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Vol. 4 No. 6

October 1988

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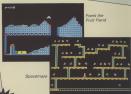
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All major listings in this issue are accompanied by checkmarks to help overcome typing mistakes. For full details of how they work, see the article on page 26 of the July 1989 issue of Atari User.

DRACONUS

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

It's Zappell's art gallery is getting to be a museum of gaming. Don't miss this quality, Zappell's art and they every one will find them

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New US products are on their way

ANOTHER batch of important Atari 8-bit products have been announced by US developer Reserve Software (8101 212-262 2017).

News Station brings some powerful page layout capabilities to the XL/XE micros. It allows the user to combine graphics and text and print them out. Price \$29.95.

News Station Composer includes a plot manipulator to expand and centre News Station plots, an Ascii converter, Ascii picture converter for selecting part of a picture, and News Station librarian which allows pages to be compressed to save disk space. Price \$29.95.

Publishing Pro is the first object oriented desktop

publisher available for Atari 8-bit micros. It allows users to create an entire page of text using columns, leaders and icons, and is compatible with Ascii files, Print Shop icons and News Station. Price \$29.95.

Business Manager 3.0 - a complete accounts receivable business package also prints statements, mailing labels and invoices. The program is entirely icon-based, tracks an unlimited number of customers and takes advantage of two floppy drives and the extra 64K of memory in an Atari 130XE. Price \$49.95.

Super ReserveKey is a CROM keyboard handler that will allow you to use your keyboard with most commercial software including

RevCalc, Your Personal Net Worth, and others. Also included is a keypad customizer that gives complete flexibility in designing new keypad layouts.

Keys can be defined to represent up to 10 characters. Price \$19.95.

Ditto XL - a powerful backup utility - will duplicate most un-protected commercial software without using any hardware. It is completely software based and will work with any disc drives. Price \$24.95.

Rhythmizer is a sound synthesis program intended to simulate a drum set, but which can be customized to imitate many other instruments. Included are sound and rhythm editors. Price \$24.95.



High scores the aim

A NEW arcade-quality joystick offering eight micro switches - and a range of features for even the most difficult of computer games - is being marketed by Computart (0699 650444).

The Micro Master, manufactured under exclusive licence for Replay, is ergonomically designed in red and black with non-slip rubber feet.

The eight micro switches ensure maximum efficiency and it has a switchable single or rapid fire button for high score games.

A 1.6m cable ensures the player can take up more positions. Price £32.95.

Business looks up

AN award-winning all-in-one, fully integrated business package from America for Atari 8-bit machines has been launched here by Computerhouse (01-731 1206).

Called Turbabase, it features three relational databases, word processor, spreadsheet, accounts system and report generator.

It has open invoicing, inventory/stock control, payroll, flexible mailing and file management, along with complete system error checking.

"And it's easier to use than dBase, Rouse or Lotus", says Computerhouse senior partner John May.

It comes with a 708 page manual including a quick review and cookbook. Price £129 in 40 column format, £129 in 80 column format.



Join the treasure hunt

ATARI users have been invited to take part in a treasure hunt to find the secret hiding place of a 25,000 replica of the legendary Holy Grail.

The nationwide quest has been organised by Mandala Software (0675 850880) to mark the launch of Lancelot - a graphic adventure game based on the legend of King Arthur.

Handcrafted from sterling silver and plated inside with 22 carat gold, the 70 high points is encrusted with

anti-gemstone stones. It is hidden at a secret location somewhere in the UK.

To find the prize, entrants will have to solve a two-stage contest based on clues contained in the new three-adventure Lancelot package.

Contest creator and Arthurian expert Pete Austin said: "All people need to do is study the Lancelot game carefully and the clues - plus their answers - will become obvious". Price £74.95.

Cut-price games

A NEW software club has been started which promises quality games at half-price for Atari 8-bit users.

Called Special Reserve (0379 725582), it claims to be able to offer the lowest overall prices for entertainment software.

Annual membership costs £4 and includes three issues of the Special Reserve buyer's guide, new release updates with each game bought, a folder and membership card complete with privilege ordering number.

One of the special introductory offers is a full set of discs to the Mandala Software games Time & Magic and Lancelot.

RS-232

ANDRE WILLEY explores the mysteries behind computer talk

MOST people are familiar with the terms *Centronics* and *RS-232*, and many will even know that the first is a parallel system of transferring information while the latter uses a serial system. But what is the difference between the two types of interface — and why do we need both systems?

Well, whichever one is in use at the time, the aim is very simple — to transfer computerised information from point A to point B as quickly and efficiently as possible. In computer terms, each individual character to be sent is called a *byte*, and it is stored internally as a pattern of eight switches known as *bits*.

Some of these bits will be switched on and others will be off, and to transfer any information between a computer and devices such as printers or modems it is necessary to transmit these patterns down some form of connecting cable. To do this, each bit is converted into a short pulse of electricity — normally five volts for a 1 bit and zero volts for a 0 bit.

Imagine for a moment that each single bit-pulse of data within a byte is represented as a car travelling along a main road between two cities. As we would ideally like to send our eight car-bits down the road simultaneously it would seem highly logical to build an eight-lane motorway so that each car could take a clear lane of its own. Thus each car could drive alongside — or parallel to — the other seven vehicles making up a full byte, and the journey would be a fast and smooth one.

This is fine in theory, of course, but it would be rather impractical to construct eight-lane motorways all over the country, so for longer journeys we might expect to find ourselves driving along ordinary main roads with just one lane in either direction. In that case our eight cars must follow each other nose-to-tail the whole way, and the journey would take considerably longer.

This example shows how a single byte of data — or eight cars, whichever you prefer — is passed between two locations, but real-life data transfer is complicated by the fact that you nearly want to transfer a single byte on its own. More often a stream of bytes will be sent — such as printing out a full

document on your word processor, or downloading a bulletin board file via a modem.

If you are using a parallel interface, such as our eight-lane motorway, there is no problem — all you need to do is send each row of eight cars down the road after the previous one has left. When they reach the other end each row, or byte, of eight cars will still be driving side-by-side, and the next byte will follow straight after.

The problem occurs when using a serial interface — such as our RS-232 single-lane road. If you send another set of eight cars down the road immediately after the first, followed by another and another after that, then there is no simple way of telling where one block of eight finishes and the next begins.

This dilemma is presented by sending out another vehicle, say a large lorry, before each group of eight cars. Once all the vehicles reach the other end of the road they will still be in the same pattern: One lorry, eight cars, one lorry, eight cars, one lorry, eight cars and so on. In computer terms, these lorries are called *start bits* because they indicate where one particular byte of data starts (see Figure 1).

To make our example completely true to the digital world of computers we will need to make one other alteration. Since a computer can only deal with bits of data which are either on or off — that is, voltage present or no voltage — we should really think of our roads as containing cars and spaces the same length as a car, rather than two different types of car.

Eight-lane traffic

In the parallel motorway example, a byte such as 10600001 would have a car in the outer lanes, empty spaces in the middle six lanes, and another car in the inner lane. As long as every car on the road, including those in the rear behind, travel at the same speed they should arrive in the same pattern.

In order to tell the computer at what speed the information is being sent, an extra signal line known as a *clock* is used to provide extra synchronisation pulses. This can be thought of as

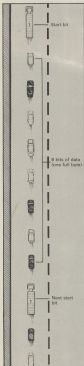


Figure 1. A serial interface

a serial in 8 bits

a line of extra cars driving down the hard shoulder of our motorway, always running alongside each main row of cars. See Figure 11.

If you think about it, this system also gets around another possible problem – that of how to detect zero information. Now that we are dealing with cars and spaces instead of just cars it would be quite possible to mistake a row containing ONLY spaces for the gap that occurs between two rows. The extra set of cars on the hard shoulder means that we always know the difference between an empty row and a gap.

One way system

In a serial system, where we are dealing with a single lane only, speed becomes even more important since we have no hard shoulder available for sync information. What happens instead is that the speed of our car-bits is very carefully regulated so that we know that there should be, for example, one along every five seconds. After the start bit – or forty in our example – has arrived we know that either a car or a space will be in position for checking once every five seconds.

The speed of the bits is known as the baud rate and basically refers to the number of bits which are sent out every second – so 300 baud refers to a data rate of 300 bits per second. This count includes any start and stop bits (normally two in total), so 10 bits can convey one full byte of data – thus giving a data transfer rate of about 30 characters per second at 300 baud.

To avoid any congestion on the line, and because the receiving and relay may not be able to handle data as quickly as you can send it, both parallel and serial interfaces allow a system akin to traffic lights in order to tell the computer when to start and stop sending information.

When the lights are at red – indicating the peripheral is currently busy processing and can't accept any more data – the computer will twiddle its thumbs until the lights go green again. This is referred to as hand-shaking.

As you will probably have realised by now, parallel interfaces are very much simpler than serial, but require many more wires for the data to be sent along. This is why the Centronics parallel system is more often used for

short distances – say from the computer to a printer, and the RS-232 serial system is used for longer range communications – either from room to room or even, by phone, to any-where in the world.

Can you imagine having to use eight phone lines to send a message by modem? Well that is what would be needed if we were to design a parallel interface for telephone use. The layout used as a Centronics connector is

shown in Figure 12. You will recognise the eight data lines as the eight lanes of traffic in our example, and the strobe as the hard shoulder. The Busy and Fault lines work like traffic lights.

The Busy signal goes to red to indicate that the printer can't take any more information for the moment, while the Fault signal is just the opposite and must always be switched to

Turn to Page 216

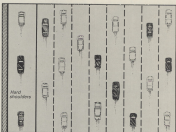


Figure 11: A parallel interface

Pin No.	Function
1	Strobe (Send)
2	Data bit 1
3	Data bit 2
4	Data bit 3
5	Data bit 4
6	Data bit 5
7	Data bit 6
8	Data bit 7
9	Data bit 8
11	Busy
16	Ground
20	Fault



Figure 13: Centronics connector pin diagram

Pin No.	Function
1	Data Out
3	Data In
4	Request to Send
5	Clear to Send
6	Data Set Ready
7	Ground
8	Carrier Detect
20	Data Terminal Ready



Figure 14: RS-232 connector diagram (modem-end)

From Page 7

green for the computer to send anything at all. This prevents sending information to a printer which is not turned on, for example.

RS-232 is a far more complex issue. From Figure IV you will note that there seem to be almost as many connections as we have seen on the parallel system, which surely defeats the object of a single-line highway for computer data. In fact the only two lines which are essential for full two-way communication are Data In and Data Out. These allow data to flow along a single line in either direction – rather like a normal highway in which traffic flows along opposite sides of the road.

All of the other lines operate as handshaking aids, like multiple sets of traffic lights. They are very rarely connected over long distances – more often acting as indicators to let the computer know the current status of the modem or other intermediate device.

These are especially important when sending data over telephone lines because you will often be using very slow baud rates – such as 300 or 1200 bps – which may require the com-

puter to pause for relatively long periods.

Most of these handshaking lines refer to the Data Terminal and the Data Set. These are generalised terms, and in our case the Data Terminal would be the Atari mine itself and the Data Set would be the modem – or indeed any other RS-232 device we might have connected.

Ready or not?

To run through the handshaking pins then, the Data Terminal Ready is switched on by the computer to tell the modem it is ready to send or receive information. Some auto-answer modems will check to see if this signal is set before allowing themselves to answer an incoming call. Data Set Ready is just the opposite to DTR – it is a signal set by the modem to say that it is also capable of communicating.

The Request to Send signal is very similar to the DTR, except that it not only says that the computer is ready to send data but actively requests the modem to make ready for a transmission. Clear to Send is the modem's reply to this request, and gives the computer the green light to send its

message. The only other important signal line is the Carrier Detect, and all this does is let the computer know when the modem has established a connection via the telephone line. Until this happens there is no point in the computer even getting ready to send information. Carrier Detect is often used by Bulletin Board software to tell the host computer when a call has been received and a connection made.

In fact, the full RS-232 standard lists some 25 signal lines, but most are so obscure that they are almost never used. In fact, most modems will quite happily operate with just the Data In and Data Out lines connected – and those that don't will often only need a permanently-on signal connected to their DTR line.

Next time I'll explain how the Atari RS-232 interface system works, and how you can write programs to control your 850 interface or P.A.C. connection.

Once you know how to do that you can connect *hundreds* of different third-party devices to your mine – ranging from simple plotters to more advanced external editing equipment.

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Software

SCENE

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Predict: Rampage
Price: £72.95 (list) £3.95
Rating:
Supplier: Activision, 11
 Finsell Street, Manchester
 M4 3DU
 Tel: 061-434 4867

IT has been a long time since an arcade game has been converted on to the Atari 8 bit. But now Activision has released Rampage, formerly by Billy Bialystok.

It is based on the exploits of three indistinguishably nasty 8 movie behemoths: King Kong, Godzilla and Wolf-Man. And the only thing that will satisfy them is total destruction.

Loading the disc-based game is simple. Just insert any cartridge or old machine or hold down the Option key on newer models while switching on. Cassette users must remember to hold down the Start key while following these instructions.

The game is designed to be played by two people using joysticks. Up, down, left and right move your monster in the desired direction. Holding the fire button and then moving the joystick will cause the monster to throw a punch or grab in the chosen direction.

In the very best of Hollywood tradition, Rampage unleashes monstrous mayhem on an unsuspecting public.

It seemed like any other day at the Greenburger Fast Food Emporium, except for three unlucky customers who were to get something nastier than their usual Big Muck.

The company's research division has been playing

around with several experimental food additives - and here they caused trouble.

A wave of nausea, food aversion then chronic indigestion soon swept over George, Luke and Ralph. Then they ripped off their clothing and got into their designer label fur and scales.

Life isn't funny when you're a 50 foot Gorilla, Lizard or Wolf-Man and the rest of the world is just about to find out how bad it is.

You play the roles of George, Luke and Ralph. And in a desperate battle for survival you climb skyscrapers and smash walls with your fists as you look for something edible - anything from coasters to tasty little humans.

Be very careful though, damaged buildings will eventually collapse into rubble. Leap off them when the foundations start to crumble as getting trapped under falling masonry will waste you.

The nation's military is also hell-bent on your destruction and you must



punch or avoid the snipers in the windows. Gunship helicopters are also buzzing around the screen in an attempt to shoot you. Beat them like flies.

If you lose all of your energy - indicated by bars at the top of the screen - you will revert to your human form and, hiding your nakedness as best you

can, shuffle off the screen in embarrassment.

When a whole level of buildings has been demolished, a new city block appears ready to be flattened. There are 50 cities, and you spend three days in each, making 150 different screens to destroy.

Rampage is great fun to play and the graphics and animation are very good. Adequate sound effects complement the game, but the title music is atrocious.

Of late only budget games have been reviewed in Atari User and it makes a nice change to see a full-price game appear on the market. I only hope that Activision follows it up with a few more.

Rampage has been very well written.

Ned Fawcett



Sound	2
Graphics	2
Playability	2
Value for money	2
Overall	2

Software SCENE

Universal removal man

Product: *The Exterminator*
Price: £19.99 (tape)
Publisher: Atari World, 31
Fleet Street, Manchester
M4 3JL
Tel: 061-625 4367

YOU are the Exterminator, remover of unwanted items by force. Your task is to root out all evil from the universe and to help you do this you have been placed in charge of the Eagle X-Ray squadron. Your latest mission is to lead a counter attack against the forces of Leo IV who have invaded and enslaved your home planet. You must lead your nine vessels through a number of

sectors which are patrolled by enemy pods and craft. After negotiating one level you have to blow your way through the sector wall to proceed to the next sector.

Loading is easy. Remove all cartridges from older machines and fold down the Start key while switching on. On newer machines you have to hold the Start and Option keys while switching on. Then press Return and the game will load.

Your control panel ship using a joystick plugged into port one - I found the joystick response a little sluggish.

At the top of the screen you will find a very colourful status line which indicates your score, lives remaining, power and what game level you are on. The main screen

scrolls from left to right, by splitting the screen into four parts and moving them at different speeds the programmer has given the game a feeling of depth.

The design of your ship is original and so are the enemy craft - one of them reminded me of a flying whale.

I found the graphics quite presentable and the sound effects rather good. The title music is a superb, jolly piece and really got my foot tapping.

Stephen Pascoe

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

Going for gold

Product: *Quartet Gold*
Price: £19.99 (tape)
Publisher: Atari World, 31
Fleet Street, Manchester
M4 3JL
Tel: 061-625 4367

THE latest release from Red Hat Software is another compilation pack - *Quartet Gold*, containing *Space Wars*, *Dreadnought*, *Little Devil* and *Laser Hawk*.

Space Wars centres around the hostile actions of the Reidan Empire. At the last meeting of the Intergalactic Federation on the planet Alpine Nine the ugly, nasty Reidans from the dark stars declared war on Earth.

As the Federation prepares its own fleet and

Reidan craft are massing to attack the Earth, you guide your space fighter through the asteroid belt and enter the fray.

All controls are via a joystick plugged into port one. Keep a sharp eye on your shield function panel at the top right of the screen. When it runs out you're dead. While your shields are at full you can ram Reidan craft and destroy them. But be careful, this drains your strength and you may end up losing a life.

The graphics and sound effects are reasonable. However, I was playing games like this 10 years ago when I first got my Atari. *Space Wars* is an acceptable game on a compilation pack, but I wouldn't have

bought it on its own.

Dreadnought is set deep under Earth's oceans. Here, a terrible battle is being waged in an attempt to save the city of Atlantis from being overrun by aliens from a distant galaxy.

Atlantis was once the home of a race of super-

scientists who developed fantastic war machines. Now the attacking aliens are attempting to steal them so they can conquer the universe.

Your job, as the commander of the SS *Dreadnought* - the latest nuclear-powered deep-water submarine - is



Software SCENE

Keep on firing

Product: *Star Wars*
Price: £14.99 (incl.)
Supplier: Atari World, 12
Parson Street, Manchester
M4 3PL
Tel: 061-624 4341

YOU are the pilot of the latest hi-tech space fighter trying to save the Universe from destruction by deadly anti-matter aliens who are invading it.

You load the game by removing all cartridges from older machines – or hold Option on newer models – and then press Start while switching on the monitor. Press Return and the game will load.

You move your ship using a joystick plugged into port



and. Pressing fire will shoot your lasers which have a devastating effect on enemy vessels.

At any time during the

game you can press Select to pause all action. Pressing it again will continue play.

The part I liked the best

was the main title screen. Clever use of DLI – display list interrupts – has allowed the programmer to create some interesting visual effects.

As budget games go this one is quite good. My only complaint is that the enemy vessels move too fast and you can't avoid them at times.

Stephen Fawcett

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

to destroy them before they destroy you.

You control the Dreadnought using a joystick plugged into port one. The fire button will launch one of your missiles which will hopefully destroy the enemy.

Again this is an adequate game that should provide some fun. Yet another clone of the old defender style game, it unfortunately falls short of the original. I gave very tired of Dreadnought after only a few goes.

Little Devil is a character trapped in Hades. The only way he can escape evicting himself is to release the lost souls which are floating around in a state of limbo.

He must also free Princess Linnea, King Mordred's imprisoned daughter, who is held in Castle Despair. You play Little Devil and you



must collect all the souls which are marked with a number, before the time limit expires.

This is done by bouncing and jumping around the various levels. You start the game with three lives and you lose one every time you come in contact with a guardian.

This is the best so far – considering it is yet another variation on a platform

game. The graphics are well implemented and the sound effects reasonable. When first released at full price several companies bought it. I don't see why, and I don't think it has any link with the occult or horror.

The final game is **Laser Hawk**. Basically this is a helicopter shoot-'em-up very similar in design to Scramble. Unfortunately, the version I received didn't have a cassette tape so I

can't tell you the story behind it.

The game scrolls from left to right and you must fly low over enemy installations bombing them. Missiles and enemy craft constantly buzz the area, making your life very difficult.

Make sure you watch your energy level carefully as when it drops to zero you are dead. However, located around the screens are fuel dumps. All you have to do is fly over them and your energy level goes up.

The graphics are excellent and the animation of your chopper is very well done. For me this is the most playable game of the four. Overall the compilation is well worth its price tag of £2.95.

Stephen Fawcett

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

Lancelot



Travel back to the Age of Chivalry when knights were bold, galloping across the countryside and rescuing damsels in distress.

Level 9 recreates the time of wizards and the Knights of the Round Table in their greatest adventure yet. Lancelot consists of three interlinked adventures, spanning the complete saga from the foundation of the Order to its finest hour – the quest for the Holy Grail.

Guide Lancelot through his many exploits at Camelot, battle with wayward knights, and win the love of Guinevere and Elaine.

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Inside every box there's a detailed guide to playing Level 9 adventures, a background story to the classic legend, a parchment map of Arthurian England – and full details of how to take part in the Quest for the Holy Grail competition.

Masterford
SOFTWARE

Level 9

Format	Type	Discs	Price
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Amiga		•	£24.95
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Amstrad CPC/PCW Spectrum Plus 2		•	£19.95
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Amstrad CPC:	•	•	£14.95
* Atari XL/XE	•	•	£14.95
IBM, MacInt	•	•	£14.95
* Apple II	•	•	£19.95
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MSX 640	•	•	£14.95

Note: Paper versions have these versions in every package

WTN
This solid silver Grail, worth £5,000, is the exciting Quest for the Holy Grail competition. Full details in every box.



Screen shot from Atari ST version



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8/93

*These demands and all two versions are not only.

The American experience

NEIL FAWCETT takes another look at the products available for American 8 bit users

I LOOKED last month at American hardware and the problems of importing it into the UK. This time I want to concentrate on the difficulties you can face when trying to get good quality games for your Atari 8 bit.

Lately the software market in the UK has been undergoing what can only be described as a shortage of well written programs. Only a few local software houses are still supporting the 8 bit Atari - Zeppelin, Tyndroit,

Red Rat, Activision and Alternative spring to mind immediately.

Lately most of these software houses have decided to continue producing games and they are waiting for Atari's new support for the 8 bit. This is coming in the shape of a large number of 8T game conversions due to be released very soon. Atari's plan is to once again flood the market with superbly written games - just like in the old days.

Also, the High Street shops are

again fully reporting the sale of 8 bit hardware. One in particular, Discos, is packaging a 8000 with disk ram, 8012 tape deck, a number of games and a 14in Salsito colour TV for only £269.99. Now that's value for money!

If you cast your mind back to last month you'll remember I said I was going to talk about a game called Infiltrator. It's a stunning graphical adventure which is currently only available in America - even though versions on other 8 bit micros have been here since the early part of 1987.

The scenario revolves around the exploits of Johnny McQuibbly, super spy and ace helicopter pilot. Your mission is to penetrate and destroy several enemy ground installations.

To help you carry out this dangerous task you have been given control of the Glenc DMC-1 attack chopper - codenamed the Stealthmaster. Once airborne you set your tactical computer and enter the coordinates of the enemy base.

During the game several aircraft will enter your air space. You must decide whether they are friend or foe and take the necessary action - blast them into little bits or let them go.

Once you land you have to penetrate the base - posing as a guard. Once you have taken photographs of secret documents, gassed guards and planted explosives you have to get out - fast!

As you can see from the screen shot the graphics are marvellous. The most complicated part of the game is remembering what has done what.

Other 8 bit versions of Infiltrator have been released by US Gold in the UK. So what happened to the Atari version written by Madcap? Does anybody out there know?

If you want to try and get hold of it the phone number is 010 412 381 8290 and the address: PO Box 111037, Dept AT, Milwaukee, WI 53235.

Now on to another game I'm sure Atari owners all over the UK would want to own - Strip Poker. True, it is already available in the UK, but what you can't get are the extra data discs of new players.

The original game supplied you with female players but you can now get a disc of males to strip, too. There are also other discs of female players. Priced at \$14 - or around £8 - you can get it from the same people who sell Infiltrator.

In the desktop publishing field an American company called Springfield Software has just brought out Newsroom for \$49.95 - around £26. You require an Atari XL001 with at



A stunning graphical adventure



Naughty but nice!

Turn to Page 88 >

It is your birthday and your father has thrown a huge party in your honour. There are cakes, balloons and fireworks for your enjoyment. Everything is going wonderfully and your father announces that it is time to light the first salvo of rockets.

Up they go — and that's when all the trouble starts for you. Unfortunately, a flock of mischievous giant birds were on their way south to warmer climates when they were hit by your rockets. Outraged by this intrusion on their annual migration, they attack the party below.

After some quick thinking you decide that the only solution is to light more rockets and hit the birds as they come down the skies.

With litged tape in hand you must rush over to the row of rockets — stood in their mile bottle launch pads — and blast them into the night sky in a hope of killing the birds.

After typing in the listing check it with **Ctrl R** and then save a copy to tape or disc before running it — a mistake in the data statements could result in a crash and you could lose hours of hard work.

There are four levels of play which affect the bird's speed — slow, medium, fast and frantic. Use the **Select** key to choose the one you require and press **Start** to begin the game.

Use a joystick plugged into port one to position the tape and press fire to ignite the blue torch paper. The birds come in waves of three and you start with 30 rockets. When they have all been launched the game is over.

A high score requires accurate timing. Watch the flight path of each bird carefully and avoid setting off all the rockets on one side.



You'll experience nerve tingling excitement when you play **STEPHEN WILLIAMSON's** fun game

```
10 REM PYROMANIA
20 REM BY STEPHEN WILLIAMSON
30 REM 1.5" DISK VERSION
40 REM INITIALISED
50 GRAPHICS=0:POSITION=4:JET=0:
60
61 PLOT PBL,COLOR=789,PI,PAGE=10,11
62 PLOT 771,772
70 POSITION=4:JET=0:PI=0:
80 GOTO 40:G0
90 GOTO PBL,COLOR=789,PI,PAGE=10,11
91
100 PLOT 822,1:PAGE=10,PI,PAGE=10,11
110 PLOT 1479,PI,PAGE=10,11
120 PLOT 822,1
130 GOTO 100
140 REM SET UP AN OPTION
150 REM AND SET THE PARAMETERS
160 PLOT 1500,1
170 PLOT 1500,1
180 PLOT 1500,1
190 PLOT 1500,1
200 PLOT 1500,1
210 PLOT 1500,1
220 PLOT 1500,1
230 PLOT 1500,1
240 PLOT 1500,1
250 PLOT 1500,1
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1980 PLOT 1500,1
1990 PLOT 1500,1
2000 PLOT 1500,1
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1920 PLOT 1500,1
1930 PLOT 1500,1
1940 PLOT 1500,1
1950 PLOT 1500,1
1960 PLOT 1500,1
1970 PLOT 1500,1
1980 PLOT 1500,1
1990 PLOT 1500,1
2000 PLOT 1500,1
```

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27/2/85

Crush, crumble and print

Create your own superb labels with **GRANVILLE DANBY's** useful routine

This label printing program differs from most because it allows graphics to be mixed with text. The resulting size of the label is 7 by 4 cm, to fit comfortably on a floppy disc or its jacket.

The labels must be designed using a graphics package such as Graphics Art Department, Paint or any which uses a Graphics 7-based screen. Pictures from art programs which use a different graphics mode will not work unless modified.

Only one colour, placed in playfield register 1, can be used. GAD assigns the default colour of green in this register.

The program can be divided into two main sections — loading the picture and printing it. A machine code routine is used to crop the graphic file into a label sized picture on a hi-resolution screen.

Basically, two bytes of colour information are compressed into one byte of monochrome data, and to allow how the program does this, here's how the Atari stores its colour information.

In Graphics mode 3 there are 160

pixels across the screen using up 40 bytes of memory, each pixel needing two bits or one quarter of a byte to define it. All the possible combinations of 2 bits are shown in Figure 1.

Each pair of bits represent a colour register, so it can be seen that there are a maximum of four colours on a Graphics 7 screen. What the program does is to take every other bit in the file and plot it on the screen — see Figure 2.

This is how the two bytes of colour data are crunched into just one byte of monochrome data.

The second section of the program prints out the label. It will only work on an Atari 1020 printer, but if you own an Epson compatible machine, it is possible to add your own printer dump subroutine.

Before the program is run you must select the picture format. If you select Option 3 — any other format — you have to enter the number of dummy bytes preceding the picture file. This number will vary from one art package to the next so I'll leave the conversion to you.



VARIABLES

STUFF Acts as a buffer for the data
PICT Picture filename
DUMM Dummy bytes to read
ADDR Address of stuff
LEN Length

```

10 REM *****
20 REM * GAD LABEL PRINTER *
30 REM * BY GRANVILLE DANBY *
40 REM * 201 2000 2000 *
50 REM *****
60 REM *****
70 REM *****
80 REM *****
90 REM *****
100 REM *****
110 REM *****
120 REM *****
130 REM *****
140 REM *****
150 REM *****
160 REM *****
170 REM *****
180 REM *****
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200 REM *****
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920 REM *****
930 REM *****
940 REM *****
950 REM *****
960 REM *****
970 REM *****
980 REM *****
990 REM *****

```

Turn to Page 116

00	REGISTER	00
01	REGISTER	01
10	REGISTER	02
11	REGISTER	03

Figure 1. All the possible combinations of two bits

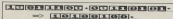


Figure 2. How two bytes of colour data are crunched into one

Table 1

1. 在 10 个 100 以内正整数中，找出能被 3 整除的数，并求其和。
 2. 在 10 个 100 以内正整数中，找出能被 5 整除的数，并求其和。
 3. 在 10 个 100 以内正整数中，找出能被 7 整除的数，并求其和。
 4. 在 10 个 100 以内正整数中，找出能被 11 整除的数，并求其和。
 5. 在 10 个 100 以内正整数中，找出能被 13 整除的数，并求其和。
 6. 在 10 个 100 以内正整数中，找出能被 17 整除的数，并求其和。
 7. 在 10 个 100 以内正整数中，找出能被 19 整除的数，并求其和。
 8. 在 10 个 100 以内正整数中，找出能被 23 整除的数，并求其和。
 9. 在 10 个 100 以内正整数中，找出能被 29 整除的数，并求其和。
 10. 在 10 个 100 以内正整数中，找出能被 31 整除的数，并求其和。

15-00	Loads in the machine code data
1000-1009	Shows menu and select options
2000-2009	Feeds a picture into memory
3000-3039	Prints out the label
4000-4039	Mixes code for data compression
5000-5039	Machine code for the printer

[illegible]

001, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 3300, 3400, 3500, 3600, 3700, 3800, 3900, 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4700, 4800, 4900, 5000, 5100, 5200, 5300, 5400, 5500, 5600, 5700, 5800, 5900, 6000, 6100, 6200, 6300, 6400, 6500, 6600, 6700, 6800, 6900, 7000, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, 8000, 8100, 8200, 8300, 8400, 8500, 8600, 8700, 8800, 8900, 9000, 9100, 9200, 9300, 9400, 9500, 9600, 9700, 9800, 9900, 10000, 10100, 10200, 10300, 10400, 10500, 10600, 10700, 10800, 10900, 11000, 11100, 11200, 11300, 11400, 11500, 11600, 11700, 11800, 11900, 12000, 12100, 12200, 12300, 12400, 12500, 12600, 12700, 12800, 12900, 13000, 13100, 13200, 13300, 13400, 13500, 13600, 13700, 13800, 13900, 14000, 14100, 14200, 14300, 14400, 14500, 14600, 14700, 14800, 14900, 15000, 15100, 15200, 15300, 15400, 15500, 15600, 15700, 15800, 15900, 16000, 16100, 16200, 16300, 16400, 16500, 16600, 16700, 16800, 16900, 17000, 17100, 17200, 17300, 17400, 17500, 17600, 17700, 17800, 17900, 18000, 18100, 18200, 18300, 18400, 18500, 18600, 18700, 18800, 18900, 19000, 19100, 19200, 19300, 19400, 19500, 19600, 19700, 19800, 19900, 20000, 20100, 20200, 20300, 20400, 20500, 20600, 20700, 20800, 20900, 21000, 21100, 21200, 21300, 21400, 21500, 21600, 21700, 21800, 21900, 22000, 22100, 22200, 22300, 22400, 22500, 22600, 22700, 22800, 22900, 23000, 23100, 23200, 23300, 23400, 23500, 23600, 23700, 23800, 23900, 24000, 24100, 24200, 24300, 24400, 24500, 24600, 24700, 24800, 24900, 25000, 25100, 25200, 25300, 25400, 25500, 25600, 25700, 25800, 25900, 26000, 26100, 26200, 26300, 26400, 26500, 26600, 26700, 26800, 26900, 27000, 27100, 27200, 27300, 27400, 27500, 27600, 27700, 27800, 27900, 28000, 28100, 28200, 28300, 28400, 28500, 28600, 28700, 28800, 28900, 29000, 29100, 29200, 29300, 29400, 29500, 29600, 29700, 29800, 29900, 30000, 30100, 30200, 30300, 30400, 30500, 30600, 30700, 30800, 30900, 31000, 31100, 31200, 31300, 31400, 31500, 31600, 31700, 31800, 31900, 32000, 32100, 32200, 32300, 32400, 32500, 32600, 32700, 32800, 32900, 33000, 33100, 33200, 33300, 33400, 33500, 33600, 33700, 33800, 33900, 34000, 34100, 34200, 34300, 34400, 34500, 34600, 34700, 34800, 34900, 35000, 35100, 35200, 35300, 35400, 35500, 35600, 35700, 35800, 35900, 36000, 36100, 36200, 36300, 36400, 36500, 36600, 36700, 36800, 36900, 37000, 37100, 37200, 37300, 37400, 37500, 37600, 37700, 37800, 37900, 38000, 38100, 38200, 38300, 38400, 38500, 38600, 38700, 38800, 38900, 39000, 39100, 39200, 39300, 39400, 39500, 39600, 39700, 39800, 39900, 40000, 40100, 40200, 40300, 40400, 40500, 40600, 40700, 40800, 40900, 41000, 41100, 41200, 41300, 41400, 41500, 41600, 41700, 41800, 41900, 42000, 42100, 42200, 42300, 42400, 42500, 42600, 42700, 42800, 42900, 43000, 43100, 43200, 43300, 43400, 43500, 43600, 43700, 43800, 43900, 44000, 44100, 44200, 44300, 44400, 44500, 44600, 44700, 44800, 44900, 45000, 45100, 45200, 45300, 45400, 45500, 45600, 45700, 45800, 45900, 46000, 46100, 46200, 46300, 46400, 46500, 46600, 46700, 46800, 46900, 47000, 47100, 47200, 47300, 47400, 47500, 47600, 47700, 47800, 47900, 48000, 48100, 48200, 48300, 48400, 48500, 48600, 48700, 48800, 48900, 49000, 49100, 49200, 49300, 49400, 49500, 49600, 49700, 49800, 49900, 50000, 50100, 50200, 50300, 50400, 50500, 50600, 50700, 50800, 50900, 51000, 51100, 51200, 51300, 51400, 51500, 51600, 51700, 51800, 51900, 52000, 52100, 52200, 52300, 52400, 52500, 52600, 52700, 52800, 52900, 53000, 53100, 53200, 53300, 53400, 53500, 53600, 53700, 53800, 53900, 54000, 54100, 54200, 54300, 54400, 54500, 54600, 54700, 54800, 54900, 55000, 55100, 55200, 55300, 55400, 55500, 55600, 55700, 55800, 55900, 56000, 56100, 56200, 56300, 56400, 56500, 56600, 56700, 56800, 56900, 57000, 57100, 57200, 57300, 57400, 57500, 57600, 57700, 57800, 57900, 58000, 58100, 58200, 58300, 58400, 58500, 58600, 58700, 58800, 58900, 59000, 59100, 59200, 59300, 59400, 59500, 59600, 59700, 59800, 59900, 6000

[illegible]

Abstract: In a study of 100 Italian adolescents, the authors examined the relationship between the Big Five personality traits and the Big Five self-esteem dimensions. The results showed that self-esteem dimensions were related to the Big Five personality traits in a manner consistent with the theoretical model proposed by the authors. The authors also found that self-esteem dimensions were related to the Big Five personality traits in a manner consistent with the theoretical model proposed by the authors.

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S

SOFTWARE

Solutions

Your programming problems solved by **ANDRÉ WILLEY**

HELLO again and welcome to this month's mixed bag of technical and not-so-technical queries, ranging from screen output redirection to disc storage problems. Let's start off with a letter from Mr A.H. King from Ripon East Sussex, who writes:

On a recent trip to the USA I spotted a bargain I thought too good to miss – an 8000L, NTSC disc drive and XMM302 modem – all for the equivalent of £104. I didn't want the modem, so the store kindly swapped it for a Flight Simulator II cartridge. Because of the difference in TV systems, I also bought a shop-soiled colour monitor for £40.

My problem now is compatibility. Our family already has two 8000L and 1000 drive systems with which we are all extremely satisfied. My new American hardware, which uses a 110V transformer, works better than either of the British machines. For example, the artificial horizon display on Flight Simulator II is 30° defined on the UK system but shows a nice crisp blue and green instrument display on the US monitor.

I thought the American system solely for the 8000L drive, thinking it would work with my UK standard 8000L – but it doesn't. The opposite does work though – a UK 1000 drive with the American 8000L.

Another peculiarity is that my Flight Simulator II discs – originally purchased in the USA – will not run on my American system, although 80 per cent of our other programs work fine. I'm very confused!

■ I'm a little puzzled by this one too. From your letter you seem to have done everything right – bought an NTSC monitor and used all the American products with an additional

130v-110v converter. As you know, the two major problems with imported equipment are the differences in mains voltage and frequency and the fact that America uses a different television system called NTSC – which is not compatible with our own PAL version.

One thing which might help is to buy separate UK 130v transformers from Atari UK, or order them through your local dealer, in the unlikely event that your problem lies with the mains supply itself.

This would allow you to plug the American product – with the exception of the monitor – directly into a normal UK mains socket.

Other than that, the drive should work fine with a British 8000L. I consulted the people at Atari on this one in case they had come across any difficulties, but the only comment they could add was that the drive's operating system rom chip should really be replaced with a UK version for timing reasons.

Assembler printout?

Next a letter from **Gerry Bowles** from Withlove in County Westmeath, Ireland:

Recently I have started learning 8007 assembly language programming on my 8000L with the old Atari Assembler/Editor cartridge.

When using the assembler, and having already created and assembled a program, there is a useful facility to

1000 or single-step the machine code program using the T and S commands in the resident debugger. Since so much information is supplied for each instruction it would be much easier on the eye if I could monitor the various registers via the printer instead of the screen – rather like having a command such as:

S 1000,40;

or:

T 1000,40;

If this is not directly possible, a routine to allow me to dump a full screen of information to the printer would suffice. Do you have any ideas which might help?

■ Thanks for your letter and I'm glad to say there are in fact two fairly simple ways to print out the text from the Assembler/Editor – or indeed any other language.

Firstly, if you happen to use SpatialOn with your disc drive you can just type **PRINT P:** from the main Dos prompt. This will cause all screen text to be sent to both the screen and the printer – or to whatever device you specify. After entering this at the Dos level, just type **CAR** and you're back in the assembler, with echo mode still activated.

Alternatively you can divert all the computer's output to the printer. This

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All together, now

LEN GOLDING continues his Basic series by showing you how to structure your programs correctly

THIS month we bring together all the techniques learned so far, in a complete Basic game. To show how it's done, we'll dissect the arcade shoot-'em-up listed on the following pages, which incorporates a joystick-controlled missile base, a randomly moving target and two types of missile.

The objects can move over a background scene without disturbing it and the program includes sound, colour and explosion effects, with full on-screen scoring.

Your missile base — gun for short — moves horizontally along the bottom of the screen under joystick control, firing missiles at a target that appears and disappears randomly. The target also shoots at you and if the two types of missile meet, they will destroy each other.

If either target or gun is hit you get a full-screen explosion which wipes out any missiles still in flight. Because of the firing and dodging features, you have to keep moving to stay alive and stand any chance of hitting the target.

Let's look at the game in detail. Line 10 contains four labels — names which are used to replace numeric constants. All four labels represent COLOR numbers, which identify a particular colour/character combination. For example: 40 is an orange star and 118 is a yellow exclamation mark.

The advantage of a label is that it makes it easy to experiment with alternative values. For example, if you'd prefer the target to be a blue cross, just change the label's value from 40 to 171. Whenever the program encounters a reference to the target, it will now use a blue cross. This is a major advantage over raw numbers, and meaningful names are a lot easier to follow than cryptic figures.

The table overleaf lists all the labels and variables used in the program together with their functions.

Lines 20 to 60 set up the initial screen, in Graphics 1 without a text window. Most of the work is done by subroutines, which break the task down into simple blocks. This keeps the main line code uncluttered — and much simpler to understand.

The subroutine at 700 draws a

background pattern of dots to prove that the objects can move across a playfield without disturbing it.

You can easily replace this subroutine with one that draws a more inspiring background, using PRINT#; COLOR and PLOT. Just

remember to keep the gun track — horizontal line 19 — clear.

Line 40 draws the gun at its central position, then line 50 calls a subroutine to print the initial values for HIT\$ and LVN\$, which were set at line 20. Line 60 jumps into the target

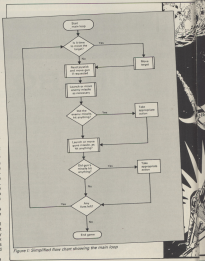


Figure 1: Simplified flow chart showing the main loop

movement subroutine, skipping the first two lines because we don't need a sleep, and there's no previous target to erase.

This routine draws the target at a randomly determined position, and calculates a random value for COUNT, which determines how long it will stay at that spot.

When initialization is complete we can start the main loop—the section of code which moves all the objects around on screen. Everything has to move more or less simultaneously—you'll want to dodge the missile while it's in flight, not be stuck in one position until it hits you. This means that the various movement routines have to be interleaved.

To do this in main line code would

be complicated and difficult to debug. So instead we've adopted the subroutine approach again, which means that the main loop occupies just five lines, from 88 to 126. If anything goes wrong now, we can easily isolate the faulty section of code, and the use of subroutines makes it much easier to add extra features.

Figure 1 is a simplified flow chart showing how the main loop works in principle. Decision points are shown as diamonds, and unconditional actions appear in rectangular boxes. As we've explained previously, Subroutines are indicated by a new symbol—a box with double lines for its vertical borders.

Line 88 starts by decrementing

COUNT to see whether it is time to re-position the target. If so, the target movement subroutine is called, starting at line 180. This produces a short sleep and erases the current target by plotting the original background character over it. Then it plots a new target, as we saw during initialization.

The next statement in our main loop—line 90—jumps to the gun movement subroutine at line 280. This reads the joystick and uses a Boolean routine to calculate the gun's next position. We'll be talking about Boolean expressions in detail next month, so just treat line 300 as a "black box" for now.

Line 130 moves the gun along its horizontal track. Since this is an otherwise blank line, we don't need to waste time checking and storing

Turn to Page 24 in

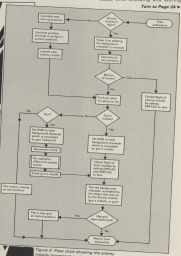


Figure 1: Flow chart showing the dummy missile movement routine

Programming

1000 1000 1000 1000

Background characters - their COLOR is white in sheet 5

To move the gun we first erase it by plotting 0 at its current position (QPOS,10), then replot it at its new position (QPI,10). The gun can't collide with anything when it moves, so there's no need for any fill-direction code.

Back to the main loop, and line 702 calls the complicated subroutine which moves the enemy missile. This routine is shown pictorially at Figure 11, so you can trace its operations.

To keep things tidy we've used several variables in flags. These control information like one part of the program is another. GMAILAG holds the current status of the game's crisis — 1 if it's in flight, 0 if it has reached the top of screen, been destroyed or hit the target.

This flag can be used, or altered, at any point in the entire program, so the subroutines can keep in touch with each other. IMFLAG monitors the enemy missile's status, and GRFLAG holds 1 temporarily when the gun has been hit so that line 400 can take appropriate action before returning to the main loop.

Now we're back to line 115, which calls a subroutine to move the gain matrix. The flow chart is almost identical to that in Figure 3, though the labels and variable names will be different. If the target is hit, this routine sets COUNT to 0, so that line 50 will draw a new target on its next pass.

Finally the main loop, line 129, checks to see if there are any lives left. If so, it re-cycles back to line 80, otherwise it drops through to the end-of-game routine at line 140, which is described in the ROMs.

The explosion subroutine at line 480 is called if a gun's missile hits the target, or if an enemy missile hits the gun. It flashes the background colours, in the way we described last week, and produces an explosion sound. If you're not happy with the effect, just play around with the subroutine - it won't affect any other part of the program.

Once you understand how everything works you can start writing your own versions, either by modifying the programs or by using the various routines and techniques in games of your own design.

■ **Next month** we'll look at Boolean techniques, and explain how they're very versatile expressions can replace many lines of code. If...THEN statements, especially in joystick control routines. We'll also show how you can use them to simulate a few Atari joystick which Atari Basic doesn't support.

Variables Used

TARGET	The COLOR number representing the target - an orange "1"
GUN	The COLOR number representing the gun - an orange "1"
MISSL	The COLOR number representing the gun's missile - a yellow "1"
ENEMY	The COLOR number representing the enemy missile - a yellow "1"
COUNT	Duration of target at its current position
HTS	Number of targets destroyed
LIVES	Number of lives left
WPOS	Current horizontal position of gun
GPI	Next horizontal position of gun
GWH	Current horizontal position of gun
GPIV	Current vertical position of gun's missile
GMC	COLOR number of character connected by gun's missile
TOH	Current horizontal position of target
TOW	Current vertical position of target
TSC	COLOR number of character connected by target
ENH	Current horizontal position of enemy missile
ENV	Current vertical position of enemy missile
ENG	COLOR number of character connected by enemy missile
HOME	Horizontal position of gun, when enemy missile is launched
ENMLG	Holds 1 if gun's missile currently in flight, otherwise holds 0
ENMLG	Holds 1 if enemy missile currently in flight, otherwise holds 0
GFLAG	Holds 1 if gun has been hit, otherwise holds 0
S	Current value returned by joystick
ROW	Loop variable used in drawing background
COL	
V	
W	Loop variable used to vary volume in explosion routine
	Loop variable used to set delay in explosion routine

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DRACONUS

The making of a legend



NEIL FAWCETT takes a look at a new game and a new software house supporting the 8 bit Atari

OUR spectacular front cover this month shows two creatures from a sensational new game called *Draconus*, released by Cognitec, linked with the budget company Zappeln - remember *Zylax* and *Speed Ace*? - it is promising to support the 8 bit Atari market by producing value for money, full-price games.

Cognitec was formed soon after Zappeln Games came to terms with the success of its 8 bit titles. Massive sales and a number one spot in the Gallup chart - by both games - for a number of weeks, still show that there is a good market for Atari games.

Zappeln produced the Commodore 64 version of *Draconus* and it received a magazine's Silver Medal award. After this success it was decided that the Atari was capable of equalling the quality of the 64 version - and happily its financial success.

So a sister company Cognitec was formed and 22 year old programmer Ian Coolidge began writing *Draconus*. He saw this as the peak of his programming career: "*Draconus* is the best game I have ever written, and I feel it is the best game ever written for the 8 bit Atari".

Based in Newcastle-upon-Tyne - and not a million miles away from Zappeln - I found Ian gutting the finishing touches to the game.

He has, over the years, written a number of games for several software houses. The number one best seller *Gun Law* for Mastertronic was his first, closely followed by *Space Hawk*, which came out on a Microvase budget pack.

Next came a joint effort with his sister Maureen. The excellent shoot-'em-up *Turansaur*, released by Code Masters, was yet another best-seller. I bought his first Atari in 1982 - an old 480 and tape deck. He started programming in Basic, but soon found out that it wasn't the correct environment for him.

So in 1985 he bought an 8088, 1600 disc drive and Assembler/Editor cartridge the perfect machine code tool with which to write games. However, he found his Assembler cartridge wasn't powerful enough, so he bought the Mac II which is still in use today.

Brian Jobling - Zappeln's software director and author of *Zylax* and *Speed Ace* - has coordinated the writing of *Draconus*. "Ian is one of the few programmers who has the ability to write a game of this calibre on the 8 bit Atari," he said. "He's dedicated to his work and loves his 8 bit. What more can you ask from a programmer?"

I was curious to know how Ian came

to start working for Cognita. "That's easy to explain", said Brian. "He came to work for Zeppelin on week experience while he was at college taking a computer science course. I quickly realised he was a very competent programmer so I showed him the Commodore version of Draconus. I asked him if he could write it and he said he could. The rest is history".

Shortly after this he began working for the newly-formed company, and has never looked back since. "It's nice to be able to work with people who appreciate the quality of the 8 bit Atari", he said. "And ones who are also willing to support the machine to the hilt".

What of the future? Brian Jodging said: "After the initial success of Zeppelin's title and the almost guaranteed success of Draconus from Cognita we are intending to go into a joint venture and release a trilogy of games.

"They have been brought out on just about every other micro and have been a huge success. We thought it was very unfair that Atari in the UK didn't have a chance to play them too".

The game

Draconus is set on an alien planet ruled by an evil tyrant beast which must be destroyed. Only by doing this can the planet return to more peaceful and happier times.

You control both major game characters, Draconus and Frogman which share the same body. When you stand on a Morph Block and pull down on a joystick you can transform between the two.

Frogman who plays the major role, can walk, jump, punch, duck and breathe fire. Although Draconus cannot leave his watery environment he can blow a powerful water jet to kill other monsters.

Together the two form a very strong fighting force incorporating everything needed to destroy the tyrant.

Throughout the labyrinth that you must traverse are countless alien nasties just waiting to meet you - or eat you. They include giant rats, bats, sea monsters, terrorists, caterpillars and bounce blobs. The last are balls of gooey matter which hang from ceilings and drop off when you enter. When they hit the floor they bounce around in mid air causing you even more problems.

However, not everything is there to kill you. Several key artifacts have been scattered around the catacombs and you must collect them to stand a



How many breaths can you afford to give?

chance of getting to the final screen and battle the beast itself.

The artifacts are: The Gemma shield, renaissance's staff, dragon's eye and the Morph helix. Blocks of flame fluid and energy crystals can also be found around the caves. When you drink the contents of a flask it will allow you to exhale 10 good blasts of fire. When the crystals are ingested they will automatically put your energy rating back up to full.

The graphics are brilliant. The graphics artist Michael Owen has done a wonderful job of the back drops for each screen. Marvellous care has been taken with even the smallest detail.

One thing I like in a game is a catchy signature tune. Here Adam Gilmartin, the music expert at Cognita, has excelled himself by writing a marvellous piece that accompanies the

superb title screen. Other sound effects have also been written with great care. I loved the crunching noise you hear every time you die. This sequence is also accompanied by Frogman spitting into two and blood spurting from the remains of his body - very gruesome.

The best that you must destroy in the final screen is one of the most terrifying creatures I have ever seen in a computer game. It reminded me of the mother alien from the Alien movie - big, mean and with large teeth. A wonderful graphical creation from the mind of Michael Owen.

When Ian Copeland said that Draconus was the best game to have been written for the 8 bit Atari he wasn't far wrong. It's really addictive. Buy it!



Take care. A gruesome death awaits you on every screen.

If you have been looking for a league table program look no further. Enter the results from the menu option and this program will calculate the table for you. Originally written for football results, it can be used for any other table with the played, won, lost, for, against and points format – see the program modifications panel.

Once all the relevant data has been input and calculated the program will save it to disc for you – very convenient users, it would be too slow to use a tape as a storage medium. You can also create hard copies of your tables with any 88 column printer.

The best way to use the program is to save it on its own disc. Format a blank disc and save Dos files to it – option H on Dos 3.3. This will leave plenty of room for the data files the program will create. Now type in the listing and check it with Del if right! Once you're sure there are no mistakes save it to your newly-prepared Dos disc.

It is important you leave this disc in the drive at all times. When first run the program will check to see if any table data exists on it. At the moment none is, so it will default to the initialisation screen. Just follow the prompts to set up your new table.

Enter the teams in alphabetical order – this will be useful when entering data later. A team name is limited to a maximum of 14 characters in length, if you exceed this you must re-enter it. On entering the last name, the newly created table will be saved to disc. Be very careful at this stage, you may overwrite an existing league table if you're not careful.

This may take some time because all team information will be set to zero and the data is calculated in four save levels. The sort order is: Highest points, goal difference, goals for and alphabetically. Your disc will now contain four data files and, assuming all is well, you should see the menu screen.

This means that when you next run the program the new data files will be loaded and the menu screen will appear. Your options are:

- 1 Enter results
- 2 View league tables
- 3 View fixtures
- 4 Search fixtures
- 5 History tables
- 6 History fixtures
- 7 Enter team data
- 8 Toggle printer status

You now have reached the stage where you have to enter the team results. After selecting option 1 you

Join the **BIG** League



Create your own fixture tables with **MALCOLM DOMONE's** neat program

will be prompted to confirm your selection – press Y followed by Return. The screen will change to allow you to enter the results.

Use the + and - keys until the home team appears on the screen. Press Return to make a selection and the name will echo back on to the screen. Enter the team's score and then select the away team and its score in the same way. Once you have made your

entries the fixtures will be saved to disc followed by the league table once it has been calculated. You will then be returned to the menu screen. At the moment the printer status will be set to Off.

If set to On any information sent to the screen will also be echoed to the printer.

Ensure your printer is connected
Turn to Page 22 P

10

fabulous
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TO ORDER PLEASE USE THE FORM ON PAGE 47

4 From Page 27

when using this option, as an error message may occur if it isn't. If you don't have a printer follow the instructions in the modifications panel. Most of the other menu selections are obvious but others require some explanation.

Option 5 will display any league table. Enter the date of the table required and the program will search the disc for it. If a table doesn't exist for the date entered a message will appear on the screen.

Option 7 can be used in one of two ways. The first is to change team data and the second is to allow data to be entered into the program during a season if games have already been played - for example, setting up a mid-season table.

Once selected you will be asked to confirm your action with Y or N. Enter the date - this should be later than the one shown - and the current team data will be displayed. If no change is required just press Return.

If you want to change any data enter

the new number followed by Return. A beep will be heard when a new team name is displayed.

If an error is made on an entry the team will be re-displayed and all the data will have to be re-entered, so be very careful what you type. When the

changes have been made your new table is calculated and then re-printed.

And that's it. Enter your table now, but be careful when entering data as errors are not easily corrected after pressing Return.

PROGRAM BREAKDOWN

55 - 118 Initialize variables
120 - 380 Various subroutines
390 - 790 Load a league table
800 - 840 Save a league table from a disc
850 - 900 Load a league table to disc
910 - 1190 Menu screen
1200 - 1240 Load history features
1250 - 1680 Calculate league table
1690 - 2100 Print table to screen or printer
2110 - 2190 Restore screen
2200 - 2640 Enter results and save to disc
2650 - 2950 Read history from disc and display or print it
2960 - 3000 Printer on or off routine
3010 - 3240 Enter league name and the teams in it
3250 - 3400 Input or change the team data

MODIFICATIONS

The program as shown awards three points for a win. If your table awards a different number you will need to replace the 3 at the end of lines 3460 and 3470 with the new value.

If you don't have a printer add the following line to your program:

```
1000 PRINT *** 10000 1000
```

This will inhibit the printer output if option 7 is selected.

```
10 REM *****
20 REM * LEAGUE RESULTS TABLE *
30 REM * BY NUMBERING *
40 REM * 01 LEAGUE NAME *
50 REM *****
60 REM *****
70 REM *****
80 REM *****
90 REM *****
100 REM *****
110 REM *****
120 REM *****
130 REM *****
140 REM *****
150 REM *****
160 REM *****
170 REM *****
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1000 PRINT *** 10000 1000
1100 REM *****
1200 REM *****
1300 REM *****
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7100 REM *****
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From the Page 34 in

TIME once more tries to dip into the mailbox and see what sound advice and welcome tips our readers have for fellow Atari adventurers. Although shortage of time and space means that it is not possible to deal with all of your letters, and that sometimes there may be quite a wait to see your own relative mentioned in these pages, do not despair.

I do try to get round to as many of your letters as I can so keep on writing in — the line of averages says you're bound to score sooner or later.

First out of the sack comes instant relief for all frustrated *Knight One* players, thanks to Andrew O'Hara of Eusefield in Cumberland. Although it was a little while ago now, Andrew has supplied a detailed solution to this challenging adventure, the first part of which you will find over the page.

In return, Andrew would like some help with *Anytum*, an adventure which I myself have rarely played, never having been a big fan of maze-based games.

The axe, gold and silver sands, stethoscope, bird costume, copper wire and battery are already in Andrew's possession, but if you can help him further, please phone him on Cumberland 724666 or write to him at 72 Bee Nests Way, Balloch, Eastfield, Cumberland CB8 5JA.

Arno Gussler from the Netherlands is having a problem with the *Gold of Thieves* game-digger who is getting very annoying, prohibiting Arno from digging a grave. Sorry, Arno, but the game-digger is helping you in a way — you don't need to go digging in the cemetery. What you do need, though, is hanging from one of the yew trees nearby — and that is tricky. Go get 'em — the game-digger won't mind.

Another problem he has with the same adventure is the spider case. For Arno and other adventurers, may I suggest that you look at your map and note the pattern of the locations surrounding the room with the case. It should remind you of the five-spot side on a die. Roll all the dice and they each show a five, pop them in the appropriately coloured slots and the case should open up for you.

According to Arno, it isn't the feet that are too big — it's the rest of my body that's too small! I can not see if that's a compliment or not!

Dave Gregory from Brecknell has had an Atari computer since last Christmas but is being driven round the bend by two adventures he bought — *Chink of Death* and *Quest For Stevny*.

As I said in the July issue, I would

There's light for the Knight, but a grave problem follows

not recommend these two games to anybody new to adventures. They are short on explanations and long on inflexibility.

I'll plea for help with the adventures left on desk and earlier this year mainly, I suspect, because few adven-

ture writers to him at Millstone Cottage, 46 Grosvenor, Newthorpe, Motts NG18 2EY — and don't forget to enclose a SAE.

There's just room to say thanks for various hints and tips to Richard Morrison of Crewe (The Payoff), David Talbot of Dublin (The Worm in Paradise) and Thomas Holzer from Parkstone (his top ten appears here).

Until next month, keep your sword sharp and your lamp filled!

THOMAS HOLZER'S TOP TEN

- 1 *Galles Quest*
- 2 *Grudge In Space*
- 3 *Mask of the Sun*
- 4 *The Pawn*
- 5 *Leather Goddesses of Photon*
- 6 *Atlantic (German adventure)*
- 7 *The Dark Crystal*
- 8 *Time and Magic*
- 9 *The Seven Cities of Gold*
- 10 *The Adventure Writer*

tures have persevered with these tough and frustrating puzzles. I haven't either — my advice is to switch over to playing one of Level 9's classics. If you really want to find out what a good modern adventure should be like.

Gunslinger, from US Gold, is not an adventure I am familiar with but it comes highly recommended by Christopher Baird of Netix. Christopher has sent in a list of his worst, in addition to his favourite, adventures and has scathing words about *Questprobe II* which is number one in his list of stinkies and which he describes as "absolutely pathetic as well as impossible". You have been warned. Christopher knows it's thing or two about *Atlantis*. Really I said it, so if you want some

by
Rouloc



HINTS AND TIPS

Knight and – Part 1

MEET cloak, get halfway from Dagger, get letter from goat. Kill Queen Knight's horse and get wine, get washing line from oak tree, get noose from gibbet, get everything from the west but the treasure.

Put welcome mat on beam hedge and climb over. Cut Rapunzel's hair and get it. Use to caulk, get rope, throw it at shrewbridge, get it again, go in and sleep it. Go in again, unlock chest, open it and take food. Go to hermit and give him the key. When his back is turned, despatch him and get his belt.

Go to well, tie all eight pieces of "rope" together, tie rope to roller,

climb down, get hammer. Up and get rope. Tie rope to hammer, tie rope to signpost at crossroads and wait for thunder. Get his hammer and tie it to rope. Get spear from bar, tie it to rope, go to gap, throw spear at stag – and bingo!



Magical moments

Program: *Time And Magic*
Price: £79.95

Supplier: Mandarin Software, Europe
House, Arlington Park, Arlington,
Hemel Hempstead HP1 1AA
Tel: 0425 279888

TIME and **Magic** is a welcome bargain package of three first-rate adventures from one of this country's leading exponents in the fantasy field, Level 9. This trilogy is one of the first releases by a new company, Mandarin Software, which has judged wisely in picking Level 9 products as its initial entry into the marketplace.

Level 9 has always offered good value for money and adventure-hungry gamers will be well pleased with this latest crop.

The trilogy comprises *Lords of Time*, *Red Moon* and *The Price of Magic* and although none of the three is new, they are some of the best ever produced by Level 9. All have been updated.

Lords of Time involves you in a search, through various ages, for nine wily objects – a joker's rags, a dinosaur's egg, an olive branch, a dragon's wing and a beardtop, to name a few.

It seems that the evil Timebeasts have been trying to rebuild history in their favour and it has fallen to you to

try and repair the rent in the fabric of history.

Use the time travelling device of a grandfather clock, the hunt will take you, in almost any order you like, through the Ice and Stone Ages, on across the times of Romans and Vikings, past Medieval and Tudor periods, right on up to the present then forward to the future and far future, nine ages in all.

Lords of Time happens to be one of my favourite Level 9 adventures, particularly because many of the puzzles are so enjoyably challenging and the theme is very neatly worked out.

Red Moon revolves around a crystal, the source of all magic, which has been stolen. It is your job to get it back. There are nine treasures to be collected along the way (note how Level 9 have a penchant for the number nine). *Magic* features prominently – there are a dozen spells available, most of which require a specific item for them to be effective. *Red Moon* won much acclaim as its original release, including being voted best adventure of 1989 by several magazines.

The Price of Magic is a direct sequel to *Red Moon*. The plot centres on your endeavours to defeat Myths, once a good sorcerer now gone bad. The adventure features an even stranger



magical element (with 10 spells to learn). The *Price of Magic* also has its own combat system and there are a goodly host of independent creatures which you may, given the right circumstances, command to do your bidding.

Time and Magic is unquestionably good value for money and no adventurer is likely to be disappointed with the volume of puzzles, locations, prose and fun that this trilogy offers.

Presentation	4
Atmosphere	5
Plot/Theme	5
Value for money	5
Overall	5

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Even if you don't care a fig for Forth, think of all that lovely speed

EARLIER this year a computer magazine published a complete list of benchmark results covering a range of micros and languages. The *Archimedes* came out on top, but coming a close second was the ST. No real surprise there, but what language gave it this turn of speed, *Fast Basic*, *Modula 2* or *CIT*? It was none of these. A public domain language called *Fg-Forth* took the honours.

Atari 8 bit owners will be pleased to know this fast and versatile language is now available for their machines. It may not be able to match the speed of the ST version but it can knock spots off *Alan Basic*.

Fg-Forth is one standard of the language *Forth* as defined by the American *Forth* Interest Group. Other standards include *Forth-70*, *Forth-83* and *polyForth*, the latter being implemented on the Atari as *Go-Forth*.

All are similar to each other in being very different to most other languages. Two features central to its design are the use of a stack and the idea of the word.

The stack is the route for all processing – it's a list in first out data structure which will be familiar to machine code programmers. You can think of it as a pile of numbers with only the top one being accessed at any one time.

However, *Forth* provides various ways to add, remove, do arithmetic on and juggle about these numbers very quickly. The word is the basic unit of instruction, the core words of a *Forth* system are normally defined in machine code but most other words are made up of words themselves.

A program in *Forth* is merely a word which performs the desired function and is built from words which in turn are built from other words which in turn – well perhaps you get the general drift. An example of a word is shown in Figure 1. If used it should be added to one of the editor screens. It will automatically list the next screen to the one last listed.

This extensibility makes *Forth* very powerful, as it allows the user to build his or her own language to suit a particular set of tasks.

I have already mentioned that *Fg-Forth* is traditionally a public domain language, in fact versions are available in many PD libraries for just a couple of pounds. However, *Pulsar Software* is selling its implementation for £14.95. So what do you get for your money? A manual is the most obvious benefit, but there are also some useful extensions to the basic language such as a mouse handler for a standard ST mouse.

The language comes on a double-sided disc, the first containing the language kernel in an *AUTORUN.SYS* file and all the DOS 2.0 files you need. The second side contains 134 *Forth* screens, each taking up 1k. Most are empty but a few contain word definitions for the various extensions you require. Those of you with mathematical needs will have worked out that the disc is formatted in enhanced density. This is tough on 816 owners, myself included.

I initially thought this may just be a quirk of the review copy, but after

COLIN BLACKBURN takes a look at a recently expanded version of *Forth*, formerly available only as a public domain program

borrowing a 1050 drive I realised the language was designed with that device in mind.

For instance, the disc copier, which is part of the extensions, copies 134 screens rather than the 80 which would be found on a single density disc.

This can be stored fairly easily, but it is short-sighted on *Pulsar's* part as the disc will not even boot on an 850 drive. The A4 format manual is 66 sheets of duplicated typescript bound with one of those plastic slide-in spines. It hasn't been written as a guide for the beginner, but is simply a systematic list of all the *Forth* words with a few appendices on error messages and the like.

Rather hard on beginners

I would have preferred a little more detail in some of the word descriptions, but the author has recommended a couple of excellent books which will help the novice get to grips with the language. I will repeat the recommendations for those of you who would rather read about the language in detail before buying. These are: *The Complete Forth* by Alan Warfield (Sigma Books) and *Starting Forth* by Lee Bodie (Prentice Hall Books).

Although *Forth* can be used in an interpretative way, directly entering new words at the keyboard, for any real applications the words need to be saved to disc thus allowing them to be compiled. This means an editor is required and one is provided as one of the extensions. It is fairly simple but will allow screens to be entered.

Unfortunately, the *Forth* words tend

It are redefined by the editor) in practice this makes testing programs which use them difficult. The editor can be altered to get round this, and at the same time it can be improved by adding a few extra commands. But Pulver should have provided a more comprehensive editor in the first place.

The screens I have mentioned are made up of 16 lines of 64 characters each. This fits block conveniently into a screen on an 80-column system, but the Atari's 40 columns make full screens look ugly since the lines wrap around.

One solution is to restrict lines to 32 characters, but this means that half the disc space is wasted. Pulver should have considered breaking with the Forth 14 tradition and had screens of 16 lines by 32 characters to save problems later.

Printer left out in the cold

The Forth system itself seems to be a complete Fig-Forth implementation with the necessary Atari-specific words added. Graphics, sound commands and disc I/O are all supported, but annoyingly there are no words for sending any output to a printer. The appropriate words could be added by anyone with some knowledge of FORB commands, which are covered by the language, but a beginner may run into problems.

There are a few minor bugs in the language. Occasionally the system reset up when I deliberately tried to

programming practice is followed.

Forth normally contains in-line assemblers for time critical definitions. Fig-Forth has the necessary words but contains no hint as to how the code should be entered. A small chapter in the manual would be very welcome since the textbooks on standard Forth are not usually machine specific.

Mouse or mice?

The most interesting extension to the core of the language is the inclusion of a mouse handler which can read the second joystick port when an ST mouse is plugged into it.

There are some restrictions on its use. Since it utilizes the floppy disk, sound channel 2 cannot be used if the mouse is enabled. Also the right mouse button is not used.

A simple sketch program is included on the disc and is a useful illustration of how to use the mouse. Unfortunately the documentation which accompanies it is a little sparse, and if you aren't familiar with Forth you will have problems.

I found the mouse handler an interesting feature but £24.95 seems a lot to pay for it. However, if you buy Forth and the handler for £35 the package seems to give value for money.

If the documentation was clearer for a reader and showed in clearer detail how to use the mouse from within your own Basic programs, it would be a superb buy. As it is, I would say it is more for the seasoned programmer.

The disc includes several programs — an editor, two disc copiers, the sketch routines and additional words supporting player-mouse graphics and some programming tests. They are of varying use, but can easily be

stopped from the disc to make space for your own words.

The screens containing these words are scattered over the entire disc, and it would have been better to have them all clumped at the lower screen numbers, allowing the rest of the disc to be used more easily by the programmer.

Finally, the disc has some of the words necessary to turn the language into Forth-78. This is not complete and omits the word J, but again, words such as this are easy to add once you have got to grips with the language.

On balance perhaps not

Is it Pulver's Fig-Forth worth buying? As a language Forth is certainly worthwhile, its speed, versatility and extensibility make it an excellent language for many applications. However, there are other versions available for the 8-bit machines. The public domain Fig-Forth's may not have manuals, but the discs tend to be contained with documentation screens and useful — and not so useful — extensions.

On the other hand, commercial Forths are also available. Go-Forth is a 78 standard with numerous extras, including two advanced editors and a very technical manual costing around £25.

Pulver's Fig-Forth falls somewhere between these two at £14.95. However, a later revision with a more advanced editor, printer handler and availability of a single handy disc version would offer excellent value for money.

Product: Fig-Forth disc
Price: £14.95 (CDS with an ST mouse)
Supplier: Pulver Software, 4 Church Hill Road, East Barnet, Herts EN4 8JH
Tel: 01-447 0565

- R** The colon begins all word definitions. It is its name.
- 1** The number one is put on the top of the stack.
- SCR** This variable holds the current screen number. Executing a variable puts the memory address on the stack rather than the value of SCR.
- +1** Adds 1 on to the address. For example: SCR=SCR+1
- L** Lists the screen whose value is in SCR and is a word defined in the editor.
- :** The semicolon ends the definition.

Figure 5. Example word used in Fig-Forth.

take the top number off an empty stack. When the stack is empty an error should result if attempts are made to remove a value from it. This doesn't always happen with Fig-Forth. Also, screens with blank first lines don't always compile. Both bugs should present no problems if good



The VCS System

This month NEIL FAWCETT casts a critical eye over several game cartridges

IN the first part of this series I took a detailed look at the VCS 2688 and explained what it was. Now that you are all familiar with its workings and have decided whether or not you

want to buy one you will be wondering what the software is like. So let's examine a few games and a couple of products aimed at children's education.



Sport in the snow

Product: Winter Games

Price: £14.99

Supplier: Polar Electronics, Freshwater House, Bromwich Industrial Estate, Bromwich Way, London N11 1AX. Tel: 01-588 5545

THIS excellent rom cartridge from Sony gives you the chance to compete in a series of seven exciting winter sports. Designed to be played by up to eight people it can be turned into a true international contest with each individual representing a different nation, but no two people can choose the same nationality.

You can compete in pure speed events like skating or in speed-and-control events like the slalom, bobbed and luge. If these don't appeal you can

test your digital dexterity on the ski jump or hot dog riding. The nation that scores the highest points will take home the coveted gold medal.

Once you have selected the number of players and their nationality you choose the event you want to compete in: Slalom, bobbed, ski jump, biathlon, speed skating, hot dog or luge.

The object of the slalom is to make the best time down a course while weaving in and out of a set of gates marked by a pair of flags. Pressing the fire button starts your skier down the slope and you control his motion by moving the joystick left or right; this turning action can also help slow him down.

Each time you miss one of the 30 gates you incur a three second time penalty. Avoid hitting any objects or persons – especially the trees, which hurt – or you will be slowed down considerably. All time penalties are added at the end of a run.

As with the slalom, the two-man bobbed is a speed game. The idea is to negotiate a winding, lively course in the fastest time possible. Don't go too fast though or you will end up crashing.

You can control your sled round the tight, banked corners by moving left and right. To speed up the sled you have to bob the joystick up and down in a constant rhythm. You can monitor your sled speed by the speed indicator at the bottom of the screen – the wider the bar the faster you are going.

The ski jump will demand your fullest concentration if you don't want to break your skier's legs. A split-screen shows your position and the hill below.

You will cover the greatest distance during your flight if you maintain a stable diagonal position – and don't forget to extend your skis when it comes to the landing.

The biathlon requires a combination

of speed and accuracy in an event mixing cross-country skiing and shooting. When you finish the course it will be replaced by a firing range.

There are five targets which you must shoot as quickly as possible. A five second penalty is added for each target missed.

Speed skating is the simplest of the seven events. Rotate your joystick from left to right in rhythm to build up speed and the first across the line wins.

Hot dog is the ski acrobatics event and points are awarded for the most original and complicated jump made. I rattled the joystick like a machine in order to perform several somersaults in a matter of seconds.

The final event is the luge, basically a one man bobbed event. You have three tries to make it quickly and safely down the chute.

The graphics and sound effects are – for a 2688 game – very good. What makes this cartridge great value for money is its playability. If you like sport simulations give this one a try.

Run in the sun

Product: Summer Games

Price: £14.99

Supplier: Polar Electronics, Freshwater House, Bromwich Industrial Estate, Bromwich Way, London N11 1AX. Tel: 01-588 5545

AS with winter games, up to eight players can participate in this competition. Each can choose a different nation to represent. The seven different events are hurdles, swimming, shot shooting, 100 yard dash, swimming relay, gymnastics and rowing.

First comes hurdles, where you

have to run as fast as you can over a course (jumping as you go). Very simple, it shouldn't pose too much of a problem.

Swimming like the hurdles, is a race against time. You gain speed by hitting the fire button on each down stroke, just as your swimmer's arm reaches the water. Turn quickly at the end of the pool by tapping the joystick left before you hit the wall. Time your strokes and turn well and you'll splash home to victory.

The 100 yard dash is another speed event. Runners line up on two parallel tracks, as in the hurdles event. When the gun goes, press fire and away goes your sprinter. By wiggling your joystick from side to side you can keep up a constant speed.

The swimming relay is basically an extension of the swimming race. Remember that each man on your

he is marked. Remember that you can only move the hand that is in the air, so time your movements very carefully.

The final event is the rowing. As with most of the other events you wiggle your joystick from left to right to gain speed.

This is another superb sport simulation from Epyx. All the events are a pleasure to play and I spent hours stomping – and failing – to win a gold medal.

Let battle commence

Publisher: Commando

Price: £14.99

Supplier: Future Electronics, Phoenix House, Brunswick Industrial Estate, Brunswick Way, London SE11 5PU. Tel: 081-424 4941

YOUR assignment is very simple – annihilate the enemy and destroy all their vehicles. When you go to the mega fortress you must battle your way inside and blow it up.

The main screen display is split into a number of sections. At the top is your score and at the bottom, running from left to right, a tally of grenades and lives remaining plus the level you are playing.

You are equipped with two types of weapons – a rapid-fire machine gun and three hand grenades. You have unlimited firing capacity with the gun and can fire in eight different directions – just aim the joystick and press the fire button.

Although you start the game with only three grenades you can easily pick up more – just walk over them as they lie scattered around the terrain. To throw one you pull the joystick back and press the fire button.

As you move towards the fortress

you have to avoid a multitude of enemy soldiers and obstacles like palm trees, bridges, barricades and foxholes.

At the end of each level – there are eight – you'll see the giant fortress. After you've killed a given number of



guards you'll be allowed to enter the building, go through the doors as quickly as you can. When you have done this the megafortress will be destroyed and you'll go on to the next level.

Having completed all eight levels you start back at level one, but things will be a lot harder. At the beginning of a game you have three lives and an extra one is awarded for every 10,000 points.

Although the graphics aren't very good the game play is outstanding. I fully enjoyed playing Commando and recommend it to lovers of a good shoot-'em-up.

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team swims two lengths of the pool. As the first swimmer nears the left side of the pool, try to anticipate his arrival and tap the joystick right to cause the lead swimmer to dive in.

Only one athlete competes at a time in the gymnastics event. The winner is determined by the points gained in special sequences during his routine.

The initial screen shows your gymnast ready to start his run at the pommel horse. Press the fire button to start your man running towards the horse, and as he nears it press fire again to initiate a mount. Once mounted, your gymnast holds the pommel horse bars and circles the horse's axis in a rhythmic rotation.

Various joystick movements will cause your man to perform different manoeuvres and it is those on which

*Here is a list of some of the 2600 rom cartridges available from Atari World
33 Festival Street, Manchester M4 3JG. Tel: 061 424 4941.*

HERO

Kung Fu Master
Dungeon Attack
Labyrinth
Exorcist
Demolition
Thunderstorm
Juggernaut
Dragonair
Psy-Strawling
Magnum
Crazy Master Mind

Top 10's Controller Challenge

Smash
River Raid
Star Driver
Juggernaut
Bionic
Bionic
Carnival
Carnival
Carnival
Carnival
Carnival

Dynamix

Excess
P.T.
Dynamix
Five Fingers
Dynamix
Dynamix
Dynamix
Dynamix
Dynamix
Dynamix

Useful child's play

Product: Cookie Monster Munch and The Kid's Controller
Price: Kid's Controller £9.95 (with a free Cookie Monster Munch cartridge)
Supplier: Acorn World, 73 Farnell Street, Manchester M4 4JL
Tel: 061 632 4961



THE Kid's Controller is a numeric keypad designed to be plugged into the joystick port on a 2600. Several cartridges have been released to work in conjunction with it and each contains a colourful overlay card which fits neatly on the controller.

It has 12 large buttons which even the smallest of children's fingers can push with ease. But remember, only cartridges marked with a picture of the controller will work with it.

I chose Cookie Monster Munch because it is one of the most amusing children's games available. There are 10 levels of play designed to accommodate children of all ages.

In the first six games the child takes the role of Cookie Monster. Using the four arrows and cookie symbol—which are printed on the overlay card—you must traverse a garden maze looking for cookies to eat. Eventually the mazes get harder and you have a time limit in which to complete them.

After level six the child is the Cookie Kid, collecting cookies for a surprise party for the Cookie Monster. Unfortunately, every time he sees you pick up a cookie he will jump the garden fence and chase you. What you have to do is get to the cookie jar and place your cookie in it.

This sort of game can be helpful in a number of ways for children. Firstly, they will learn eye to hand coordination, which is important in reading

and writing. Using the arrows on the controller also helps the children to learn the concept of up, down, left and right. The parents manual explains all this and prompts you at times to ask your child questions about the game.

The graphics are very good and the Controller and game together could be an invaluable aid in educating children.

Smurfing can be fun

Product: Smurf
Price: £7.95
Supplier: Acorn World, 73 Farnell Street, Manchester M4 4JL
Tel: 061 632 4961

THE treacherous Gargamel has captured the young Smurfs and is keeping her prisoners on a shelf high above his laboratory floor. To reach his castle laboratory Smurf must run and jump through fields, woods and caves. After this he must climb tall mountains and duck dangers on the forest paths including hawks, snakes, bats and spiders.

Once he reaches the laboratory Smurf must jump on the benches and tables until he is high enough to reach the shelf and free Smurfette.

You play Smurf and start the game outside your house. A number of obstacles are placed in your way and the game constantly gets harder.

Soon after you leave the forest area you will reach the mountains and this is when you really have to be quick if you want to survive. Each time your Smurf is attacked by an animal or falls over he grows more tired. Eventually he gets too tired to continue and another Smurf must take his place.

The game is great fun and has a very addictive quality. Pretty graphics and sound effects make this an ideal choice for children.



Tonight's the night

Product: Title Match Pro Wrestling
Price: £9.95
Supplier: Poles Electronics, Preston House, Brunswick Industrial Estate, Brunswick Way, London E11 5JX
Tel: 01-358 5545

"...the screams of the crowd shake the arena as the title belt contenders circle one another. Mad Dog makes the first move attacking his foe and Skin Head's chest who gasps for air, then retaliates with a skin-cooking kick."

"Mad Dog growls and gubbling foam belted drags Skin Head across the ring whipping him around in an airplane spin. Crying go he fly into the ropes and bounces back to meet Mad Dog's concrete forearm across his neck—a painfully associated clothesline..."

That is a scene-saver for a superb wrestling game—Title Match Pro Wrestling—in which you have the choice of four wrestlers to fight with: Mad Dog, Skin Head, Mr. Mean and Big Chief. All are merciless and given half a chance will crush you to a pulp.

You can use a number of different moves to defeat each opponent—lean hog, body slam, power lift and back drop being just a few. To bring one of them into effect you use a combination of joystick movement and fire button.

Each fighter has a specific strength, displayed at the top of the screen in bar form and what you have to do is sustain your strength while depleting your opponent's. Then you have to hit him with a finishing blow.

It's a little tricky to get used to the joystick/fire button combinations, but when you do the game becomes really enjoyable. Not one for the younger children, but great fun if you are into sport simulations.

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I'M writing to you to complain about the games reviews in your magazine. There simply aren't enough of them and they are too short. A vast majority of Atari owners use their computer solely for games, so why have some of your recent issues had so few as less or these reviews?

There are many more games available than you review. I have never seen reviews of International Karate, Enduro, Scooter, Bullfighter, Spacebound, Amazeutic, Chimeria or Koronis RM. You should review at least six games a month and give them a full page with loads of screen shots.

A game like Tykes deserves at least six pages on it, not just the one you gave it. In the August issue you only reviewed four games and the best of them. Tantrum, didn't even get a screen shot - pathetic!

However, I am glad to see that Atari User is getting more game-oriented with regular hints, tips and maps. I think you should also include a hi-score chart, best music chart and have many

HOW MANY REVIEWS ARE SUFFICIENT?

more interviews with programmers. You must get more involved with the software houses and more involved with Atari games. It will pay off. - Robert Stort, Irvine, Strathclyde.

■ Well Robert, that was a lot you got off your chest, wasn't it? Nearly all the games you have mentioned have been reviewed in Atari User. And those that haven't are too old for us to take a look at.

If we dedicated more pages a month to games reviews we would have to cut pages for utility and game programs. And according to our reader survey, most of you use your computer for programming and other serious tasks.

We try our best to keep up to date with reviews, and we can safely say that our reviews department gets the games to us well on time. If six new games came out

every month we would look at them all.

Now on to the other points you made. If we included a best hi-score chart and a best music chart we would end up spending all our time compiling these and more on writing Atari User.

And that would upset an awful lot of readers.

As to our involvement in Atari games, we do our best but in the end it's up to the software houses to make their minds up whether or not a program is going to be reviewed.

New section approved

THANK you for the new 2000 section of Atari User magazine. I have for a few years now owned a 2000 VCS system which I use to keep my children busy on

while I program away on my 8 bit Atari system.

The chance to read about a game before I go out and buy it for them is wonderful. Thank you again for the new section and keep up the good work. - Les Mack, Bensville, Cleveland.

Saga of that Dodgy Dos

THERE is something ridiculous about the long-running saga of the new Atari Dos-XE, reviewed in the August issue of Atari User.

Firstly, it is incredibly stupid it should take longer to write the Dos than it took to manufacture the hardware.

Secondly, it appears from the article that you need to achieve several 'crucial' elements to perform simple operations. Considering the only feature Dos 2.5 lacks, compared to Dos-XE, is the ability to access 100k of data, how long will it be before a Dos 2.6 appears to replace Dos-XE? - P. G. Finch, Wokingham, Berks.

■ The appearance of a Dos 2.6 would be welcomed by most owners of the 20551 disc drive. Dos-XE isn't the friendliest Dos, whereas 2.5 is one of the easiest to use.

However, as the review stated, you could always use SpiritDOS with the drive and then you get the best of both worlds. High speed, extra capacity and user-friendliness - what more could you ask for?

Commander boot error

I HAVE owned my Atari 6000 computer and tape drive since Christmas of last year and I have been very pleased with its performance. I have just bought a new game from Star

BIGGEST IN THE WORLD?

I SEE from several letters and news reports in Atari User that Atari UK is planning to support the 8 bit computer properly. I feel that Atari has left it a little late to help the thousands of the 80000 owners.

It is and always will be the best 8 bit computer to be sold in the UK. This may seem like a bold statement, but you only have to take a look at the last 10 years to see what I mean.

Since the first day the old 400 computer appeared in the High Street stores it has never had any advertising behind it.

Atari has never advertised the 8 bit range in any trade magazines or on TV or even in Atari User. For the com-

panies have still said:

Now why is this? Could it be that the word 'space' appeared about how well made they are? All I know is that Atari has never lifted a finger to support the 8 bit in the UK.

So, here we are in the late 1980s and all at a sudden Atari is saying what a great little computer it is, let's open some game centres for it.

If this new advertising campaign of Atari's does inject some life and popularity into the 8 bit for one will be very happy about it. I have owned my old 800 for nine years now and I plan to own it for another nine.

To finish off with I was

wondering if you can help me with a little bit I have with a friend.

After looking through all the Atari specific publications I have come to the conclusion that you are the biggest 8 bit Atari magazine in the world. My friend says that you aren't. Are you or aren't you? - Kimberley Jenkins, Sutton Coldfield, Birmingham.

■ Well Kimberley, you did have a lot to say didn't you. As to whether we are the biggest 8 bit specific magazine in the world, we don't really know. But after looking at the other UK and American magazines for the Atari micro we do appear to be the biggest.

■ From Page 83

Choice Software called Commander. The tape has two games on it - Ford Commander and Baltimore Commander.

They are both very good games and I enjoy playing them very much. My problem is that nearly every time I try to load one of them I get a load error.

Is there anything I can do to cure this problem as I would like to know what is causing it? - Mark Metcalf, Rushden, Northants.

■ Unfortunately Mark, there isn't a definite solution to your problem. All we can recommend is that you have the heads of your tape deck cleaned. Also keep your serial I/O cable away from any magnetic heads.

You could try fast-winding through your tape and then re-winding it to make sure the tape is tensioned.

Unfortunately, tape decks are an unpredictable medium for game storage and the more they are used the worse they get when it comes to loading.

Cause for complaint

THERE'S a term over here in Australia for the English - writing complaints. Coming from England myself, I have always argued against this, until now.

When I read the mailbag in the August 1988 issue of Atari User there were four lengthy letters complaining about the lack of software. But have you ever thought about the software shortages over here?

Budget-priced games are non-existent so that, given the AE Game System came out. Before that the nearest place that knew what an Atari home computer was is three to four hours drive away.

I know Atari UK has nothing to do with Atari Australia, but do you think

Manager modified

I WAS very pleased with the article in the June issue of Atari User about using MCF data files on word processors. I learned a lot about the way the Home Filing Manager program is structured, and because of this I have sent in some modifications to the original program.

Modifications to take into account for the marked cards are as follows:

```

000 FOR I=1 TO 10:GOTO STEP 2
001 IF I=1 THEN GOTO 00000000000000000000
002 GOTO 00000000000000000000
003 GOTO 00000000000000000000
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In addition to these, if you want to have the option to select a particular card to

someone could contact Australia and tell them how to run a computer company?

Surely it's not too hard to convince someone that the Atari 8 bit is better than any other computer. Even if that person happens to be an apple called Bruce! - Steven Aron, Pine Rivers, Queensland, Australia.

■ It would appear that the Australian 8 bit Atari users are having the same problems we in the UK are having. But don't despair Bruce - sorry Steven - hopefully help is on its way very soon.

£10 LETTER

transfer type these changes in:

```

000 POSITION 1,10:PRINT
001 PRINT "TRANSFER TO 8"
002 GOTO 0000
003 IF END THEN GOTO 0000
004 FOR I=1 TO 10:PRINT
005 FOR J=1 TO 10:PRINT
006 FOR K=1 TO 10:PRINT
007 FOR L=1 TO 10:PRINT
008 FOR M=1 TO 10:PRINT
009 FOR N=1 TO 10:PRINT
010 FOR O=1 TO 10:PRINT
011 FOR P=1 TO 10:PRINT
012 FOR Q=1 TO 10:PRINT
013 FOR R=1 TO 10:PRINT
014 FOR S=1 TO 10:PRINT
015 FOR T=1 TO 10:PRINT
016 FOR U=1 TO 10:PRINT
017 FOR V=1 TO 10:PRINT
018 FOR W=1 TO 10:PRINT
019 FOR X=1 TO 10:PRINT
020 FOR Y=1 TO 10:PRINT
021 FOR Z=1 TO 10:PRINT
022 FOR AA=1 TO 10:PRINT
023 FOR AB=1 TO 10:PRINT
024 FOR AC=1 TO 10:PRINT
025 FOR AD=1 TO 10:PRINT
026 FOR AE=1 TO 10:PRINT
027 FOR AF=1 TO 10:PRINT
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035 FOR AN=1 TO 10:PRINT
036 FOR AO=1 TO 10:PRINT
037 FOR AP=1 TO 10:PRINT
038 FOR AQ=1 TO 10:PRINT
039 FOR AR=1 TO 10:PRINT
040 FOR AS=1 TO 10:PRINT
041 FOR AT=1 TO 10:PRINT
042 FOR AU=1 TO 10:PRINT
043 FOR AV=1 TO 10:PRINT
044 FOR AW=1 TO 10:PRINT
045 FOR AX=1 TO 10:PRINT
046 FOR AY=1 TO 10:PRINT
047 FOR AZ=1 TO 10:PRINT
048 FOR BA=1 TO 10:PRINT
049 FOR BB=1 TO 10:PRINT
050 FOR BC=1 TO 10:PRINT
051 FOR BD=1 TO 10:PRINT
052 FOR BE=1 TO 10:PRINT
053 FOR BF=1 TO 10:PRINT
054 FOR BG=1 TO 10:PRINT
055 FOR BH=1 TO 10:PRINT
056 FOR BI=1 TO 10:PRINT
057 FOR BJ=1 TO 10:PRINT
058 FOR BK=1 TO 10:PRINT
059 FOR BL=1 TO 10:PRINT
060 FOR BM=1 TO 10:PRINT
061 FOR BN=1 TO 10:PRINT
062 FOR BO=1 TO 10:PRINT
063 FOR BP=1 TO 10:PRINT
064 FOR BQ=1 TO 10:PRINT
065 FOR BR=1 TO 10:PRINT
066 FOR BS=1 TO 10:PRINT
067 FOR BT=1 TO 10:PRINT
068 FOR BU=1 TO 10:PRINT
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The reasons for the changes are that you can mark cards when searching for a word or item. The result is that the sector number of the marked cards

Zeppelin hits the spot

At the March 1988 issue of Atari User there was a superb article about Zeppelin games. After reading it I promptly went out and bought them - Zyber and Speed Ace.

They are two of the best games I have ever seen on the Atari 8 bit, and I would like to take this opportunity to thank Zeppelin for its great programs.

Finally, could you please

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is incremented by 32,768 (128*256). You have to take this into account or the program will crash when it encounters marked cards. - OH. De Graeve, Overijse, Belgium.









■ Thanks for the help. If any of our other readers have any modifications for other programs we have printed send them in. You too, could win a tenner for your efforts.

tell me if it is possible to release any more games for the Atari? - Kevin Carlidge, Ainslie, Hall.

■ We got in touch with Brian Jobling - head of software development at Zeppelin and author of the two games you mentioned - and passed on your kind comments.

He told us that the company will be producing as many new games as possible for the 8 bit Atari. The next release, due any time, will be called Discosun - see the article on Page 28 of this issue.

Gallup Software Chart

THIS MONTH	LAST MONTH	TITLE (Software House)	COMMENTS	PRICE
1		GREAT AMERICAN ROAD RACE <i>Firebird</i>	Ten drivers await you in this race crossing the USA. Drivers of the police, your speed and the obstacles.	1.99
2	•	GAUNTLET <i>Atari</i>	New re-released at a budget price. It is well worth the money. A classic with a Deeper Dungeons type available.	2.99
3		AIR WOLF <i>Enigma</i>	Transposed from the TV programme. You are a man with a mission flying a helicopter.	1.99
4		ZYBEX <i>Zeppelin</i>	An excellent shoot-'em-up, worth more than its budget price. Good graphics.	2.99
5		SPEED ACE <i>Zeppelin</i>	Zeppelin's first release for the Atari. Good use of the split screen in this motorbike simulation.	2.99
6		DAYLIGHT ROBBERY <i>Atlanta</i>	From the same stable as Captain's Raiders - a fun, budget-priced romp on the wrong side of the law.	1.99
7		GRAND PRIX SIMULATOR <i>Code Masters</i>	The ultimate in car simulation stays at the front of its field. This can be played again and again.	1.99
8	•	LEAGUE CHALLENGE <i>Atlanta</i>	As the football season gets into full swing you can take the role of the manager of a series of teams.	1.99
9	•	SHOOT 'EM UP <i>Budgie</i>	Highest new entry this month from the company famed for Chicken Egg. Well worth it for a single blast 'em.	2.99
10	•	BUBBLE TROUBLE <i>Players</i>	Based in the kitchen sink, this drama has you avoiding the drain while collecting a dubious bounty of goods.	1.99
11	•	PLATFORM PERFECTION <i>Uzi Geler</i>	A compilation of four at-risk games originally released under the Outsoft label. Good value.	9.95
12	•	QUARTET GOLD <i>Red Hat</i>	Another compilation but this time from Manchester based Red Hat. Includes Space Wars, Breakthrough, Little Devil and Laser Maze.	3.99
13	•	SKY SKIPPER <i>Parker</i>	An American game making its debut over here. Watch out for the review of this one in Atari User.	4.95
14	•	ATARI SAFARI <i>Musique</i>	Yet another budget title, but like most for the Atari line, clean and excellent value.	1.99
15		MATTA BLATTA <i>Firebird</i>	Re-released by Firebird you can read our reviewer's opinion of this one in this issue of Atari User.	1.99
16		LEAPSTER <i>Alternative</i>	Great if you enjoy jumping over cars and lorries while collecting items from open windows.	1.99
17	•	TRANSMUTER <i>Code Masters</i>	Smelling shoot-'em-up which is one of the very rare games written by a girl. Musteen Copeland.	1.99
18	•	TALLADEGA <i>Top Gun</i>	If you love car games this is not the best of the bunch - budget quality with a price to match.	1.99
19	•	MONKEY MAGIC <i>Alternative</i>	Based on the TV programme Monday - with you as the lesser thing who must succeed in his mission in monkey land.	1.99
20	•	DIG DUG <i>Atari</i>	Originally an arcade block buster, has been available on coin cartridge for some years.	12.99

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Atari 2600 (260)



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Atari 2600 (260)

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THE PRICE OF MAGIK: "Another superb adventure... their best yet" – *Commodore User*. Also a *Crash Smash*.



Screenshots from
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