works. Is there a misprint somewhere in the line?

I typed in the program from the August issue, Frank the Fear Filled, then fixed it and typed in Dave, remembering to move the tape 10 counts, waited for the two tapes crossed Play Record and then Returned it.

When the ready sign came up I stopped the cassette and

restarted it. To find it I typed in **LOAD** followed by Atari, waited for the tape, pressed **Play** and **Returned** it.

The tape began to load but after a few counts the tape crossed and has done so every time I have tried to load it. The error number 128 keeps appearing on the screen.

I have tried saving short programs to my cassette and then loading back into my computer without any suc-

cess at all.

Please can you tell me — am I doing something wrong or is my computer not working properly? — **D. Percival, Ebbwasi, Merthyrtyd.**

■ We've checked line 170 of Space Maze and there is no problem with it — indeed, we can't quite see how an error could be generated at run time either.

Possibly your problem may involve around the old Rev. B Basic line entry bug, or a fault in your machine.

Try to let us know more details. "Line 170 keeps crashing" doesn't give us much to go on. For example, when does it error, what error number does it give, and also what are the contents of the variables afterwards? If the error is at run time?

As to your second query, Error 128 means that the computer can't find the program it was looking for.

If you would the tape loaded to 10 on the counter when you restarted it, did you remember to do the same

## YOUR HINTS AND TIPS

### NINJA

In the October issue of Atari User, I read a review of the excellent *Ninja*, by Mastermind. The reviewer, Bob Chappell, couldn't seem to get up a hint. Don't worry Bob, here was what I thought to start with.

My brother found it out by accident. When you get all the bits on the first level, go to the Ship entrance, look at the top of the screen for a black dot.

Move Ship under this, and push the joystick up. Ninja will drop up to the next level.

This method applies to ascending all other levels at any time. You can also go down holes in the floor.

When you have all bits, keep going up and to the right.

When you reach a room called Grey Wall you should see a passage upwards. If the last bit is in Grey Wall, tell off the bits, get the bit, and the robot in the left and re-enter it again. The hole at the top will

now appear.

Next move up the passage. When you enter the room you will see five bits, and the room is coloured blue.

First all off the bits — master said than done, though they do attack in two's — then grab the last bit and fall down the hole. Keep going down until you reach the first level. The enemies have disappeared.

Fight them off and keep going until you reach your Starting Location (Start in the Sea). You have now completed *Ninja*. — **Duncan Hubbard, Harrington, Wores.**

### MERCENARY ESCAPE

With reference to your excellent review on *Mercenary Escape* from Tang I would like to suggest a means of reinforcing a craft without losing all the objects you are carrying at the time.

Press L to land if you are already in a craft. Drop all the

objects you are carrying by pressing D.

Press the control key and G to retrieve your ship and L to get out of your new ship.

Press F to take your objects back one by one. Repeat your ship again and you're away.

Not bad eh?

Also, to reach 9999 units per time just use the F key after pressing O while in your craft. Keep pressing this key until you reach the desired speed.

Different crafts can obtain different speeds — the Dominator Dart can achieve 9900 when it is airborne. — **Michael O'Connor, Dublin.**

### MINDSHADOW

In *Mindshadow* from Activision, in order to cut the blind, enter **N - ENTER HUT - GET STREAM - S - S - GET STYL - S - GET WHL - W - W - S - S - SHIP ALL - GET VAN - DR VAN ON ROCK - DOWN - W - JOG - GET MAP**

**- READ MAP - GET ROCK - F - GR - GET ALL - W - M - M - M - S - M - S - S - S - F - GET BOTTLE - W - S - M - W - W - S - W - S - S - S - RUN STERN WITH ROCK - GET BOTTLE**

However, I now feel like a prisoner on the boat. I know that I have to cut the chain on the wheel in order to escape the ship.

Someone told me to go to the kitchen and get the meat cleaver to do that job. But the crew won't let me pass to the small gate. Please, can anyone help me to escape? — **Alain Gayetier, Paris.**

### ONE MAN AND HIS DROID

I don't Mastermind's One Man and his Droid game this year, but I have a problem.

If all the droids are captured in the correct order, as well as powers, a time bonus is obtained.

At the start of the game the

before trying to load it back in again?

If you can't get the CSAVE version back in at all, why not try the version you LISTED for use with the checkdisk?

If the checksum managed to read it correctly, you can re-load it with ENTER "C", and then you can try CSAVE-ing it again.

If you still can't get anything to CSAVE properly the problem may be with your equipment.

Take both the computer and the recorder back to your dealer for testing, as the fault could be with either – though it is more likely to be the recorder.

## Translator disc

I WISH to buy a translator. Could you please advise me where to obtain one? – **Alister Clifford, Newton Mearns, Glasgow.**

■ You can purchase a trans-

lator disc, which is what we think you mean, from any Atari mail order company. Typically they will just charge you for the blank disc and postage, plus a nominal copying fee.

## Elusive sprites

I HAVE recently acquired an Atari 800XL, and to supplement the rather flimsy manual I have also bought the new XL keyboard.

Although this is rather information it does not tell you how to create multi-coloured sprites.

Also could you advise some books which will teach the machine code programming on the XL? – **Stephen Burton, Croxlands, Co. Durham.**

■ Firstly, the Atari doesn't have multi-coloured sprites, so that explains why you are having problems generating them.

You can, of course, use two

or more sprites and move them about together, which gives the same result. See Stephen Williamson's recent series on *Planet Missile Graphics* for more details.

If you want to start learning machine code try a book called *Machine Language for Beginners* from Computer Books which will take you through the fundamentals in fairly easy stages.

You should also consider buying a memory map – such as *Mapping the Atari* from the same publishers.

## All systems are go...

I'VE been reading *Atari User* for quite a while and I've noticed an advert for 2.86 Systems' *Reply Sampling System*.

Recently I've noticed that I can't in any sense, if this system will be the market as I'm very interested? I'd be very grateful if you could reply

soon. – **L. Harrier, Middleborough, Cleveland.**  
■ 2.86 Systems is alive and well, and still supply the product you are interested in. If you drop them a line they will send you more information.

## Waiting for the chop

I SHOULD like to put a question via *Atari User* to the people at System Three Software. For well over a year now we have been seeing adverts for International Karate on the Atari 8-bit range.

But will we wait. Having written to System Three and receiving no reply, I am hoping you will be able to find out for us all if the game exists at all? – **Kevin Joyce, Sheffield, South Yorks.**

■ System Three Software say that the Atari version of International Karate will be in the shops by the time you read this.

time is 3333 seconds. If however all the shots are captured in say 1000 seconds, a time bonus of about 2000 seconds is issued.

But the real is 1000 – it does not seem to recognise 10000. So even as the 1000 has run out, it does not carry on from 9999, it just runs out.

This is most annoying, and a good score cannot easily be obtained. – **Mrs D.P. Cunningham, Stratford, London.**

## SIX OF THE BEST

HERE are some tips for Atari games. I hope that your readers find them useful.

**Planet Winfield:** Having trouble getting past a level? As soon as you appear on screen, shoot the reactor until the ground starts floating. After the countdown, the planet will blow up and you will leap to the next level.

**Rescue Rick (Amstrad):** If

you haven't already realised, pressing Start and then Select will allow you to start on different levels.

**Star-poker:** If US Golf Awards! When playing on the Star level, and you have changed your cards, if you have "I stay", 99 per cent of the time this means that she has a bad hand.

So if you select [X], the dragons are that you will drop and you will win the money in the pot.

**Spellbound (MSX):** If your enemy dies, get the bottle of liquid from the roof, give it to Fido the Dwarf and then take it back to increase your strength.

To be the control disc in the dirt, get the Machine from David Matthews and give it to Thor. Summon Thor to the dirt by using Samson's oil-burn, and then it helps you using the wind of command and Thor will hit the control disc, then you can use the basement and ground floor. The key and not

having can back be used for dies.

**Necessary (Mangen):** There is a Polar Colony craft in the air. Its location is 04337 altitude at 08:08. When on the ground floor you can find a key.

**The Division (Lancaster Games/Microsoft):** To finish the first level you need the red jewel and you can hit the dragon with red fireballs.

To finish the second level you need the green jewel and you can hit the dragon with yellow fireballs.

Level 3: hit jewel, green fireballs; Level 4: red and green jewels, blue fireballs; Level 5: blue and green jewels, yellow fireballs; Level 6: blue and red jewels, blue fireballs.

If you find yourself running out of energy when fighting the dragon leave hitting the question quickly to collect all the fireballs the dragons shoot at you.

Keep up the great magazine – I look forward to anticipation

to the next issue! – **Mark Chapman, Petros, London.**

## CHIMERA

SOME tips on Chimera. First you need a sparrow. You can eliminate mirrors frames with this by going up to them and pressing fire.

Eliminate all fences, then get the belt and go to a blue room and press fire. Then you will need food.

Go to a master and press fire.

You need to follow the same procedure as with the electric fences.

Behind the first master is a key. Now you can open the door. You also have to find a pallid.

Some passwords for Cities Pollen – type these in as you begin the game.

Level 5: Frank  
Level 6: Frank  
Level 12: Frank  
Level 17: Frank

Wish crushed. Password on Winfield – **A. Mitchell.**





interested in seeing some digitised pictures too, then just send a black and white photo and return postage and I will post some pictures on there!

If you are interested, write to me at Cornerway, Lifford Drive, Crowborough, East Sussex TN9 2PH or phone 08321 82638 and ask for Stephen Hope this will help some people. — **Stephen Bostley, East Sussex.**

## Colour TV resolution

I WOULD be most grateful if you could answer the following questions, the first technical the second what!

I am on the verge of buying a £200 STM. I do not wish to buy a monitor — is there a marked loss in resolution when using the STM with a colour TV (MAG 803)?

The ideal STs are obviously in a class of their own and prospective buyers should realise that they really are getting 'power without the price'.

However, software for the ST is not cheap and not as many years ago all bit machines were selling, I believe, at a similar situation.

Little interest was generated in the early days between software was expensive and scarce and a computer offering more than its rivals really had to struggle to break water.

It is not possible that current ST software prices will have a similar effect and (perhaps forbidd) is this going to lead to piracy, just like it did in the early days of the BBC8000?

It seems unfair that a computer offering so much for so little should be subjected to these possibilities when only a few years ago Atari and Apple programmes were breaking their owners the hard way.

Are these prices justified and do you think they will improve?

Thank you for a great all-round publication. — **S.B. Milsap, BPPD Ship, London.**

■ You will find that the £20 STM can be used in both low

and medium resolution on a colour TV, but that medium resolution text will be very hard to read and the labels below the file icons almost impossible.

However, if you can connect it via the RGB port you will notice a distinct improvement, but not to the extent that you would wish a good colour monitor.

After building it I decided to set it up for a few tasks like making me up in the morning by switching on the light, and

stopping buying computers and software where would Alan be that? — **An Atari User, Hull.**

I HAVE just purchased an Atari 8000, pack from Discos for my children.

While we can run the games tapes, that's as far as we can go. Having tried unsuccessfully to programme games from a games book, I feel we need to understand what we are doing from the beginning.

Can you tell me whether there are any publications which are intended for the beginner with no computer knowledge at all? Also, stock of games and so on in our area.

While you have games at £2.95 in your magazine, the only stockist I have found is Discos with a limited range starting at £8.95.

Any information you can give will be very gratefully received and hopefully allow my kids that I have made a wrong decision with this

purchase. — **Mrs. L.C. Dwyer, Poole, Dorset.**

■ If you can't find a local retailer who has the games you want, why not try looking through the pages of Atari User for a mail order company which advertises such items?

You will find most of them offer a speedy and efficient service, and a far larger range than most local shops have.

As for a good book for beginners, you might like to try Inside Atari Basic or the 130 RI Handbook — again available from most mail order dealers.

■ The book you require is called Mapping the Atari (81/95 Edition), and is published by Computer Books at £18.95.

You could order it from your local bookshop, or get it easy from Software Systems, Computer or one of the other mail order dealers.

# DIY modems are out

For this reason, no home-brew modem bits — such as the Magpie one — are any longer likely to be approved and are hence illegal to use. You can easily connect one to your phone, but not legally.

If BT finds out, it may well not sue you. That said, there are lots of people who own such units and take the risk.

To connect any modem to the computer you will require an RS232 interface such as the Atari 850 and the relevant software.

If you feel confident at machine code programming, you could try writing your own RS232 software to work via the joystick ports.

Beware though — you might find that this causes the phone to jump around the room like your coffee machine did!

— **Simon Ross, Ebbw Vale, Gwent.**

■ The question of home built modems is a tricky one. You may feel confident in building one, but British Telecom will certainly not regard you as a qualified telephone engineer.

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## Missing top games

I WOULD like to know why Atari is dropping out top arcade games like Paperboy and Streets and Dollars in every issue of computer magazine like Atari User.

My Atari users are supporting Atari by buying its computers and software, not to find the better new games are only available for other machines.

Why are we getting a new deal? Why should we buy the software — if we can find it — when Atari is backing Spectrum users and so on.

There is no wonder people turn to piracy. If Atari users

# NEWSLETTER

## Books and bookmen

BUYING and selling rare and out-of-print books isn't as fast a business as it may sound – even for a firm founded when Robert Peel was prime minister.

Antiquarian bookseller Whetton & Wessley has been trading since 1843, but is bang up-to-date when it comes to communications thanks to MicroLink.

Speed is important in locating rare publications, then buying and selling them at the right price.

And as 60 per cent of the firm's business involves dealing with people in countries all over the world, MicroLink's telex and other messaging services are proving invaluable.

"Although we specialise in natural history, we're very willing to search for any rare books other people are looking for", says director Tony Savens, a member of the family which has been running Whetton & Wessley since the 1930s.

"And where great distances are involved, MicroLink is often the fastest and most economical means of doing the job."

"Our clients are universities, museums and libraries, private collectors and fellow dealers – and two-thirds of them are abroad."

"As a parent most of our business with the United States is done by telephone, but we should soon have an efficient transatlantic mail-order system via MicroLink – and perhaps even a special interest database as well."

## Best foot forward

STOCK control procedures at a fast-expanding chain of footwear specialists in London used to be rather a mammoth slog.

Now the system is more like a sprint – thanks to MicroLink.

Cobra Sports Shoe Shops has blossomed into an eight-store chain in as many years, selling to top international athletes as well as spare-time joggers.

It all adds up to a

mountain of shoe leather – or rather uppers and rubbers.

Before MicroLink, daily stock reports were written by hand and the sheets sent by post available delivery van to the firm's head office, sometimes two or three days later.

Now the information from each shop goes directly every night onto Cobra's MicroLink mailbox for retrieval next morning and processing on the firm's IBM computer. Up-to-the-minute

stock control has been achieved without great expense – instead of a micro each store uses a Paces Organisation.

"This gives us simple one-button operations that are easy for the staff to pick up", says Cobra systems manager Daniel Brown.

"And I've successfully written an automatic file-reading procedure in GPL on my Paces which speaks to the process even more."

## Link grows

MICROLINK subscribers can now communicate directly with two more countries through the world's biggest electronic mail and messaging network Datamail.

Italy and Japan have joined the system, bringing to 14 the number of countries offering this global service.

## More free software

MICROLINK telesoftware library is being recognised and considerably extended.

The programs run on five types of computer – BBC Micro, Apple, Electron, Acet and Amstrad.

There are now nearly 100 free programs in the MicroLink telesoftware library and this number will be substantially increased during the next few months.

## Going with a bang

HAVING survived his childhood hobby of making fireworks – "sometimes luckily", he says – Jon Cuthbertson went on to other things.

But he never lost his fascination for coloured explosions and now, with a little help from MicroLink, he's creating them all over the country.

An boss of Fantastic Fireworks, Jon was responsible for something like 60,000 "bangs" around Britain this November 5th.

For the past two years Jon has been selling fireworks imported from places like Germany, Spain – and even China where pyrotechnics originated.

He keeps in touch with his suppliers via MicroLink's telex facilities and uses electronic mail to publicise his services.

These include packaged displays costing from £80 for a family bonfire party to £5,000 for, say, a town's Royal Wedding celebrations.

"We found that sending

information via MicroLink is the most effective method of getting publicity for my company in the media", says Jon.

"My displays have already been featured on Saturday Superstore and Paddy Moir on One as a result."

## Fly me...

THE Official Airline Guide database available on MicroLink includes information about nearly 30,000 routes as well as flight and fare details for more than 750 airlines.

The coverage spans 17,000 hotels and resorts in North America, more than 9,000 in Europe and more than 2,500 in the Far East and Pacific area.

Details displayed include the full postal address, telephone and telex numbers, and the range of rates, plus an official classification in most cases.



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## KEYBOARD DEFINER from F. Van GILST

THIS five-line from a reader in Holland not only lets you modify the keyboard definition table but also adds five useful edit functions.

Save the program after you have typed it in and run it. Now press the key that you wish to redefine. The program will respond with "Give Character". You now type in the character that you wish to store in this key and the program will do the rest.

For example you could press Shift+Space and enter a semi-colon when asked "Give Character". From then every time you press Shift+Space a semi-colon will be printed

on the screen.

The program also gives you five bonus editing functions:

**Control+4** moves the cursor to the upper left of the screen.

**Control+5** moves the cursor to the lower left of the screen.

**Control+6** moves the cursor to the beginning of a line.

**Control+7** moves the cursor to the end of a line.

**Control+8** turns the keyboard click on and off.

The program will only operate on XL and XT machines and you should press Reset before you load and run it.

The keyboard table that you have redefined can also be saved for use later by entering the following:

**DOS**

**R**

**D:KEYDEF.BIN,500,050,050**

To reload the table:

**DOS**

**L**

**D:KEYDEF.BIN**

The keys will now be redefined as before.

### LINE BREAKDOWN

- 1: Contains the data for the program.
- 2: Pokes in the data and opens a channel to the keyboard.
- 3: Waits for a key to be pressed.
- 4: Inputs the replacement character.
- 5: Replaces the character in the table.

## RIVER from A.P. PICKETT

RIVER is a simple game in which you control a boat using a joystick in port one.

Moving the boat from side to side, you see how far you can get up the ever narrowing river.

### LINE BREAKDOWN

- 10: Sets up the variables.
- 20: Puts the boat on the screen and reads the joystick.
- 30: Randomly decides on the width of the river.
- 40: Advances your points.
- 50: Tells you how far you travelled.

## JOYSTICK TEST from WILLIAM ANDERSON

JOYSTICKS can be very unreliable and it is often difficult to tell whether the program or joystick is at fault. To find out easily, type-in and run Joystick Test.

### LINE BREAKDOWN

- 10: Initializes the screen and asks you which joystick port you wish to test.
- 20: Checks the port number is valid and checks for a key press.
- 30: Reads the description from line 50 for the current value of STICKIN.
- 40: Informs you if the button is pressed.
- 50: Data statements for descriptions.

```
10 DIM STICKIN(10) AS B, J, J1, J2 AS B, J3 AS B, J4 AS B, J5 AS B, J6 AS B, J7 AS B, J8 AS B, J9 AS B, J10 AS B, J11 AS B, J12 AS B, J13 AS B, J14 AS B, J15 AS B, J16 AS B, J17 AS B, J18 AS B, J19 AS B, J20 AS B, J21 AS B, J22 AS B, J23 AS B, J24 AS B, J25 AS B, J26 AS B, J27 AS B, J28 AS B, J29 AS B, J30 AS B, J31 AS B, J32 AS B, J33 AS B, J34 AS B, J35 AS B, J36 AS B, J37 AS B, J38 AS B, J39 AS B, J40 AS B, J41 AS B, J42 AS B, J43 AS B, J44 AS B, J45 AS B, J46 AS B, J47 AS B, J48 AS B, J49 AS B, J50 AS B, J51 AS B, J52 AS B, J53 AS B, J54 AS B, J55 AS B, J56 AS B, J57 AS B, J58 AS B, J59 AS B, J60 AS B, J61 AS B, J62 AS B, J63 AS B, J64 AS B, J65 AS B, J66 AS B, J67 AS B, J68 AS B, J69 AS B, J70 AS B, J71 AS B, J72 AS B, J73 AS B, J74 AS B, J75 AS B, J76 AS B, J77 AS B, J78 AS B, J79 AS B, J80 AS B, J81 AS B, J82 AS B, J83 AS B, J84 AS B, J85 AS B, J86 AS B, J87 AS B, J88 AS B, J89 AS B, J90 AS B, J91 AS B, J92 AS B, J93 AS B, J94 AS B, J95 AS B, J96 AS B, J97 AS B, J98 AS B, J99 AS 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