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All major listings in this issue are accompanied by checksums to help overcome typing mistakes. For full details of how they work, see the article on page 36 of the July 1988 issue of Atari User.
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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 Reeve Software (0101 312-393 2371).

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

News Station Companion includes a plate manipulator to expand and centre News Station plates, an Ascii converter, Koala 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 micro. It allows users to create an entire page at once, using columns, headers and icons, and is compatible with Ascii files, Print Shop icons and News Station. Price $39.95.

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 disc drives and the extra 64k of memory in an Atari 130XE. Price $49.95.

Super ReeveKey is a CX85 keypad handler that will allow you to use your keyboard with most commercial software including SynCalc, Your Personal Net Worth, and others. Also included is a keypad customiser 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 unprotected commercial software without raising any hand. It is completely software based and will work with any disc drives. Price $34.95.

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

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 1276).

Called TurboBase, 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, Rbase or Lotus", says Computerhouse senior partner John May.

It comes with a 700 page manual including a quick course and cookbook. Price £119 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 £5,000 replica of the legendary Holy Grail.

The nationwide quest has been organised by Mandarin Software (0279 726685) to mark the launch of Lancelot - a graphic adventure game based on the legend of King Arthur.

Hand-crafted from sterling silver, and gilded inside with 22 carat gold, the 7in high goblet is encrusted with semi-precious stones. It is hidden at a secret location somewhere in the UK.

To find the prize, entrants will have to survive 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 £14.95.

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 (0279 726685), 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 clues to the Mandarin Software games Time & Magik and Lancelot.
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 have 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 rarely 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 prevented 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 I).

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 10000001 would have a car in the outer lane, 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 row 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 strobe is used to provide extra synchronisation pulses. This can be thought of as...
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 II)

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 lorry 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 end 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 handshaking.

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 anywhere 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 on a Centronics connector is shown in Figure III. 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 8
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-lane 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 1200/75 — which may require the computer 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 micro 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 20 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:R:Connection.

Once you know how to do that you can connect hundreds of different third-party devices to your micro — ranging from simple plotters to more advanced external sensing equipment.

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8 Atari User October 1988
Have a smashing time

Product: Rampage
Price: £12.95 (disc) £9.95 (tape)
Supplier: Atari World, 11 Fennel Street, Manchester M4 3DU.
Tel: 061-834 4941

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 Bally Midway.

It is based on the exploits of three indescribably nasty B 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 unplug any cartridges on old machines 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 Greaseburger Fast Food Emporium, except for three unlucky customers who were to get something nastier than their usual Big Mucks.

The company's research division has been playing around with several experimental food additives - and have they caused trouble.

A wave of nausea, foul aftertaste then chronic indigestion soon swept over George, Lizzie 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, Lizzie 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 toasters 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 weaken 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. Swat 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. Suitable 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.

Neil Fawcett

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October 1986 Atari User 9
Universal removal man

**The Extirpator**

Product: The Extirpator
Price: £1.99 (tape)
Supplier: Atari World, 11 Fennel Street, Manchester M4 3DU.
Tel: 061-834 4941

YOU are the Extirpator, 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 Lax 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 hold 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.

You control your 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, jazzy piece and really got my foot tapping.

Stephen Fawcett

---

Going for gold

**Quartet Gold**

Product: Quartet Gold
Price: £3.99 (tape)
Supplier: Atari World, 11 Fennel Street, Manchester M4 3DU.
Tel: 061-834 4941

THE latest release from Red Rat 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 Reldan Empire. At the last meeting of the Intergalactic Federation on the planet Alpine Nine the ugly, warty Reldans from the dark stars declared war on Earth.

As the Federation prepares its own fleet and Reldan 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 Reldan craft and destroy them. But be careful, this drains your energy 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
Keep on firing

Product: Matte Blatta
Price: £1.99 (tape)
Supplier: Atari World, 11 Fennel Street, Manchester M4 3DU
Tel: 061-834 4941

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 micro. Press Return and the game will load.

You move your ship using a joystick plugged into port one. 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 DILs - 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

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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 £3.99.

Stephen Fawcett

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October 1988 Atari User 11
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R12
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 loyal software houses are still supporting the 8 bit Atari – Zeppelin, Tynesoft, Red Rat, Activision and Alternative spring to mind immediately.

Luckily 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 ST 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 supporting the sale of 8 bit hardware. One in particular, Dixon's, is packaging a 65XE with 64k ram, XC12 tape deck, a number of games and a 14in Saisho colour TV for only £199.99. 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 McGibbits, 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 Gizmo DHX-1 attack chopper – codenamed the Snuffmaster. Once airborne you set your tactical computer and enter the coordinates of the enemy base.

During the game several activities will enter your air space. You must assess 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 key does 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 Mindscape? Does anyone out there know?

If you want to try and get hold of it the phone number is 010 412 361 5291 and the address PO Box 111327, Dept.AT, Blawnox, PA 15238.

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 £9 – you can get it from the same people who sell Infiltrator.

In the desktop publishing field an American company called Springboard Software has just brought out Newsroom for $49.95 – around £30.

You require an Atari XL/XE with at

Turn to Page 14
least 64K of memory, a 1050 disc drive — or any other that reads enhanced density discs — and a graphics capable dot matrix printer. Remember that you’ll need a Centronics printer interface to make most printers work with the Atari. The only printer directly supported without an interface is the Atari XMM801.

A superbly written manual is included as it won’t take you long before you’re making your own stunning creations. From the main menu you can access five sub-menus — Photo-Lab, Copy Desk, Banners, Layout and Press.

Throughout the program, commands are selected by using either the keyboard or joystick to move control arrows to pick from a menu of icons.

This superb product is a must for all serious users of the 8-bit Atari. You can get Newsroom from Springboard Software Inc., 7208 Creekridge Circle, Minneapolis, MN 55435. Or phone 0101 612 944 3912 for more information.

On much the same subject a product called Printpower has just been released. Very similar to Print Shop, it allows you to create cards, signs, stationery and banners. You are also supplied with 22 printer drivers for standard dot matrix machines which will require a suitable interface to make them work correctly — an 850 Interface box or P.R. connector from ICD will do the trick.

You can mix text with graphics and on the two discs you get 60 graphics and seven fonts ranging from old English to modern. You can also choose from a range of 20 different borders. Priced at $14.95 — around £10 — this package is fine value. Write to Hi-Tech Creations Inc., 1700 N. W. 65th Avenue, Suite 3 Plantation, FL 33313 or Tel: 0101 305 584 6386 for more details.

More goodies next month. Until then, write to the companies mentioned and we at Atari User will try our best to get justice for the UK market.

**Miles Better Software**

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![Miles Better Software Logo](image-url)

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All prices are correct at time of going to press. Details of prices and availability are subject to change.

**Miles Better Software**

Phone or write for comprehensive stock list for Atari and ST software — hardware

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14 Atari User October 1988
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 mutant giant birds were on their way south to warmer climes 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 screen.

With lighted taper in hand you must rush over to the row of rockets — stood in their milk 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 GRR II 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 taper and press fire to light the blue touch paper. The birds come in waves of three and you start with 20 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.

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AT010D
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 2, 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 crush the graphic file into a label sized picture on a high-resolution screen.

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

In Graphics mode 7 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 I.

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 II.

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 1029 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.

![Figure I: All the possible combinations of two bits](image1)

![Figure II: How two bytes of colour data are crunched into one](image2)
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18 Atari User October 1986
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 Rye in East Sussex, who writes:

"On a recent trip to the USA I spotted a bargain I thought too good to miss — an 800XL, XF551 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 800XL and 1050 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 ill-defined on the UK system but shows a nice crisp blue and green instrument display on the US monitor.

I bought the American system solely for the XF551 drive, thinking it would work with my UK standard 800XL — but it doesn't. The opposite does work though — a UK 1050 drive with the American 800XL.

Another peculiarity is that my Flight Simulator II discs — originally purchased in the USA — will not run on my American system, although 99 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 240V-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 240V 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 800XL. I contacted 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 Athlone in County Westmeath, Ireland:

"Recently I have started learning 6502 assembly language programming on my 800XL 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 trace or single-step the machine code program using the T and S commands on 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:

$ 1000, #F:

or:

T 400, #F:

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 SpartaDos 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
means all output text — such as prompts, listed lines, trace output and so forth — will not show up on the screen, but are sent to the printer instead. Your own entries via the text editor will still show up on the screen, but I suspect that this won’t worry you.

To accomplish this, first enter the debug mode by typing **BUG**, then look into the OS at location SE430 by typing **D E430**. The last two hex numbers on the line will probably be CA and FE for an 800X, but modified operating systems might alter this.

Anyway, whatever the final two numbers are, you need to place them into locations $346$ and $347$. You must make sure there aren’t any using just one. If there is, or the computer will try to use a half-modified address and will most probably crash. In the case of the assembler/editor the alter memory command is **CA**, standing for change memory contents. For example:

```
BUG
D E430
<RETURN>
```

This will display the contents of location SE430 in the form:

```
E430: C1 FE 06 FF 08 FE CA FE
```

You should then enter:

```
$ 346<CA,FE <RETURN>
```

to divert output to the printer. It’s as simple as that. I hope one of these methods will solve your problem.

### Text screen save

A slightly simpler question from Mr. J. Doherty from London who asks:

"I have a 103XE with a 1050 disc drive and have written a lengthy word processor program after teaching myself Atari Basic. The object of my program is to run a club newsletter, prepared using my word processor — in 40 columns — and to save screens as pages of text on disc. These would then be mailed to members for re-loading and perusal. It would also serve as a simple word processor for fun use.

I need to save a complete screenful of text, 960 characters, as one page and as one file on a disc. However, it seems that with PRINT #1; AS you can only save about a quarter of a screen, necessitating four separate files and four filenames for each page, which is rather cumbersome.

Is there any way to save a full screen of text as one file, or am I approaching the problem in the wrong way?"

- By the sound of it you have slightly misunderstood the way the file handling system works on a 8 bit Atari. I assume your output routine looks something like this:

```
100 OPEN #1,8,1:"F coherence.TXT" 110 PRINT #1,AS 120 CLOSE #1
```

In this AS is a 960 byte string containing all the information from the screen. In fact, this will send 960 bytes of text to the file, but your program really relies with the INPUT routine. If you try to list the file via DOS — by selecting File Copy and copying the file you have just created to E: – you will see that is it all there. So why can’t you get it back into the string using INPUT #1,AS?

The answer lies in the input buffer area used by the operating system. In order to use INPUT the file system must transfer bytes of data into a temporary buffer while it looks for a carriage return character to tell it the

```
Program I: Reading 960 characters using the GET command
```

current string is complete. Unfortunately this buffer area is located at $580 and is only 128 bytes long. In some cases this will extend another 128 bytes into page 6 — up to $67F — but this still won’t be enough for your program and you’ll receive an Error 137—Record truncated.

There are two solutions to this problem. The first is rather slow, and involves using the GET command, which reads a single character at a time for each of the 960 characters, storing each as the next character in a string. This method is shown by Program I.

The alternative is to use the Binary Get command, which is not directly supported by Basic and so requires a small machine code routine. This will allow you to read 960 bytes of data from a file directly into memory. This is slightly more complex because you must first find the memory ADDRESS of the string, which must already have space for 960 characters. Program II shows how this can be done, and the machine code routine could easily be used for other applications of CIO data transfer.

```
10 DIM AS(960), MCS(14)
20 AS(1) = AS(960) = AS(2) = AS(3) = 0
30 REM Line 30 fills the string up
40 FOR i = 1 TO 960
50 READ BYTE: MCS(i+1) = CHR$(BYTE)
60 NEXT i
70 DATA 104, 194, 196, 170, 32, 86, 228, 172, 212, 150, 132, 215, 96
80 DATA 104, 196, 194, 170, 32, 86, 228, 172, 212, 150, 132, 215, 96
90 DATA 104, 196, 194, 170, 32, 86, 228, 172, 212, 150, 132, 215, 96
100 LET CHAN = 1: LET SIZE = 968
110 LET ADDRESS = ADDR(AS)
120 OPEN #CHAN, 4, 0, "D: FILE1.TXT"
130 COBASE = ADDR(CHAN) + 1
140 LET COMMAND = 7
150 ADDRESS = ADDRESS + SIZE
160 ADDRESS = ADDRESS + SIZE
170 DATA ADDRESS, SIZE
180 DATA ADDRESS, SIZE
190 POKE COBAS = 2, COMMAND
200 POKE COBAS + 1, ADDRESS
210 POKE COBAS + 1, ADDRESS
220 POKE COBAS + 1, ADDRESS
230 POKE COBAS + 1, ADDRESS
240 POKE COBAS + 1, ADDRESS
250 IF ERROR = 0 THEN PRINT
260 IF ERROR = THEN PRINT
270 IF ERROR = THEN PRINT
280 IF ERROR = THEN PRINT
290 IF ERROR = THEN PRINT
300 END
```

Program II: Reading 960 bytes using a high-speed Binary Get routine

If you haven’t yet worked out how to get all 960 bytes of data from the screen itself into the string, you can use the LOCATE command for each of the 40 by 24 character positions. Each character can then be placed into the string and finally PRINTed to disc. I’ve written a simple example of this technique as Program III.

```
10 DIM AS(960)
20 GRAPHICS 8: PRINT "TEST SCREEN"
30 REM Line 30 prints the test screen
40 FOR i = 1 TO 40
50 FOR j = 1 TO 20
60 IF AS(1) = 1 THEN PRINT
70 IF AS(2) = 1 THEN PRINT
80 IF AS(3) = 1 THEN PRINT
90 IF AS(4) = 1 THEN PRINT
100 NEXT j
110 NEXT i
```

Program III: Convert a screenful of text into a string

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October 1988 Atari User 21
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 homing 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: 42 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 42 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 780 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#6; 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 HITS and LIVES, which were set at line 20. Line 60 jumps into the target
movement subroutine, skipping the first two lines because we don't need a bleep, 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 interwoven.

To do this in main line code would be complicated and difficult to de-bug. So instead we've adopted the subroutine approach again, which means that the main loop occupies just five lines, from 80 to 120. 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 I 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 80 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 190. This produces a short bleep and erases the current target by plotting the original background character over it. Then it prints 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 them 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

---

**Figure II**: Flow chart showing the enemy missile movement routine

---

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background characters – their COLOR number is always 0.

To move the gun we first erase it by plotting 0 at its current position (GPOS,19), then re-print it at its new position (GPT,19). The gun can’t collide with anything when it moves, so there’s no need for any hit-detection code.

Back to the main loop, and line 100 calls the complicated subroutine which moves the enemy missile. This routine is shown pictorially at Figure II, so you can trace its operation.

To keep things tidy we’ve used several variables as flags. These carry information from one part of the program to another. GMFLAG holds the current status of the gun’s missile – 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 read, or altered, at any point in the entire program, so all the subroutines can keep in touch with each other. EMFLAG monitors the enemy missile’s status, and GFLAG holds 1 temporarily when the gun has been hit so that line 490 can take appropriate action before returning to the main loop.

Now we’re back to line 110, which calls a subroutine to move the gun’s missile. The flow chart is almost identical to that in Figure II, though the labels and variable names will be different. If the target is hit, this routine sets COUNT to 0, so that line 80 will draw a new target on its next pass.

Finally the main loop, line 120, 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 REMs.

The explosion subroutine at line 680 is called if a gun’s missile hits the target, or 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 this subroutine – it won’t affect any other part of the program.

Once you understand how everything works you can start writing your own routines, either by modifying the program 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 these very versatile expressions can replace many lines of complex IF...THEN statements, especially in joystick control routines. We’ll also show how you can use them to simulate a few commands which Atari Basic doesn’t possess.
IS Santa really in danger of being zapped this year?

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Questions
1. Mark Spitz was famous for his gold medals in which sport?
   a. Decathlon
   b. Swimming
   c. Fencing
2. Steve Cram has run all over the world, but which town is his home base?
   a. Wolverhampton
   b. Sunderland
   c. Manchester
3. The Modern Olympic Games changes venue each time, but where was its origin?
   a. Greece
   b. France
   c. China
4. The film Chariots of Fire concentrated on the events of which Games?
   a. 1928
   b. 1932
   c. 1924

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

Cognito was formed soon after Zeppelin 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.

Zeppelin 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 equaling the quality of the 64 version - and hopefully its financial success.

So a sister company Cognito was formed and 22 year old programmer Ian Copland 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 Zeppelin - I found Ian putting 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 Microvalue budget pack.

Next came a joint effort with his sister Maureen. The excellent shoot-em-up Transmutor, released by Code Masters, was yet another best-seller. Ian got his first Atari in 1983 - an old 400 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 800XL, 1060 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 65 which is still in use today.

Brian Jobling - Zeppelin's software director and author of Zybex 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 Cognito. "That's easy to explain", said Brian. "He came to work for Zeppelin on work 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 Ian 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 full!"

What of the future? Brian Jobling said: "After the initial success of Zeppelin's titles and the almost guaranteed success of Draconus at Cognito 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 Atarians 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 happy times.

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

Frognum who plays the major role, can walk, jump, punch, duck and breathe fire. Although Draconewt 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, terrortoads, catepeloise and bonce blobs. The last are balls of gooey matter which hang from ceilings and drip 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 chance of getting to the final screen and battle the beast itself.

The artifacts are: The Demos shield, necromancer's staff, dragon's eye and the Morph helix. Flasks 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 graphic artist Michael Owens has done a wonderful job of the backdrops for each screen. Meticulous care has been taken with even the smallest detail.

One thing I like in a game is a catchy signature tune. Here Adam Gilmore, the music expert at Cognito, 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 Frognom splitting into two and blood spurting from the remains of his body – very gruesome.

The beast 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 moth from the 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!
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Join the Big League

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

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 — sorry cassette 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 80 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 2.5. This will leave plenty of room for the data files the program will create. Now type in the listing and check it with Get it 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 ask 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 sort 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 have now reached the stage where you have to enter the team results. After selecting option 1 you 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 33 ▲
10 fabulous programs from your favourite Atari 8 bit magazine!

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TO ORDER PLEASE USE THE FORM ON PAGE 47
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 program. Most of the
other options 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
middle-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-saved.
And that's it. Enter your new table now,
but be careful when entering as errors
are not easily corrected after pressing
Return.

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 2400 and 2410 with the new
value.

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

```
2965 PRS=5:REM"GO TO 1126"
```

This will inhibit the printer output
if option 8 is selected.

```
10 REM Hampshire
20 REM H League Results/Table
30 REM H BY Malcolm Domone
40 REM H (C) START USER
50 REM H
60 SETCOLOR 2,0,4
70 DIM WINS(20),TSS(15),BOTES(12),DSS(12)
,S(12),PRG(100),PRG(5)
80 PRS$:"REM""GO TO 5"
90 DIM C1(5):C2(15)
100 OPEN W$,4:R:"M""
110 TRAP 3500:GO TO 390:REM GO TO LOAD TABLE
120 REM DIMENSION H
130 DIM TSS(TS+1),BOTES(TS),DSS(12),WINS(TS)
,S(12),PRG(100),PRG(5)
140 REM LOOP 
150 REM END OF LIST INDICATOR 
160 REM H 
170 REM POKE 752,L:POSITION 18,22:="H""GO TO 180
180 REM "RIGHT JUSTIFY "
190 REM IF X<10 THEN PRINT " ":
200 PRINT X;"
210 IF X<10 THEN PC=PC+1
220 TS=TS+TS:"REM""POKE PC,PC+PC";
230 RETURN
240 REM H CLEAR LINE CLR
250 REM POKE 752,L
260 POSITION 18,21:="TSS(WINS-14,WINS)"
270 GET M,K
280 IF K<-2 THEN K=-2
290 IF K>2 THEN K=2
300 IF X<10 THEN X=1
310 IF K<1 THEN K=1
320 IF K>5 THEN POKE 752,0:RETURN
330 GOTO 260
340 REM H CLEAR LINE CLR
350 POSITION 18,21:=""
360 RETURN :REM 37 S
370 REM CLEAR PRINTER STRING PRS 
380 REM CLEAR PRINTER STRING PRS 
390 REM LOAD TABLE 
400 REM H "POKE 752,L:POSITION 18,18:" 
410 REM 752,0:"REM""GO TO 5"
420 REM IF X<10 THEN POSITION 18,18:"L0 
430 REM CLEAR CURRENT TABLE 
440 REM POKE 752,0:"D:TEAMNAME.DAT"
450 IF TSS=1 OR HIF=1 THEN 470
460 HOSUB 130
470 FOR C=1 TO NT
480 INPUT H1,T1:TS=TS(WINS+14,WINS+1)
490 NEXT C
500 CLOSE W$
510 OPEN W$,4,0,"D:TABLE.DAT"
520 INPUT H1,T1,MONTH,NT
530 POSITION 11,14:?"YES"
540 IF TSS=1 THEN POKE 17,17:="YES"
550 IF TSS=1 AND Date$="DAYS THEN?17:
560 EXIT THIS OPTION"
570 IF TSS=1 AND Date$="DAYS THEN?17:
580 CEF=1
590 FOR C=1 TO NT
600 INPUT H1,A,P(C),G,0
610 INPUT H1,A,HM(C),G
620 INPUT H1,A,HF(G),G
630 INPUT H1,A,HG(G),G
640 INPUT H1,A,AM(G),G
650 INPUT H1,A,AM(G),G
660 INPUT H1,A,HM(G),G
670 INPUT H1,A,HF(G),G
680 INPUT H1,A,HG(G),G
690 INPUT H1,A,PSTS,G
700 INPUT H1,A,TG(P),G
710 INPUT H1,A,P(T),G
720 NEXT C
730 IF PEEK(764)=20 THEN TSS=0:CLOSE W$
740 GOTO 480
750 IF TSS=1 AND Date$="DAYS THEN 520
760 CLOSE W$CLOSE W2
760 TNF=0
770 IF CEF=1 THEN 2230
```

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October 1988 Atari User 33
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TIME once more more to dip into the mailbag 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 missive 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 law of averages says you’re bound to score sooner or later.

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

In return, Andrew would like some help with Asylum, an adventure which I myself have rarely played, never having been a big fan of maze-based games. The axe, gold and silver cards, stethoscope, bird costume, copper wire and battery are already in Andrew’s possession, but if you can help him further, please phone him on Cumbernauld 721455 or write to him at 72 Ben Nevis Way, Balloch, Eastfield, Cumbernauld G68 9J.

Arno Brouwer from the Netherlands is having a problem with the Guild of Thieves gravedigger who is getting very annoying, prohibiting Arno from digging a grave. Sorry, Arno, but the gravedigger 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 berries. Go get ‘em – the gravedigger won’t mind.

Another problem he has with the same adventure is the opaque 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 one of the yew trees on a die. Roll all the dice until 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 my feet that are too big – it’s the rest of my body that’s too small! I’m not sure if that’s a compliment or not!

Dave Gregory from Blackwell has had an Atari computer since last Christmas but is being driven round the bend by two adventures he bought – Cloak of Death and Quest For Eternity.

As I said in the July issue, I would not recommend these two games to anybody new to adventures. They are short on vocabulary and long on inflexibility.

My plea for help with the adventures fell on deaf ears earlier this year mainly, I suspect, because few adventurers have persevered with these tough and frustrating puzzlers. I haven’t either – my advice is to switch over to playing one of Level 9’s cassettes if you really want to find out what a good modern adventure should be like.

Gunshooter, from US Gold, is not an adventure I am familiar with but it comes highly recommended by Christopher Beard of Notts. Christopher has sent in a list of his worst, in addition to his favourite, adventures and has scathing words about Questprobe III which is number one in his list of dislikes and which he describes as “absolutely pathetic as well as impossible”. You have been warned. Christopher knows a thing or two about Alternate Reality I and II, so if you want some

by

Roulac

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

THOMAS HOLZER’S TOP TEN
1 Dallas Quest
2 Grinds In Space
3 Mask of the Sun
4 The Pawn
5 Leather Goddesses of Phobos
6 Atlantic (German adventure)
7 The Dark Crystal
8 Time and Magik
9 The Seven Cities of Gold
10 The Adventure Writer

help write to him at Millstone Cottage, 46 Beauvale, Newthorpe, Notts NG16 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!
HINTS AND TIPS

Knight orc – Part 1

WEAR cloak, get halyard from flagpole, get tether from goat. Kill Green Knight’s horse and get reins, get washing line from oak tree, get noose from gibbet, get everything from the well but the treasure.
Put welcome mat on thorn hedge and climb over. Cut Rapunzel’s hair and get it. Go to castle, get note, throw it at drawbridge, get it again, go in and drop it. Go in again, unlock chest, open it and take cord. 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 hawser. Up and get rope. Tie rope to hawser, tie rope to signposts at crossroads and wait for hunter. Get his lasso and tie it to rope. Get spear from bar, tie it to rope, go to gap, throw spear at ring – and bingo!

Magical moments

Program: Time And Magik
Price: £19.95
Supplier: Mandarin Software, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.
Tel: 0625 878888

TIME and Magik is a welcome bargain package of three first-rate adventures from one of the 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 Magik 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 unlikely objects – a jester’s cap, a dinosaur’s egg, an olive branch, a dragon’s wing and a teardrop, to name a few.

It seems that the evil Timelords have been trying to remould history in their favour and it has fallen to you to try and repair the rent in the fabric of history.

Via 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, 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 enjoyable and 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 on its original release, including being voted best adventure of 1985 by several magazines.

The Price of Magik is a direct sequel to Red Moon. The plot centres on your endeavours to defeat Mygar, once a good sorcerer now gone bad. The adventure features an even stronger magical element (with 18 spells to learn). The Price of Magik 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 Magik 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 ......................................................... 8
Atmosphere ............................................... 7
Puzzlement ...................................................... 9
Value for money ................................................... 9
Overall ............................................................. 9

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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 C7? It was none of these. A public domain language called Fig-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 Atari Basic.

Forth is one standard of the language Forth as defined by the American Forth Interest Group. Other standards include Forth-79, Forth-83 and polyForth, the former 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 last 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 jiggle 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 Fig-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 2.5 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 minds will have worked out that the disc is formatted in enhanced density. This is tough on 810 owners, myself included.

I initially thought this may just be a quirk of the review copy, but after 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 90 which would be found on a single density disc.

This can be altered fairly easily, but it is short-sighted on Pulsar’s part as the disc will not even boot on an 810 drive. The A4 format manual is 45 sheets of duplicated typescript bound with one of those plastic slide-on 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. They are: The Complete Forth by Alan Winfield (Sigma Books) and Starting Forth by Leo Brodie (Prentice Hall Books).

Although Forth can be used in an interpretive 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 I and
R 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 Pulsar 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 1k block conveniently fills a screen on an 80 column system, but the Atari's 40 columns make full screens look untidy since the lines wrap around.

One solution is to restrict lines to 32 characters, but this means that half the disc space is wasted. Pulsar should have considered breaking with the Forth 1k 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 IOCB 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 seized up when I deliberately tried to 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 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 utilises the Pokey chip, sound channel 0 cannot be used if the mouse is enabled. Also the right mouse button is not read.

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 novice 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/missle graphics and some programming tools. They are of varying use, but can easily be dropped 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-79. 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**

So is Pulsar'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 crammed with documentation screens and useful - and not so useful - extensions.

On the other hand, commercial Forths are also available. Go-Forth is a 79 standard with numerous extras, including two advanced editors and a very technical manual costing around £20.

Pulsar'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 density disc version would offer excellent value for money.

**Product:** Fig-Forth disc
**Price:** £14.95 (£35 with an ST mouse)
**Supplier:** Pulsar Software, 4 Church Hill Road, East Barnet, Herts. EN4 8TB.
**Tel:** 01-441 0799

**Figure 1:** Example word used in Fig-Forth
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 2600 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: Palan Electronics, Prestwich House, Brunswick Industrial Estate, Brunswick Way, London N11 1HX.
Tel: 07 368 5545

This excellent rom cartridge from Epyx 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 truly 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, bobsled and luge. If these don't appeal you can test your digital dexterity on the ski jump or hot dog skiing. 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, bobsled, 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 36 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 bobsled is a speed game. The idea is to negotiate a winding, twisty 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. Rattle 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 madman in order to perform several somersaults in a matter of seconds.

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

Run in the sun

Product: Summer Games
Price: £14.99
Supplier: Palan Electronics, Prestwich House, Brunswick Industrial Estate, Brunswick Way, London N11 1HX.
Tel: 07 368 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, skeet 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 turns 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 wagging 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 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 next 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 him 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 motion.

Various joystick movements will cause your man to perform different movements and it is these on which 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 waggle 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 attempting - and failing - to win a gold medal.

**Let battle commence**

**Product:** Commando
**Price:** £14.59
**Supplier:** Palan Electronics, Prestwich House, Brunswick Industrial Estate, Brunswick Way, London N11 1HX.
**Tel:** 061-634 9491

YOUR assignment is very simple - annihilate the enemy and destroy all their vehicles. When you get 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 weapon - 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 screen. To throw one you pull the joystick back and press the fire button.

As you move towards the fortress 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.

**Here is a list of some of the 2600 rom cartridges available from Atari World.**

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Egomania
- Excite
- E.T.
- Freeway
- Fire Fighter
- Grand Prix
- Indy 800
- Taboom
- Keystone Capers
- Moon Patrol
- Midnight Magic
- Nightmare

October 1988 Atari User 43
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: Atari World, 11 Fennell Street, Manchester M4 3DU.
Tel: 061-834 4941

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: Atari World, 11 Fennell Street, Manchester M4 3DU.
Tel: 061-834 4941

THE treacherous Gargamel has captured the young Smurfette and is keeping her prisoner 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 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: £9.99
Supplier: Palan Electronics, Prestwich House, Brunswick Industrial Estate, Brunswick Way, London N11 1HX.
Tel: 01-330 3645

“...the screams of the crowd shake the arena as the title belt contenders circle one another. Mad Dog makes the first move smashing his fists into Skin Head’s chest who gasps for air, then retaliates with a skin-cracking kick.”

“Mad Dog grows and grabbing from behind drags Skin Head across the ring whipping him around in an airplane spin. Letting go he flies into the ropes and bounces back to meet Mad Dog’s concrete forearm across his neck...a painfully executed clothesline.”

That is a scene-setter 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 - bear hug, body slam, power lift and back drop being just a few. To bring any of them into effect you use a combination of joystick movements 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 depletion 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 youngsters children, but great fun if you are into sport simulations.
Don't miss this great offer!

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In this delightful game you have to navigate through 500 action-packed screens.

Starquake, one of the biggest-selling games for home micros due to its incredibly addictive gameplay and cleverly animated graphics, has received such accolades as Game of the Month in Computer and Video Games, and was awarded a Crash Smash.

*What reviewer Bob Chappell said about the Atari version: ‘Starquake is top-notch fare... quality dripping from every byte’*

**EXECUCARD**

This ultra-slim, solar powered credit card sized Atari ExecuCard is a five-function calculator with an eight-character display showing a comma after every three digits. And it comes with a smart protective wallet.

**FIREBIRD Silver Collection**

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October 1988 Atari User 47
ARE YOU MISSING OUT?

You’ve got lots of questions about your computer but don’t know who to ask! We do! You’re not sure which software is best for your application! We do! You’d like to keep up to date with new releases and be sure they are a good buy, but who’s going to tell you? We will! You would love to get to know other Atari enthusiasts, but you don’t know how! We do! You want to get some of that “Public Domain” software you’ve heard about, but where from? We know! You don’t want to feel like you’re the only Atari owner in the world, but where can you turn too? Well, we can help! Great, but who are you?

We are the largest and oldest Atari Computer Owners Club in the U.K. For just £6.00 per year you get help, assistance, hints, tips, friends, an email address, access to PD software, up to date information, games, utilities, hardware projects, software reviews, programming tutorials, and a glossy club magazine every quarter.

A club magazine as well? One of those photocopied things that is unreadable, eh! Well no, it’s professionally produced, just like this magazine you’re reading. It’s called MONITOR, you may have heard of it? Yes, friends of mine have read it and say it’s great! How do I join the club and get my copy of MONITOR? Easy just send a cheque or postal order for £5.00 to the address below requesting a four issue subscription. Overseas membership is £8.00 (surface) or £12.00 (Airmail).

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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 two or three reviews? There are many more games available than you review. I have never seen reviews of International Karate, Eldolon, Scooter, Ballblazer, Spellbound, Amaurote, Chimera or Koronis Rift. You should review at least six games a month and give them a full page with loads of screen shots.

A game like Zyrex 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, Tantum, didn't even get a screen shot - pathetic!

However, I am glad to see that Atari User is getting more game-biased with regular hints, tips and maps. I think you should also include a hi-score chart, best music chart and have many more interviews with programmers. You must get more involved with the software houses and more involved with Atari games. It will pay off. - Robert Stuart, 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 lose out on 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 them and none 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 released.

New section approved

THANK you for the new 2600 section of Atari User magazine. I have for a few years now owned a 2600 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 Manck, Teesville, Cleveland.

Saga of that Dodgy Dos

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

Firstly, it is incredible that 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 access several menu screens to perform simple operations. Considering the only feature Dos 2.5 lacks, compared to Dos-HE, is the ability to access 180k of data, how long will it be before a Dos 2.6 appears to replace Dos-HE? - P. C. Feash, Wokingham, Berks.

The appearance of a Dos 2.6 would be welcomed by most owners of the XF-551 disc drive. Dos-HE isn't the friendliest Dos, whereas 2.5 is one of the easiest to use.

However, as the review stated, you could always use SpartaDos 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?

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 lifespan of the XL/XE micros.

It is and always will be the best 8 bit computer to be sold in the UK. This may well be 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 micro in any trade magazines or on TV or even in Atari User. Yet the computers have still sold.

Now why is this? Could it be that the word soon spread 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 of 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 new life and popularity into the 8 bit I 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 bet I have with a friend.

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.

Commander boot error

I have owned my Atari 65XE computer and tape deck since Christmas of last year and I have been very pleased with its performance. I have just bought a new game from Star Turn to Page 52 >>
Manager modified

I WAS very pleased with the article in the June issue of Atari User about using HFM 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 some modifications to the original program.

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

```plaintext
620 FOR K=5 TO 950 STEP 2
622 SSET(3)=ASC(ASCII(0\$3,31))+ASC(ASCII(0\$1,1)+1)
625 SSET(3)=ASC(ASCII(0\$3,31))+ASC(ASCII(0\$1,1)+1)
630 SSET(3)=ASC(ASCII(0\$3,31))+ASC(ASCII(0\$1,1)+1)
635 SSET(3)=ASC(ASCII(0\$3,31))+ASC(ASCII(0\$1,1)+1)
640 SSET(3)=ASC(ASCII(0\$3,31))+ASC(ASCII(0\$1,1)+1)
645 SSET(3)=ASC(ASCII(0\$3,31))+ASC(ASCII(0\$1,1)+1)
```

In addition to these, if you want to have the option to select a particular card to transfer type these changes in:

```plaintext
505 POSITIO 4,10: ?CHOOSE CARD BEFORE TRANSF STAR M: 6
506 SUB 1250: CH=CH
511 IF CH=0 THEN 690
512 FOR DE=16 TO 19: POSITIO
513 ON 1,RE
514 NEXT
515 IF CH=0 THEN 725
516 IF DE=3 THEN PASS
517 IF DE=4 THEN PASS
518 IF DE=5 THEN PASS
519 IF DE=6 THEN PASS
520 IF DE=7 THEN PASS
521 IF DE=8 THEN PASS
522 IF DE=9 THEN PASS
523 IF DE=10 THEN PASS
524 IF DE=11 THEN PASS
525 IF DE=12 THEN PASS
526 IF DE=13 THEN PASS
527 IF DE=14 THEN PASS
528 IF DE=15 THEN PASS
```

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

- 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.

Zepplin hits the spot

In the March 1989 issue of Atari User there was a superb article about Zeppelins. After reading it I promptly went out and bought them – Zybez 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 tell me if it is planning to release any more games for the Atari? – Kevin Cartlidge, Anlaby, Hull.

- 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 Draconus – see the article on Page 28 of this issue.
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<tr>
<td>1</td>
<td>2</td>
<td>GREAT AMERICAN ROAD RACE</td>
<td><strong>Firebird</strong></td>
<td>Ten drivers await you in this race crossing the USA. Beware of the police, your speed and the obstacles.</td>
<td>1.99</td>
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<tr>
<td>2</td>
<td></td>
<td>GAUNTLET</td>
<td><strong>Kixx</strong></td>
<td>Now re-released at a budget price, it is well worth the money. A classic with a Deeper Dungeons tape available.</td>
<td>2.99</td>
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<td>3</td>
<td>5</td>
<td>AIR WOLF</td>
<td><strong>Encore</strong></td>
<td>Translated from the TV programme. You are a man with a mission flying a helicopter.</td>
<td>1.99</td>
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<td>4</td>
<td>7</td>
<td>ZYBEX</td>
<td><strong>Zeppelin</strong></td>
<td>An excellent shoot-'em-up, worth more than its budget price. Good graphics</td>
<td>2.99</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>SPEED ACE</td>
<td><strong>Zeppelin</strong></td>
<td>Zeppelin's first release for the Atari. Good use of the split screen in this motorcycle simulation.</td>
<td>2.99</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>DAYLIGHT ROBBERY</td>
<td><strong>Atlantis</strong></td>
<td>From the same stable as Cops an' Robbers - a fun, budget-priced romp on the wrong side of the law.</td>
<td>1.99</td>
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<td>1</td>
<td>GRAND PRIX SIMULATOR</td>
<td><strong>Code Masters</strong></td>
<td>The ultimate in car simulators stays at the front of its field. This can be played again and again.</td>
<td>1.99</td>
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<td>8</td>
<td></td>
<td>LEAGUE CHALLENGE</td>
<td><strong>Atlantis</strong></td>
<td>As the football season gets into full swing you can take the role of the manager of a series of teams.</td>
<td>1.99</td>
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<tr>
<td>9</td>
<td></td>
<td>SHOOT 'EM UP</td>
<td><strong>Budgie</strong></td>
<td>Highest new entry this month from the company famed for Chuckie Egg. Well worth it for a simple blast 'em.</td>
<td>2.99</td>
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<tr>
<td>10</td>
<td></td>
<td>BUBBLE TROUBLE</td>
<td><strong>Players</strong></td>
<td>Based in the kitchen sink, this drama has you avoiding the drain while collecting a dubious bounty of goods.</td>
<td>1.99</td>
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<td>11</td>
<td></td>
<td>PLATFORM PERFECTION</td>
<td><strong>US Gold</strong></td>
<td>A compilation of four oldish games originally released under the Datasoft label. Good value.</td>
<td>9.95</td>
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<td>QUARTET GOLD</td>
<td><strong>Red Rat</strong></td>
<td>Another compilation but this time from Manchester based Red Rat. Includes Space Wars, Dreadnought, Little Devil and Laser Hawk.</td>
<td>3.99</td>
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<tr>
<td>13</td>
<td></td>
<td>SKY SKIPPER</td>
<td><strong>Parker</strong></td>
<td>An American game making its debut over here. Watch out for the review of this one in this issue of Atari User.</td>
<td>4.95</td>
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<tr>
<td>14</td>
<td></td>
<td>ATARI SAFARI</td>
<td><strong>Illusions</strong></td>
<td>Yet another budget title, but like most for the Atari nice, clean and excellent value.</td>
<td>1.99</td>
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<td>15</td>
<td>20</td>
<td>MATTA BLATTA</td>
<td><strong>Firebird</strong></td>
<td>Re-released by Firebird you can read our reviewers opinion of this one in this issue of Atari User.</td>
<td>1.99</td>
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<td>16</td>
<td>4</td>
<td>LEAPSTER</td>
<td><strong>Alternative</strong></td>
<td>Great if you enjoy jumping over cars and lorries while collecting items from open windows.</td>
<td>1.99</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>TRANSMUTER</td>
<td><strong>Code Masters</strong></td>
<td>Scrolling shoot-'em-up which is one of the very rare games written by a girl, Maureen Copeland.</td>
<td>1.99</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>TALLADEGA</td>
<td><strong>Top Ten</strong></td>
<td>If you love car games this is not the best of the bunch - budget quality with a price to match.</td>
<td>1.99</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>MONKEY MAGIC</td>
<td><strong>Alternative</strong></td>
<td>Based on the TV programme Monkey - with you as the lesser deity who must succeed in his mission in ancient China.</td>
<td>1.99</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>DIG DUG</td>
<td><strong>Atari</strong></td>
<td>Originally an arcade block buster, has been available on rom cartridge for some years.</td>
<td>12.99</td>
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