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Atari denies 8 bit customers ignored

ATARI has denied that it is treating 8 bit customers as poor relations. The criticism was levelled against Atari during a poll of 100 users drawn equally from the ranks of 80001 and 13001 owners.

More than 80 felt the company had turned its back on the 8 bit machines in favour of the ST range.

Typical of the comments

was: "The arrival of the ST machines meant that Atari just doesn't want to know us any more. It is annoying when you think that although the ST may be the king on the sale, we make up the sale itself".

When the dissent began among 8 bit users was brought to the attention of Atari boss Mike Brambridge, he was quick to give assurances that the complaints were unfounded.

However he did admit the publicity that has surrounded the arrival of the ST machines has tended to put the less powerful models in the shade.

Sensitive

"We are very sensitive to this", he told Atari User, "for us no way do we want any of our customers to feel as though they are being treated any less fairly than others."

"The truth of the matter is that we are totally committed to

the 8 bit market - just as we are to the 16 bit".

Max Brambridge points to the launching of a new low cost colour monitor for the 13001 as being an example of the company's ongoing support.

"It is our intention to see that the 13001 remains the leader in its own sector of the market", he said.

As part of this plan the Atari UK boss has pledged his support for companies wishing to develop projects for the 8 bit machines.

"We are eager to help anyone in this area, whether it be with the loan of development machines, programming tools or just advice", he said.

"That's how important the 8 bit market is to us".

ST TOOLBOX

A COMMAND line processor has been released for the 52001 by Papertec.

Called the ST-Toolbox it is a productivity tool aimed at enhancing the machine's efficiency and performance. It costs £29.95.

Backing for Atari projects

HALF a million pounds is available for projects for the Atari range. The man with the money awaiting investment is Barry Krite, managing director of DataStar Systems.

"I am prepared to invest in likely looking products, existing ones that may need a boost, or any which still may be at the idea stage", he says.

"As a nation we are notoriously good at ideas but terrible at putting them into practice - often through lack of capital".

DataStar Systems manufacture the Magic Modem. It was this project with its heavy development costs which set Barry Krite thinking about investing in his own personal venture capital fund.

Flounder

Remembering the problems he had, he said: "The reality have any it could be even for an exceptional product to flounder if you did not have enough capital behind it."

"Really there is no one out there you can turn to if you do not have money available."

"That is why I decided to make the offer, not just for profit for myself, but to help the industry as a whole".



THIS Atari version of the Zaxxon robot has been launched by Intergalactic Robots. It is an educational model designed to teach users the fundamentals of robotics and can be used as a Logo turtle. It costs £119.95.

GAMES BOOM IS ON ITS WAY

THIS year will witness a massive increase in the amount of software available for the Atari 8 bit machines, the 80001 and 13001.

An industry survey carried out by Atari User has revealed that the boom is already underway, with at least 100 new titles expected to come on to the market in the next few months.

More programs - and more outlets stocking them - should end the longstanding complaint by Atari 8 bit enthusiasts that software for their machines is often hard to find. There are two

main reasons for the brighter outlook.

One is the deal with High Street giants Deans and Carty which increased the 80001 user base by 100,000 in Christmas. The second reason here of a host of 8 bit titles from the United States.

Software Express distribution director Ken Howells told Atari User: "A lot of software companies have suddenly realised there is a big market for products for the Atari 8 bit range."

"Firms that previously wouldn't have bothered to

convert their titles for the Atari are now doing so in increasing numbers and programmers all over the country are being snowed under with commission work."

"American software houses are flooding large numbers of their Atari 8 bit programs to British firms. Some are even opening their own offices over here."

"We are in the process of introducing 80 new titles to this country, many originating in the USA, and I expect that total to be easily doubled by releases from other companies."

Two or three new outlets a week are contacting us to order Atari programs. If any users have problems getting Atari 8 bit software these days they should change their retailer".

Distributors Microdeal reports that all its Atari 8 bit software is selling extremely well.

A spokeswoman said: "We carry six titles at the moment. Perhaps we should be handling more - there's obviously a big demand for them".

Silica Shop is currently releasing 30 new products, many of them American imports for Atari 8 bit machines.



► Activate ► Atari's ► hidden ► depths ► of sound

STEPHEN WILLIAMSON invites
you to turn up the music

INSPIRED by years of listening to the electronic sounds of rock groups like Tangerine Dream and Pink Floyd, I have written a synthesizer program that activates the hidden depths of the Atari sound chip.

It may not be up to the standard of Jean-Michel Jarre, who uses electronic sound-generating equipment costing many thousands of pounds, but the program is certainly fun to play with.

For best results connect your Atari directly to your stereo system via the rear/monitor output and suitable leads. Alternatively use a television with an earphone output and connect this to your amplifier. Turn the volume up.

Fortunately, you don't have to know a great deal about music or even computers to operate the program and produce a wide variety of sound ranging from the melodious to the cacophonous.

To control the program I have written Atari's big brother, the ST. Well I admit that the program is not quite as sophisticated as the ST, but the principle is the same. The joystick acts as a poor man's mouse. Each screen display presents a number of options. The joystick moves a cursor to the chosen option, and a press of the fire button activates that option.

This user-friendly approach is an ideal way for those unfamiliar with computers or the qwerty keyboard to operate the program. Inverse characters indicate that an option has been activated.

For example, go to the One Channel Sound page and you will find that the sound is pre-set to a 844kHz main base clock and pure sound. To switch on either sound attributes the cursor can be positioned anywhere on the line where the chosen option appears.

The program will not allow you to switch on incompatible options. For instance, if you switch on Distortion 2 any other distortion option previously turned on will automatically be cancelled.

When the desired combination of sound attributes has been chosen place the cursor over the Play box and press the fire button. Control then passes to the middle two rows of the keyboard.

The display at the bottom of the sound pages shows how the musical

notes have been allocated to the keys in a similar way to the piano keyboard with the sharps positioned above the natural notes.

The musical scale is true for the present sounds, but other sound options may give various degrees of distortion.

To exit from the play mode press the Select key and a joystick music key at the same time. To return to the main menu go to the Return key.

The ADSR section enables you to define a sound envelope. If you are unfamiliar with the ADSR envelope study Figure 1 which shows a graph of the sound envelope.

Attack is the time taken for a note to reach full volume and Decay the time taken to reach the Sustain Level. Sustain is a measure of how long the note stays at the sustain volume level before the release when it fades to silence.

When the cursor is over one of the ADSR labels at the bottom of the option menu and the fire button pressed the label will flash to prompt a keyboard input. For Attack, Decay, Sustain and Release, enter a value of between 1 and 255. If the number is less than three figures press the joystick button or the Return key to pass control of the program back to the joystick.

The Sustain Level requires a value of between 1 and 14 and only needs the joystick button or Return key to be pressed if a single figure is entered.

The program will not allow an invalid number to be entered in the ADSR envelope parameters. To demonstrate the ADSR sound envelope enter Attack 2, Decay 10, Sustain 40, Release 50 with a Sustain Level of 9 to produce a chirp piano type sound.

To obtain a woodwind type sound try Attack 20, Decay 30, Sustain 60 and Release 50 with a Sustain Level of 8.

A snare drum type sound is made by setting the 84kHz clock (option 1), the 1.78 MHz clock (option 4) the Distortion 3 (option 8) and the 9 bit poly-counter (option 9), followed by Attack 5, Decay 5, Sustain 5, Release 10 and Sustain Level 8.

In order to understand what each of the program options does it is useful to know something about how the Atari sound chip functions. (For a more detailed introduction to the

subject see the May and June 1985 articles in Atari User by Pete Bittig.)

In Basic there is just one command to control sound - called appropriately enough SOUND. As well as accelerating the sound system by means of this command it is possible to work directly on the sound registers which are found at addresses 53760 to 53769.

53760, 53762, 53764 and 53768 control the pitch of sound channels 0 to 3 and addresses 53761, 53763, 53765 and 53767 affect the distortion and volume for each sound channel.

For example, a sound can be switched on using a command such as SOUND 0,90,10,10 or alternatively the same sound can be achieved by POKE 53760,90 followed by POKE 53761,234.

In the program the play mode note

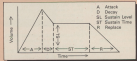


Figure 1: The ADSR envelope

a machine code routine that detects which key has been pressed and allocates a pitch value which is stored in the sound channel 0 register at address 53760 and, in the case of the two channel sound, calculates a pitch value an octave less which is put in the sound channel 1 register at address 53762.

This routine also handles the timing and volume controls during the ADSR section.

Options 5 to 8 decide which distortion value is placed in the distortion and volume registers at address 53761 - if the two channel mode is chosen a similar distortion and volume value is placed in address 53763.

Address 53768 is known as AUDCTL and affects the sound channels in ways that cannot be accessed directly from Basic. Options 1 to 4 and option 9 change the value contained in this address to give various effects.

Normally the Atari sound is

generated using a 84kHz system. The lower the frequency of the clock, the lower the note that results. Therefore lowering the 84kHz clock to 16kHz by choosing option 2 changes AUDCTL to give notes of a lower pitch.

The 1.78MHz clock (option 4) gives notes of a very high frequency. The high bandpass filter (option 3) filters out lower frequency sound to give a higher tone.

During the distortion options (5 to 8) the distortion effect is achieved by something known as a poly-counter which merges random waveforms with pure sounds.

The value of the poly-counter affects the speed of these waveforms. Normally the Atari is set to a 17 bit poly-counter.

To see this in operation, switch on distortion number 3 in the Onp

Channel mode, but without the 9 bit poly-counter. Enter the Play mode and press Key L.

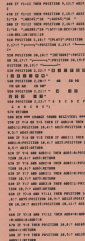
Exit from the Play mode and switch on the 9 bit poly-counter. Again press key L in the Play mode and you will notice how the change of poly-counter speed affects the distorted sound.

Of course when using pure sound the 9 bit poly-counter has no effect, and in other distortion and poly-counter combinations, the change may be difficult to detect.

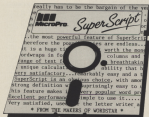
Option 10, Repeat, is used only during the ADSR section and, as the name implies, causes notes to be repeated rapidly.

The best way to use a program like this is to experiment and see what you can find among the Atari's vast range of sounds. How fun, but spare a thought for your neighbours.

Note: The program will not run on a 16K machine.

[illegible]

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Have fun with the Nurds

WHENLURDS is one of the latest releases from US Gold, who have a reputation for quality Atari software. This is no exception.

The plot behind the game is that the four Nurd brothers have run out of food and decide to raid their friend's house, a greengrocer called Squash.

He is an holiday and has boobytrapped his house and the Nurdy have to avoid the traps and eat all the food.

Whirlwinds is basically a game of exploring rooms, avoiding traps and getting prizes. It may sound all too familiar but is in fact significantly different from other such games.

It is for one to four players who can work individually or as teams.

It consists of 50 rooms, each with a different set of problems or traps. You can start at the beginning of any block of 10 rooms by entering A-E at the start.

However the last 10 rooms are known as the Ultimate Feast and can only be entered by means of a password. This is gleaned in four parts by completing each of the previous groups of 10 rooms and is not easy.

Each room covers an area equivalent to about six screens, and the area shown on the screen scrolls very smoothly as you approach the edge.

You can imagine 50 rooms like this mean that the game is big and will not be exhausted quickly.

Your man is a Nurd, a squat plump figure with a stupid grin and a propeller stuck out of his head.

The four players are known respectively as Haymish Papkin, Haggle Yertz, Hoooshy Nurd and Hivvlin Tugley. They are identical apart from the colour of their skins.

The control of your Nurd is quite novel. When walking it's standard - he will walk left when the joystick is pushed left and right when the joystick is pushed right. However



when the trigger is pressed the propeller starts to rotate and your Nurd will begin to rise.

If you release the trigger or if he hits a wall or platform he will begin to descend slowly and will not rise again until he has held his feet on firm ground.

He does have an emergency super-leap which can be obtained by pushing the stick up. This is called a retro-boost.

You get only one leap per screen or life and here lies a small problem.

It is far too easy to accidentally use this leap in the excitement of play and jump straight into disaster or

at the least be deprived of it for later use.

Your man is manoeuvred around the room collecting food, strange creatures, Nurdy - they eat anything from plates to light bulbs and bicycles.

The walls, platforms and floors are safe to land on or bump into, but anything falling is deadly.

These hazards are excitingly named and include silly snakes, bug eyes, jump bugs, gobs, apocryha and the Nurple of Death.

In addition there are keys which can be used to unlock closed off areas of the rooms, but beware - they can also

unlock further hazards. Small boxes in the floor known as blast squares will give you the same effect as a super leap, but also use up your ability to perform these at will.

The graphics are very good, if not spectacular especially the Nurdy. They turn slowly in a 3D effect as changing direction.

The sound effects are also good and add considerably to the feel of the game.

The background music especially adds to the excitement. As the time limit for each room runs out the music gradually quickens, instilling a sense of urgency in your play.

There is also a second level in which the rooms are invisible, except for the flashing obstacles. The Nurd has a torch illuminating only a small area around him.

Whirlwinds is certainly well worth the price of £9.95, or £12.95 on disc. It is novel and has a definite goal to achieve which I feel always keeps a game's interest alive.

I certainly don't think I'll tire of this quickly.

Some of the rooms are extremely difficult and will keep even the most experienced player occupied.

Mike Rowe

Living dangerously in the city

YOU don't come across many fantasy role-playing games for home computers, and I don't class adventures as being in that category, so when one appears on the scene it's well worth taking a closer look at.

Alternate Reality is such a game and is the best of its kind I've seen. It has excellent graphics, bags of action and options and uses music to good effect.

You've been kidnapped by aliens and dumped in a room with only one exit. At the start you are presented with a view of the exit gate through which the impressive city of Dubar's

Gardies can be seen.

Search me who I dare was, but since he's described as deceased you can draw your own conclusions about the city's safety.

Near the gate, which is itself barred by a force field, are a collection of receding numbers. These relate to your individual characteristics - strength, intelligence, stamina, charm, wealth, wisdom, skill and hit points.

As you pass through the gate the numbers freeze and these values then determine your character's attributes. The higher the numbers, the better your chances.

The aim is to explore the city, increase the value of your attributes and above all survive.

During the first few days (game time) you are very

vulnerable to foul play as most take care to build up your qualities gradually.

Details of your status can be called up by pressing the Select key at any time. Movement through the maze-like city is controlled by joystick or keyboard.

All other commands, mostly single characters, are entered through the keyboard. Your current position in the city is shown in the top half of the screen, the lower portion being reserved for commands, options and other text.

Much of the city consists of walled avenues. Close inspection of any wall may reveal the entrance to a building or even a secret passage.

When you enter a building the screen changes to show a three picture, often animated, of the building's inhabitants and interior.

There are many buildings in the city. Some are for your rest and recuperation, two offer lodgings and give time and cost information.

Taverns, whose menus change hourly, sell food and drink. Alcohol, as you'd expect, should be taken in moderation. Get drunk and your movements will be inhibited - you may even black out.

Sometimes, easily detected by the sound of an evil being struck, provide weapons. Prices and quality may vary and you'll almost certainly need to haggle.

You can earn interest on your money by leaving it in a bank and can exchange gems for cash. Shops sell a variety of clothes and goods, mostly ornamental. If you become ill or wounded visit a healer.

Weapons can be magical (magical or cursed) or just normal, and can be found or purchased. If you want to rid yourself of a cursed weapon, a Guild.

There are many life forms in the city. Guards, gladiators, merchants, clerics, mages, assassins andimps are just a few. All have their own specialities.

The wizard is reported to be the legendary Night Blaster, an extremely powerful creature of the night.

Encounters are common



and take one of five forms - you surprise a life form, it surprises you, you see each other at the same time, it sees you first or you see it first.

At an encounter you are either engaged or disengaged. Engaged means you do battle and actions include lunge, attack, parry and break attack.

If disengaged you may try less violent means - charm or trick an opponent, for example. The use of magic cannot be

ruled out either.

Other hazards include poisoned flesh a variety of sources - like being cursed by a poisonous creature, and catching a disease - such as contact with fatalistic species of mold.

Persons can be acquired and take four forms: benign, adventurous, clandestine and dangerous. Each can be opened, examined for colour, shape and used. All

text is presented in side English box script and musical effects are used throughout the game. Both add to the atmosphere while the latter can hold clues - the songs played in the tavern often provide important hints.

The city is intended to be just the first in a linked series, and since you can save and later reload your character, this means you can retain any character for use in later releases. Future additions include the dungeons, wilderness, areas and palace.

The game plays a bit slowly, mainly because it has to make so many accesses to the disc during play (the program and data is spread across four sides of two discs).

That apart, it is very enjoyable. The atmospheric detail and presentation, the wide variety of content and the planned expansion route make *Spellbreaker* an excellent buy at £79.95.

Bob Chappell

Spellbreaker's something

ONCE upon a time when I was but a mere apprentice neomancer to whom the word *gosh* meant nothing, I had the good fortune to finish the well worked text.

He was an ambitious wizard, applying somewhat immediately to rule the world. I managed to frustrate his little game, my inexperience exceeding where others more learned had failed.

For my efforts I was admitted to the famed Circle of Breakers and regarded as believed only to the great Below.

Then Below himself landed in the main lair and I had my work cut out trying to rescue him from the clutches of the odious Jester. That's how I came to be where I am today, 100 dog of the Circle of Breakers.

Having thus completed those two superb incense adventures *Breaker* and *Breaker* (rated as standard and advanced level), it was

with anticipated pleasure and a touch of surprise that I took delivery of the third in the Breaker trilogy, *Spellbreaker*.

Those obliging people at Software Express valued their magic word and sent a review copy of *Spellbreaker* winging towards me as soon as it arrived in the UK.

Remembering the usual gloss and handsome box from the sturdy packaging my eyes fell on two words which gave the old ego pause for thought - *Fixed level*.

Spellbreaker begins in the council chamber of Baphes where the Guildmasters are up in arms. You stand at the edge of the gathering, listening to the complaints.

Soothe the biker means that he now has to make his butter parties by hand. His usual method of casting a *Gruth* spell to feed the party 60 times is no longer reliable.

Horribly the Breaker gumbles that his spells are

not working either and as a result he's getting whither whenever loyal from his side and the beer tastes like grubs have been bathing in it.

Geometric the burster mean wild animals are overrunning the town. The *Frigo* spell no longer keeps the animals outside the boundaries and only recently one of his men was attacked by a troop of sat ants.

The Guild think the Circle of Breakers have a lot to answer for and many system consequences on you.

And the post starts to speak about magic rhyming and spelling side when, in the midst of his splendid narration, just as he's describing out a mythological skill in terrible hexameter, he turns green (well, greener than usual). His chain elongates, his skin slimes up and he promptly turns into a newt.

He's not alone - all the Guild have turned into frogs, salamanders or other amphib-

The ST deserves better graphics

LANDS of Hades was one of the first graphics games out for the ST. Not surprising though, as it is a translation of a program for the Sinclair QL, which uses a not-quite version of the 68000 microprocessor in your ST.

This is a graphics adventure game boasting over 2000 screens. The theme is laid out in a small, attractively printed booklet.

The land of Hades, which was cursed for by a heretic magician, High Wizard, has been turned into an evil land, ruled by the Dark Lords.

You play the role of Sator, half man - half reptile and have to find your way around Hades following clues and instructions left by the

magician. The program is well packaged in a sturdy box which also contains nine colour maps.

The game starts by setting out the nine areas these maps cover in a random pattern and you file out the maps in the same pattern.

Each map covers nine screens giving a total of 81 screens to explore in the opening section.

The screens are similar, consisting of passages and junctions separated by walls.

The walls in each screen are always made up of the same blocks of graphics characters in one colour only.

However they vary from screen to screen and are effectively detailed. The pass-



ages are controlled by various creatures including skeletons and ghosts who try to attack you, sapping your energy on contact.

You have a gunbelt on only fire horizontally. The creatures move smoothly and are vividly animated but unfortunately Sator flickers badly. In this

part of the game you must find the entrance to the following part by collecting or locating various items in a specific order.

Instructions are given as you go along after finding the first item, the Book of Change, which is the most difficult to spot.

As you find objects the creatures chasing you get faster and more deadly.

After the first ST screens are completed you are transported to the underground caverns, the Lair of the Trolls.

The graphics and game is similar except that the walls are all in one colour.

Here you must collect fire-tokens and then touch the portal to the next section.

By now the creatures are even faster and are difficult to avoid.

The maze of corridors is challenging, as you can often see where you want to be but may have to wait many rooms in a round-about fashion to get there. I suggest you make a map as you go along.

On completing this task you enter the Keep of The Dark Lords. This is similar to the last section except more difficult still.

You are told that here you must destroy the Lords by touching all nine of them in turn - your gun has no effect on them.

This is as far as I have been able to reach. The game is obviously considerably larger because when killed off I was told that I had only completed 8.5 per cent of the adventure, even at this stage.

Overall the program is somewhat disappointing considering the capabilities of the ST. Graphics are mediocre, sound consists of occasional noises although the music is really good enough.

On the plus side the plot is good, and it is quite playable, but with little variety.

At £19.95 it is good value. Having said this the game was a slight let down. I did have the urge for one more go to get further on - this is often the sign of a game with lasting appeal.

Mike Rowe

of a spellbinder

tails. All except you - and one other, a shadowy figure in a dark cloak who slips out of the door. You pursue him to the town square where he disappears, engulfed in a cloud of orange smoke, leaving behind (since the amber fog has dispersed) nothing but a featureless white cube.

And so the battle of good against evil begins. Magic is going awry. It is your task to get to the root of this paralyzing blight that threatens to destroy the kingdom.

Your journey will take you to strange places where you'll meet even stranger beings.

Among the earlier encounters you'll encounter a tall, evil-looking sorcerer whose main-magic body forms a huge loop through three tunnels of a cave.

Another is a beautiful, desiccated mountain sage. He has brilliant purple caruncles and hair matted down with something slick and pungent.

Watch out for a rod the

size of an elephant whose hatching egg is itself as big as a small wagon.

As well as a knife and magic tools (beginning tool, you also start out with your independent book of reusable spells.

Other spells can be added to the book by finding spell scrolls, of which there are many scattered around the kingdom, and then writing them into the book by using the special Quatro spell.

Some spell scrolls are too powerful to be written in the book. These spells can be used directly from the scroll but will only work once.

If you've played *Exhilarator* or *Sorcerer* you'll be familiar with casting such spells as *Force* (wind) *grate*, *Rever* (open a locked or enchanted object), *Prote* (give light from an object) and *Malvion* (control).

There are plenty of new ones here - from about *Casidy*, *Threat* and *Gargol*.

This is Infocom's fifth

adventure and the standard remains as high as ever - just how many companies can you recall that have produced almost a score of first-rate games of adventure in a row?

You've even added a new command to their already sophisticated games.

If you type in a sentence with one word wrong, for example "Put the silver cube in the green box" you can correct yourself simply by making your next command OOPS word (Oops cubed). This saves you typing in a long sentence all over again.

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Don't hang about - *Rever* your castles. *Malvion* those legs down to the nearest phone and order *Spellbinder* from Software Etcetera or your local dealer now.

Bob Chappell

Comp



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THE Adrian Mole industry that has grown up around the Sue Townsend books was certain to spawn a computer game.

The Secret Diary of Adrian Mole arrived from Mosaic Publishing on tape for the Atari 486 range with a dog's head toothbrush and shaving kit depicted on the cover, accompanying the rather more impressive credentials of Level 9 as the programmers.

The blurb to the game is predictably in Mole-ese, something I will try to avoid. It comes in four parts and you have to assist Adrian in his quest to become more popular.

The Mole with a personality crisis?

By Brillig

Alternatively, as the game suggests, you could try to become as unpopular as possible.

Each chunk of game covers three months of the unfortunate Mole's life. You are presented with a scrolling diary in the normal Level 9 text fashion, below the now obligatory graphics.

Occasionally you are asked to select a course of action for Adrian to follow from the three or four provided. Sometimes you are given a percentage before and a comment as to your status.

And that is about all that does happen. It is a shame that such a good idea has been wasted.

The text is excellent not only, as you would expect from the best selling books, but also from the extra text added by Pete Austin.

But the graphic screen at the top

adds nothing to the atmosphere of the game, and yet its very existence results in the increased requirement of the "Press any key to continue" prompt which dogged my progress throughout.

The scoring routine adds little either, firstly because the remarks are rather wearing once into the second half of the year, and secondly because as it appears as a prompt during the diary you can not see how your actions are affecting the score.

I must stress that at times the game did make me laugh at the antics of Major Mole. The beauty of the books, however, was that the themes were developed throughout, with notable hilarious incidents woven around them. In the game the themes such as Mrs Mole leaving home and the red socks episode become small incidents that suddenly happen. The

Help!

I've had some appeals for help.

Craig Figgard offers his maps of Woodin Castle, Zork I, Colossal Adventure and Feasibility Experiment. Quite a mixed bunch there and although we offer no prizes for such contributions, they are most welcome. Craig is trying to repair the damage to Feasibility Experiment and wonders whether anyone else can help him.

S. Garing has gone even better and sent his map of Colossal. However, this does not include the 70 location and game of Level 9 as it was taken from a DEC machine.

The map is detailed and well drawn - obviously the culmination



of several month's lunch breaks.

Compass directions are deeply noted for reference, a point often neglected by adventurers when they play but regretted when they return to the game several weeks later.

Dawn Ward would like some ideas on *Horizon's Quest*. I don't know if was available on the Atari.

but diligent research has discovered you need to stop the dancer to prevent that skidding feeling, a giddy kind of reaction is called for to get through the waterfalls and there is a place where you can ND the squishing to stop shoving.



books were in the first person and were read because everyone who read them identified with and, to an extent, became Adrian Mole.

The game is purely an exercise in route finding through a series of set pieces, and the player becomes essentially a reader, without the benefit of real involvement.

Often just as I was getting into a route which appeared to be entertaining, up would come a screen full of text and the game would change direction once again.

I think this is a great shame. We saw what can happen to a comedy classic in Hitchhiker's Guide to the Galaxy. The Secret Diary of Adrian Mole had the same potential. Unfortunately it seems to be left peering contemplatively at itself in the bathroom mirror.

■ Next month I hope to review a load of new adventures released at the Atari Store, as well as seeing what is new and exciting in the world of Atari.

Glitches of the Month:

Glitch of the Month brings two similar problems in different level 3 games.

As in Morden's Quest breathing underwater features in both Red Moon and Adventure Quest. In the latter S. Watson points out that if you enter the river with nothing, go to the shelf, get the fish, enable your breathing and return to the river you no longer need go through the process of getting

and dropping the fish to be able to breath in different environments.

S. Cation has found in Red Moon that once you have the pipes and helmet you can wander for miles underwater without overhauling to fix the pipes or worry about them being too short.

Thank you folks, your T-shirts are in the post. Met me the T shirt for Geoffrey McHugh, who supplied our December Glitch. Sorry but we've lost your address in the editorial maze, if you contact the office all can be resolved.

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BASIC COMPILER

Part Two of the series by FRANK O'DWYER that helps you speed up your programs

HERE is the second part of the **Basic compiler program** — the **compiler library**. You should type it in using the **Atari assembler/editor cartridge or compatible assembler**, and save it on a **cassette by itself**.

This cassette, and the one containing the compiler program given last month, will be required every time you compile a program.

You don't really know enough about the compiler to begin to write and compile your own programs yet, so for now let's try to compile the **Basic program** given as **Program 8**.

This is simply a demonstration program — don't worry about how it works for now. It produces random sounds and patterns until a key is pressed. An equivalent program, written in **Atari Basic**, is given as **Program 9**. You can type this in to compare the speed of **Atari Basic** with **Compiler Basic**.

Compilation is essentially a three stage process. First you create your program — this is called **editing**. Then comes **compilation**, where the program is translated from **Basic** into **Assembly language**. Finally comes **assembly and execution**. Here you assemble the program and run it. If at any stage you make a mistake you must go back to stage one.

Let's go through the three stages with the example, **Program 8**.

■ Editing

For this you will need a text editor. If you are using the **Atari assembler cartridge** this is no problem since one is included in the cartridge. If using some other assembler program then you can probably use its text editor for this purpose. If not you will have to beg, borrow or steal a text editor from somewhere.

Type in your program using the text editor — the **NUM** command of the **Atari assembler/editor cartridge** can be used to supply automatic line numbering. Type in **Program 8** in this way, making sure you have the assembler cartridge plugged in since **Atari Basic** will reject **Compiler Basic** with syntax errors.

Type in the program as given. Note that the compiler does not recognize abbreviations such as **POS** for **POSITION** and **P** for **PRINT**. When sure you have typed the program correctly save it on its own cassette.

Use the **USTBC** command of the

assembler cartridge. This saves the program in **Atari character form** on the cassette and is the only form the compiler will recognise — so if you are using an assembler other than the **Atari** version you must use an equivalent command. The cassette you have just made will now be referred to as the **source program or source file**.

■ Compiling

Plug in the **Basic cartridge** and load the compiler program given last month. Now insert the cassette containing the source program. Don't forget to rewind the tape. **RUN** the compiler which will prompt you for the source file name. The correct response is **C** for cassette. Press **Play** on the cassette drive, and **Return** on the computer as if you were loading a program.

You should see **Program 8** being listed out on the screen and the compiler will prompt you for the start address of the **Assembly language**. The answer to this is really up to you, but I suggest **14336** for this example which is the address of the last **2K** on a **16K Atari**.

Now you will be prompted for the start line number for the **Assembly language** — almost any number greater than **1000** will do here, so just enter **1000** for now. Almost invariably you will enter **1000** in response to this question — other responses are only required if you want to have more than one compiled program share the same compiler library, and this is a topic which I will return to in a later article.

The next question to answer is the filename for the **Assembly language**. Assuming you are using cassette, the correct answer is **C**. Before you respond you should insert a cassette ready to take the program which the compiler is about to generate. Press **Play** and **Record** on the cassette, then **Return** when you hear the two beeps.

The compiler will display each line number as it is compiled, and will finish by telling you how many errors it discovered in your program. If there were none you can proceed to the next step. If there were errors then you must go back to stage one.

■ Assembly

Insert the assembler cartridge and rewind the cassette you have just made. Type **ENTERBC** to load the

Assembly language. Now insert the cassette with the compiler Library on it, and merge it with what you have already using ENTERING 14.

If all has gone well you now have one large assembly language program equivalent to the Basic program you originally entered. You must assemble this program and since it is likely to be large, you should do so directly to cassette using **ASM_NC**. This produces yet another cassette file.

Before telling you how to execute your program, I must draw your attention to a problem with the ASIM-8C cartridge in the Atari cartridge. It falls down badly when files are large.

Since the assembly is quite slow in this circumstance a long leader is formed on the tape if the cartridge is left to its own devices (the leader is the tone you hear prior to a tape file being loaded or erased).

Press Pause on the tape drive, and Ctrl-C on the computer which freezes the listing.

After a minute or two, the cursor disappears, and you disengage the Focus on the tape drive, and press Ctrl-I so that the listing begins to appear on the screen. You can now leave the computer to get on with the assembly. Any errors mean that you must go back to the first step.

After the assembly process you are left with a cassette containing the machine code bytes for your program. Typically this extends for 2k of machine language and so I recommend 1400h as the start address of the Assembly language.

Once you have chosen this address you are stuck with it and you must make the bytes for the machine language to this location in memory since it will not run properly if it is placed anywhere else in memory — it is what is known as position-dependent code or non-relocatable code.

The problem you are faced with now is how to get the bytes from the cassette into memory. Below is a

```

0000 REM COMPILE SOUND
0001 CLINE 44:OPEN 44,12,1,"O" :REM SAVEFILE 3-44
0002 G=0:FOR P=1 TO 255:REM CLINE ANY KEYPRESS
0003 IF C=227:FOR I=0 TO 100:REM RANDOM NUMBER BETWEEN 0 AND 100
0004 SOUND P=44,227:REM P=0:RANDOM NOTE TO SOUND DISPLAY
0005 REM X=FOR N TO 10:REM CYCLE THROUGH SOUND CHANNELS
0006 SOUND N,227:REM N=0:REM RANDOM PITCH
0007 NEXT N
0008 IF 7444=255 THEN GOTO 1000:REM LOOP BACK IF NO KEY PRESSED
0009 REM X=FOR N TO 10:REM CYCLE THROUGH SOUND CHANNELS
0010 SOUND N,0:REM N=0
0011 NEXT N
0012 GOTO 0
0013 BEEP

```

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```
0000 0000 0000 0000 0000 0000 0000 0000  
100000 0000000000 0000  
0000 0=FROM 0000 00000000 0000 FROM TO  
0000  
0000 FROM 0000-00000000  
0000 FROM 000 000 00000000  
0000 FROM 000 TO 0  
0000 00000 0=FROM 00000000 000 0  
0000 NEXT 0  
0000 IF FROM 07641=000 FROM 0000 0000  
0000 FROM 000 TO 0  
0100 00000 00000000  
0100 NEXT 0  
0100 FROM
```

Downloaded by: University of Illinois at Chicago on November 14, 2015

short Atari Basic program which will do the trick (Program IV).

To use this routine insert the cassette with the machine language and press Play on the tape drive. Run the program, and press Return when you hear the beep. Let the program run until it comes up with Error 126. This means, somewhat perversely, that the program was successfully

On the right: Eastern Market shows

This will wipe the machine language patterns from memory.

To invoke the machine language type `X=USR(4338)` in the case of the example, Program 11. You should now hear random sound and see random patterns on a Graphics 3 screen. When you are tired of this, press any key, and you will be returned to Basic. You can return to the machine language any time – provided you don't reset the machine – by typing `X=USR(4338)`.

■ **That's how to use the compiler.** Next month, I will discuss the features of the Compiler language and begin to explain how you can write your own programs in Compiler Basic.

```

10 CLOSE #1: OPEN #1,A,S,"C:"
20 FOR N=1 TO 8: GET #1,C: NEXT N
30 POKE 104,0: GRAPHICS 0: REM RESERVE SOME
  MEMORY FOR PROGRAM
40 FOR A=14336 TO 16384: GET #1,C: POKE A,C: NEXT A

```

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```

0074 0L 100 0-1,1
0075 100 0-1,1
0076 001
0077 000 0L
0078 100 001
0079 000 0
0080 100 000-0
0081 000 0-1
0082 001
0083 0 0000 0
0084 0 0010 "1,1,1,1,1,1,1"
0085 0111 100 0-0
0086 0L 100 0-1,1
0087 000 0-1,1
0088 001
0089 001
0090 000 0L
0091 000 0L
0092 000 0
0093 000 0
0094 000 0
0095 000 0
0096 000 0
0097 000 0
0098 000 0
0099 000 0
0100 000 0
0101 000 0
0102 000 0
0103 000 0
0104 000 0
0105 000 0
0106 000 0
0107 000 0
0108 000 0
0109 000 0
0110 000 0
0111 000 0
0112 000 0
0113 000 0
0114 000 0
0115 000 0
0116 000 0
0117 000 0
0118 000 0
0119 000 0
0120 000 0
0121 000 0
0122 000 0
0123 000 0
0124 000 0
0125 000 0
0126 000 0
0127 000 0
0128 000 0
0129 000 0
0130 000 0
0131 000 0
0132 000 0
0133 000 0
0134 000 0
0135 000 0
0136 000 0
0137 000 0
0138 000 0
0139 000 0
0140 000 0
0141 000 0
0142 000 0
0143 000 0
0144 000 0
0145 000 0
0146 000 0
0147 000 0
0148 000 0
0149 000 0
0150 000 0
0151 000 0
0152 000 0
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```

```

0000 001
0001 001
0002 001
0003 001 0010 0
0004 000 011
0005 101 001
0006 001
0007 101 001
0008 101 001
0009 101 001
0010 101 001
0011 101 001
0012 101 001
0013 101 001
0014 101 001
0015 101 001
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0067 101 001
0068 101 001
0069 101 001
0070 101 001
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0198 101 001
0199 101 001
0200 101 001

```

```

0000 000 001,1
0001 100 000 110
0002 000 001 000
0003 001
0004 101 001
0005 001 000-1
0006 001
0007 000 000
0008 000 001
0009 000 100 001
0010 000 000
0011 001
0012 001
0013 001 000-1
0014 000 000 0
0015 001 001 0
0016 0000 100 0
0017 000 000-0
0018 100 001
0019 000 001
0020 001 001
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0200 001 001

```

These are preprocessor directives. Lines 001, 002 and 00000 have been "unquoted" and are now "normal" as continuous lines.

As the memory of Atari 8 bit computers (successively models 400, 800, 1200, 800XL, 800XL and 1300XL) gets larger — it seems that the manual supplied with them gets smaller.

The old 16K Atari 400 computer came with two thick manuals describing the use of the machine. The latest 128K Atari 1300XL has only a small instruction booklet which does little beyond revealing the permitted Basic key words.

This is a pity, because some powerful capabilities are hidden within these machines which are not referred to by any of the manuals nor by the beginner's books supplied by other authors.

The experienced Atari user will doubtless be aware that there are three well-documented text modes in Basic, Modes 0, 1 and 2) and a further six graphics modes (Basic Modes 3, 4, 5, 6, 7 and 8). There are also three GTIA graphics modes (Basic Modes 9, 10 and 11) which can be found in the later models.

The trouble with the text modes which print characters on the screen is that the background colour remains the same for each printed character, even though it is possible to alter the colour of the characters themselves.

For example, you can print the letter A on the screen in four different colours in text Modes 1 and 2, but the background remains the same for each. Any attempt to change the background colour equally alters the background of all the different coloured characters.

Suppose you want to make a chess board. This requires black and white pieces to be placed on, say, blue and red background squares. Clearly text Modes 1 and 2 are not suitable for this purpose.

However a poorly documented solution exists to this problem. The Antic graphics chip is responsible for all the graphics and text modes known in Basic, but also permits a few interesting extra modes.

These were only accessible in the early Atari computers by writing a custom-designed display list — a short machine code routine which called the necessary extra Antic modes. Some of these extra options are now directly available to the Basic programmer who has a 800XL,

A colourful combination

JOHN WHITE demonstrates the way to brighten up your screen display by using Modes 12 and 13

800XL or 1300XL computer.

Text Modes 12 and 13 in Basic on the later computers correspond to Antic Modes 4 and 5 respectively from the older Atari machines. They permit text to be printed on to the screen in any combination of four colours per character, with up to five colours available on one screen.

Before going any further it is necessary to examine how the Atari display characters on the screen. The main difference between the graphics and text modes is that the former display only a single byte of data by PORting it onto the screen, whereas the latter takes the character code, looks up the corresponding eight consecutive bytes from the character set and PORs all eight of the data bytes one underneath another on the screen.

A character therefore comprises eight bytes placed vertically on the screen. Each consists of eight bits, each of which may be set, 1, which means that a colour is shown in that pixel, or not set, 0, meaning that the background colour is assumed.

The letter A in the 33rd character is the Atari character set. Figure 1 shows exactly how the eight data bytes for the letter A are held in memory.

The head of the character set is indexed by memory location 224. Thus the first character in the set has its data bytes stored in memory

locations 224*256, 224*256+1, 224*256+2, ..., 33rd*256+7

Since A is the 33rd character and each character has eight data bytes, we must look for the data for letter A from positions 224*256 + 32*8 to 224*256 + 33*8 + 7.

You can test this statement with program 1. The results which are printed out should agree with those displayed in Figure 1.

```
10 FOR I=0 TO 7
20 PRINT HEX$(224*256+I*8+32)
30 NEXT I
```

Program 1

Now try Programs II and III, watching the screen carefully. Program II puts the letter A on the



Figure 1: Data bytes for letter A

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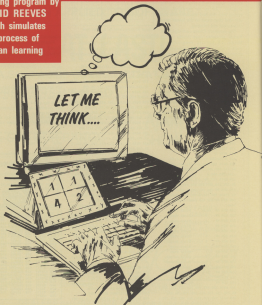


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MANC



UNAI

THIS game-playing program is basically an exercise in artificial intelligence. Unlike most game-playing programs however, this one is different in that the computer actually learns as it goes along.

The program partly simulates human learning as the computer remembers positions which led it to lose, and then, given the opportunity, plays these back against its opponent.

The game is a simplified version of an Arabic game called Mancala. I chose this game for the exercise because it is fairly challenging while not being too complex and it may also be new to many people.

This simple version is played by two players using eight counters on a 2×2 square board. The game begins with two counters on each square, and the players face each other across the board.

Taking turns, each player picks up the counters from one square on one higher side of the board and moves them anticlockwise round the board putting one counter on to each square in turn until they are exhausted.

Thus if one player picks up three counters from the bottom left square he must put one counter on the bottom right, one on the top right, and the last one on the top left, leaving no counters on the original square. The winner is the first player to have all eight counters on his/her side of the board.

The program allows you to play against the computer. On your turn move the joystick left or right to choose the square you want to move from, and then press the fire button.

At the start the computer is totally naive, knowing only the rules of the game. Each time it loses, the computer remembers the position which led it into a losing sequence of moves. In future it will avoid getting into this position itself, but will put you into it if it can.

Humans also learn like this - but

PROGRAM STRUCTURE

10-60 Initialize variables and loops.
60-240 Player's move.
240-380 Set ready for computer move.
380-520 Compute destinations for both possible moves by computer.
520-660 Computer's move. Random choice unless one move leads to a certain win or a certain loss.
660-800 Stop position as "lastunpos" if not coded as win or loss.
800-940 If computer loses, code learning as certain loss. Then compute positions which lead to learning. For each of these determine both possible destinations, and if both lead to losses the position is a certain win - for the player. Compute the corresponding position for the computer ($100 + C + 10 * D + A$) and code as win.
940-1080 End of game and initialize for next game.
1080-1220 Subroutine for coding winning positions.
1220-1360 Subroutine for setting up counters.
1360-1500 Subroutine for moving counters.

MAJOR VARIABLES

SQUARE The squares are called 1, 2, 3, and 4 anticlockwise from bottom/left.
A,B,C,D Number of counters on squares 1, 2, 3, 4 respectively.
CODINGPOS Holds status codes for each position. 1=losing position, 2=winning position. 3=unknown. Positions are identified by computing $100 * A + 10 * B + C$.
DEST The two possible positions which can arise from the next move.
DEST1, DEST2 Current status codes for DEST1 and DEST2.
LASTUNPOS Last position created by computer with an unknown outcome.

unlike a human the computer learns nothing from winning, nor can it formulate general rules of strategy to guide its play.

Against this however, the computer does have the advantage that it never forgets positions which it knows must lead to a loss, or those which must lead to a win. It learns rapidly from its mistakes.

After five losses it is quite a fair player, and after 10 it can be difficult to beat. Try playing it the first one to 10 wins*, and see who learns quickest.

The program works on the principle of giving a code of 1 to positions which lead to losses, and 2 to those that lead to wins. Initially all positions have a code of 0.

Whenever it loses, the computer recalls the last position it created which had an unknown outcome, that

is coded 0. That position is then given a code of 1 so that the computer knows not to create it again.

Next, all possible positions from which that position can be created are computed. If it is found that all moves made from one of these positions lead to losses the position receives a code of 2, so that given the opportunity the computer will create the position, knowing that it leads to a certain win.

In this way, as the number of its losses increases the computer identifies moves leading to losing sequences earlier and earlier, and learns longer and longer winning sequences. If played against long enough it becomes a perfect player.



WORLD OF SPORTS - December 1986

1. *Chlorophyll a* and *b* contents were determined by the method of Lichtenthaler and Whistler (1987).

[illegible]

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[illegible]

 Great at
Fighting!

Tired of typing?
Take advantage of our finger-saving offer on Page 44.

THOSE of us who started with DOS 3 and have subsequently changed to the new DOS 3.5 will at some time wish to have a printout of files contained on a disc.

While this was possible with DOS 3 the option seems to be omitted on the newer operating system. You can however get a printout of disc files with Atari Writer but like DOS 3 this presents you with a not-too-pleasant three inch strip, a bit off if you have an 80 column printer.

This disc index printout utility resolves these problems and allows you to neatly catalogue your disc directories on standard A4 paper. In addition it allows the directory to be named, disc numbered, and slide identified. The program also summarises the number of files, the used sectors, and the free sectors.

The program was written on my 13008 but works fine on an 8008L. It was designed for the Atari 1027 printer but works with an Epson Fx-80 and should do so quite happily on any other 80 column printer.

As the layout of the directory is dependent on the number of blank spaces in the PRINT statements I've included some REM statements to help get it right.

They refer to the line immediately following—for example the statement in line 179 refers to the layout of line 180. None of the REMs are necessary and you can omit those lines if you want to save yourself some typing.

Your disc data on tap

... with the aid of this utility by
DOUGLAS EWAN

The screenshot shows the output of the program, displaying a directory listing for a disc. The output is organized into sections, each with a title and a list of files. The files are listed with their names, sizes, and the disk they are on. The output is formatted to be readable on a standard printer.

```

100 REM *** THIS DISK INDEX UTILITY ***
110 REM *** BY DOUGLAS EWAN ***
120 REM ***
130 REM ***** DISK *****
140 REM ***** DISK *****
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160 REM ***** DISK *****
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DEALER ENQUIRIES MOST WELCOME

80V 1000 was supplied with DOS 3.0. Have plans to repackage with DOS 3.3?

What is the minimum I need to use my disk to get there? The Minic Modem is expensive at £185 compared with the other currently made by Rank of Scotland at £85 for a separate system. — **Simon Park, Maidstone.**

■ Use DOS 3.3 if you get the chance. It is much more efficient in terms of memory, disc storage space and time taken to operate a given function.

DOS 3 is very user-friendly, but this is where it falls down, since once you know how to use it the prompts and default options prove very time-consuming.

Send the review in the July 1985 issue of Atari User for more details.

If you just want to use Prestel then you are right — a dedicated unit would be far cheaper than a computer interface and modem.

However the Minic Modem offers so much more — Minilink, bulletin board, inter-computer communication, and so on.

Which unit you should buy depends on what you want to use it for, and perhaps more importantly, what you may want to use in the future.

Best buy printer

I HAVE found that there are very few people in my area with Atari computers who I get my 800XX at Christmas, and was wondering if you could please print the address of the nearest Atari Users Club to my home address.

I would also like to know if it is possible to buy a cheaper printer than the Atari 1025 which costs £197.90, and buy an interface lead to make it compatible with my 800XX. — **Jonathan Cuts, Brix.**

■ There are printers cheaper than the 1025, the replacement for the 1025 which was never made available.

However you'd need an interface for these which

But is Prestel all you need?

would break the cost back up again.

Atari's own printers are about the cheapest to run with Atari computers.

You could, of course, get the 1027 laser quality printer or the 1030 daisy-wheel printer which is less than £100, but have a good look at that one first as it can't see anything other than 40 row roll paper.

Atari's own

I AM going to buy a 1000Z and after... currently own an 800 and expect 410 cassette recorder.

When I have bought this system I would like to purchase a printer. Please could you tell me one which will run on a 1000Z or less.

We able to print on A4 size paper, have 800 lines, have the ability to do screen dumps and cost around £200 or less. I am not too concerned about colour or printing speed. — **Andrew Young, Middlesbrough.**

■ Why not take a look at Atari's own 1025 printer? It has the advantage that it is completely compatible with your system.

Search for an Indus

I HAVE bought the new Atari 1000Z, a cassette drive and a television. I now want to get a disc drive and have decided to buy the Indus 0.5.

The problem is that I can't find any shop which sells the Indus in this country. I have thought of importing it from America.

Is there a shop which

repairs the Indus in this country? — **Harold Hambo, Middlesbrough.**

■ The Indus 0.5 is a superb disc drive, but you will find great difficulty in obtaining it and maintaining it in the UK.

Before it went bankrupt, the Home Entertainment Atari Centre in Broad Street, Birmingham, imported a limited quantity, but the prices proved to be prohibitive (around £400), and service centres could not be provided.

I would say your best bet would be to purchase an Atari 1050 drive for which there is excellent service cover, and fit a US Doubler (£79.95), which will provide you with all of the facilities that the Indus can offer.

OK, so you don't get the pretty lights on the front panel, but are they really worth about £200, and no service cover?

I have done this, and am very happy indeed with the results — especially the three-fold speed improvement.

André Willey

Wiring worries

I USED to have an Atari 800XX and the computer to television feed was just a wire with a plug on each end.

I have just bought an 800XX and the cable to the TV has a small block on a little way along it. Do you know what this is for?

Would an ordinary computer-TV cable work with my computer?

Also do you know if there is any difference between Atari Plus Position and the one imported by US Gold? — **Peter Gaudin, Lincoln.**

■ The black box in your cable

is simply a ferrite core, a device which helps to reduce interference.

You can use the old cable with no problems, although you might find that the picture is slightly less clear.

The games play on Atari's and US Gold's Plus Position is the same. Datasoft in the States bought the rights to the game when Atari relinquished them last year.

Thus US Gold now produces a version under license from Datasoft, while the Atari one is basically a re-release from the old deal.

The game is the same in both cases except for the Datasoft or Atari banners.

Expansion plans

I HAVE an Atari 400 with 128 memory and am desperate to buy a 40K memory expansion unit, partly so that I can use my assembler written in Basic in 64-bit graphics modes and also so I can play the latest memory-pushing games.

Atari no longer make the units and none of the dealer I have rung can get hold of one.

Can you help? Someone in the country must have one to sell, isn't it?

How about a private advertisement section in Atari User, then this sort of problem would be easy to solve.

Also can you tell me of a 40K emulator on cassette or ROM that I can use? — **B. Houlder, London SW10.**

■ We don't know of any 40K emulator that will run in 128 — if anyone has found one, let us know.

On the memory point, the best price on 40K memory boards for Atari 400s was £80. Even if anyone had any left, it would still be cheaper to buy a new 800XX from Discos — for which you would have a 64K machine with a real keyboard, a new recorder, five games and a new joystick.

You can then recoup some of your expense by selling your old 40K/800XX/joystick to a friend, or via a local newspaper.

Maze Munch score

DETAILED Maze Munch, your first game-riding to date. However the score does not incorporate on-screen hit's POINTS when run on the 8000s, whereas it works perfectly on an 8000i.

In this connected with a bug in Atari ROM on PEER (40004) which is responsible for unnecessary Error 8 reports and score still, saved keyboard lock up with total loss of program control?

The value of this address on the 8000i, is 95, it should be 204. Are there any 8000i's with the bug-free drive C drive available, as I have had problems with a few other ratings and commercial tapes?

Finally, there is a silent routine for readers to experiment with, or add to a program:

```

00 00 00 00 00 00
01 00 00 00 00 00
02 00 00 00 00 00
03 00 00 00 00 00
04 00 00 00 00 00

```

— M.A. Phillips, Bristol.

■ Your problem is much more likely to be caused by lack of memory than by the error 8 bug. To the best of our knowledge, however, none of the UK 8000i or 8000i have Run C Basic in them.

This is only available on the 1300E, or in cartridge form from main Atari dealers. If anyone has found differently, please let us know.

Cartridge port

I HAVE an Atari 400 and am thinking about buying the 1300E, but I am not sure if it has a cartridge port or not.

General problem: I have a right pen made by Dams and wonder which joystick unit it would connect to. — Ross Griffith, Dorchester.

■ Yes, the 1300E does have a cartridge port (at the back), and everything else that the 8000i has, plus 128k, at

ATARI USER Mailbag

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

The address to write to is:

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

source. Else our review in issue 2.1

It only has two joystick ports, but then how many four-player games do you know?

This light pen, assuming it works with the Atari, can be plugged into port 1, at sometimes, on order 4000, port 4 — I don't know why.

You can PEER locations 554 and 555 to get the x and y positions. These range from 0 to 225, but may need a little modification to correct the zero and maximum points for the edge of your TV set. Use STICK01 or STICK02 to check for the pen button being pressed.

André Willey

Loading problems

I AM tired of Basic tapes. The problem is some just do not load at all.

For instance, I bought a pack of C10 Basic cassettes. I typed in a program and saved it, but it wouldn't load.

At the beginning of loading the cassette editor through the speakers slowly makes a whistle, but on the Basic cassettes it does not make this sound.

Could you tell me which cassette work and which do not? — Chris Beard, Nottingham.

■ If your recorder has so far

only been used to load games, you may find that your recorder is faulty and will not serve, although it will load records.

Try saving to other tapes, such as TRK C-60, to see if this is the case.

If you still don't get anything like your records back for repair it does work, then your question is answered.

Price of memory

I AM pleased to see the efforts being made to increase Atari popularity, but fear that purchasers of the 8000i have been badly let down.

The 8000i has become available for approximately £100 and yet the necessary expansion for the 8000i is still priced at approximately £90.

Have Atari any plans to make the expansion cheaper for the people who supported the launch of the 80, range?

I think your magazine is superb and hope the standard set with the first three issues is maintained.

I would like, though, to make a couple of small points. Please include memory requirements when reviewing software and don't spoil the entire page by including 'my score is higher than your score' letters. — S. Harrington, Marnham.

K-Spread comments

MANY have just read the review of our program K-Spread for the Atari ST in the March issue of Atari User, and would like to make a few points known to your readers regarding some of the comments made. Some of this information was given to André Willey, however it obviously missed being mentioned in the review.

1: Copies of our ST applications software are now protected, however this does allow users to make a back-up copy for day-to-day use. It can also be copied to a third disc without problems.

2: Two bugs were mentioned regarding the K-Spread routines. The first does not exist, the second was only present on a few early discs and has since been rectified.

3: The version on sale should be for Amiga, when alterations are made. If no alterations are present the changes are accepted straight away. If there are alterations the user is presented with an option regarding changes.

4: We have an intensive development program under way and are working on a large number of added features. We have a positive upgrade policy whereby users of current versions will be able to upgrade to new versions at minimal cost.

5: Business graphics will be available within the data compatible program K-Graph is released towards the end of this year.

I hope you will be able to make this information available to your readers. We will of course keep you updated regarding new and improved products to our ST software range. — Jim Dory, Sales Manager, Kuma Software.

■ André Willey replies: I did get a new copy of the program — but the March issue containing the review was already at the printers.

As to Jon's points:
1: Fair enough. If Kuma can protect software and still allow use of a hard disc without

needing to use the master disc again, great. Good luck to them. It seems to work too.

2: The GiveTake bag does exist. If you GIVE a file with long text items in it, the TAKE does not retrieve the same information. This has been corrected on later revisions. The same applies to the "Can't drag cell on to desktop" bug. Both of these are present on a number of shop stock copies, although exchanges have now been arranged by Rama.

3: Good. What else can I say?

4: Also good. The new version contains a couple of nice new features, including leaderboards, minus sign brackets, an option to turn off the coloured banking to test skills, and a few others. Well done to Rama for listening to their customers - not all companies do!

5: Strange, that's just what I said.

My conclusions still stand, anyway, and we're grateful to Jim for giving us an update on the situation.

Memory module

On the February issue of *Asat* User J.B. Elliott asked for information on the 64k memory module. Silos Shop (01-301 1111) will supply him with one.

I think the best game available for *Asat* mines at present is *Chinese By Fire*. It is a 2-D race game in a similar style to *Asat II* - only much, much better.

I'm sure any *Asat* owner would agree that the leading player is better than anything ever seen before and the game made will show even Colourspace.

Is it possible to run pictures generated on the *Asat Touch* tablet in your own programs - for example an adventure game with graphics drawn on the tablet?

Clearly I must say I was shocked to hear you say that a very annoyed person's gently should be treated lightly and served in a white paper.

Anyone drove that the best way to cool a pencil is to put it for 10-20 minutes, put a slice of cheese on it and put it in between two slices of bread - L. Wheelhouse, *Sheffield, PS*: What is it about *Asat* Handing? We get his picture in every issue.

Good service

I did not normally go to putting pen to paper especially to compliment a company.

However my recent dealings with Computerm Ltd have prompted me to do so. As I am a regular reader of *Asat* User I cannot find the best place to voice my compliments.

My initial dealings with Computerm were by way of an order for a 1027 *Asat* printer on special offer. On contacting the firm I received some very helpful advice and answers to my questions.

The order was promptly dispatched and arrived within 48 hours. However within a few weeks it was apparent that the printer was defective. On contacting Computerm they offered their apologies and an immediate replacement printer.

In addition they gave me the option of reusing the 1027 model with a 1020 dot matrix machine.

On reflection this should have been my initial choice. In doing this they will have to refund the money from the initial order.

It is so pleasant to find a company that really does have the customer at heart and the professionalism to match.

As a new *Asat* user, I am very confident that with *Asat* Touch, shops the Computerm and the quality of *Asat* User things could not look better. - M.S. Allen, Havant, Hants.

Not so far Right!

I am sure it must be difficult to

describe my politics as "a little to the right of Gandhi's knee" as Billig, presumably disaffected hiding behind a pseudonym, did in the March *Asat* User. Conservative MPs have used the BBC for saying less?

Fortunately, I'm just a wishy-washy liberal who so I'll be satisfied if you print this letter to correct the matter.

Billig is equally wrong when he claims that any of Level 3's own adventures are based on existing books. They aren't - I do my damndest to avoid similarities when designing game worlds.

However when writing the introductions to games I have occasionally lifted my favourite 3D books on similar themes. For the benefit of readers, that's all.

To complete the list, Billig describes the firing of paratroopers against him as ending a startup to destroy a

target on the ground as being impossible.

Would that it were. *Angus's* *Starwars* system proposes to use just this type of technology and while there are difficulties in turning thousands of fast moving warheads, a "logical" first strike against a stationary target on the ground seems simple, given enough energy in the beam.

The fact that *SDN* could be used offensively is one reason why it would be so dangerous.

I've not seen the most ideas used before in 3D, but Larry Niven proposed something similar in "The Warriors" (*Tales of Known Space* from Orbit) - Peter Austin, Level 3 Computing.

As Alex would be could be a point to point out after such a dressing-down, he does not wish Billig's adventure column.

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That 'k' rating

ISAG8833 that you might ask your software publishers to indicate the "k" rating of the games they advertise - 100, 200 or whatever as I have found it an expensive exercise having to write to firms, awaiting an SAE to find out if a game is suitable for my 80000.

Also could you please advise me if it is possible to obtain a RAM pack to upgrade to 40K. I have written to several firms but had no luck so far. Maybe some of your other readers could help me. — **B. Cottrell, Irvine, Yorkshire.**
 ■ Since shops should have the RAM packs, but at present-day costs you might be able to find an 80000 for less.

1020 and Atari Writer

With reference to the letter from E.C. Jones in the February issue of Atari User, I also had problems using the 1020 with Atari Writer. After much experimenting I found the following procedures solved them.

Select option 1 when asked for the type of printer. Then **Alt-Ctrl-0 27** at the beginning of each instruction, in place of the ESC ESC in the 2000 instruction manual.

Then type **Ctrl-D** followed by the ASCII number corresponding to the instruction.

For example, to change to the red pen, instead of typing **ESC ESC Ctrl-G = C3 + A**, you would put **Ctrl-D 27 Ctrl-D 77C3A**.

Finally, put text and graphics instructions on separate lines. — **Steven Burke, Berkeley Heath.**

Attract mode

Having bought an Atari 4000X, six weeks ago I had myself with a major problem. I am working on a football manager type game which is

coming on well.

The problem is that after 10 minutes or so the screen changes colour when the program is running. The game is almost as enjoyable controlled as is Don Dots (from Atari User) which does the same thing.

Is there a patch or some way of preventing this change of colour?

I have just shipped my Spectrum to buy the Atari and I'm impressed to say the least after a year of the Spectrum. — **Steve Kennedy, Strassburg.**
 ■ To prevent the colour mode you need to force TTLO at regular intervals in your program.

Problems solved

I HAVE answered to two questions raised in February's Atari User Mailbag - and one question.

Patrick McDonald's problem on cassette loading technique could well be the location of his recorder (it is within two feet of his TV) or monitor the very strong magnetic field generated by this equipment will often corrupt data stored on magnetic tape. I had the same problem and relocating the recorder away from the TV solved it.

He may or may not be lucky in salvaging the existing information on his tapes. Better buy a disc drive.

Mr A.S. Fennell's question on Bridge programs for the Atari is easily answered. I have two. Both are American and use the German convention which should present no difficulty to an experienced player.

They both include Blackwood for slam bidding and one of them keeps score including vulnerability.

Both my wife and I keep in practice by regularly playing bridge with our Atari. It doesn't drive either, or pay when it loses!

One program is by Atreides the other by CMC. I got them in the US but I'm sure they are available here from Software Express or Silver Shop.

If either needs more information they can call my

on Farnbridge Mole 20004.

My question is when are we going to see a RAM8000 addition for the 80000? to match the 10000 and when are software writers going to take advantage of this facility to add more features and effects to their programs?

Also I am looking for an 80000 colour end processor - I'm tired of my 40 colour AtariWriter!

On last thing. Would you please give a plug to T9960 - the Twinbridge World Atari Group - A/C, (Tony) Chamberlain, Twickenham, London W6.

Not worth changing . .

As a prospective Atari buyer and a current Commodore 64 owner, I was very interested to read in the February Atari User of the difficulties some of your readers have experienced with their Atari computers and

hardware, particularly about the reader who considered changing to Commodore.

This is because since buying my Commodore 64 in August 1984 I have had to change it three times due to faults with the computer or missing accessories.

The C64M I finally settled for developed a fault with its 512 chip and had to be sent for repair, taking seven weeks.

On the day I received it back, and having also bought a new drive, I contacted them up only to find the computer would not work with the new drive.

I had to wait 28 weeks for the computer to be re-repaired.

I hope your readers will see that it is not just Atari who have problems, and that if Atari's future looks anything like the prospects of other computer manufacturers (and particularly microcomputers) — **Sanjiv Mahesh, London W3.**

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July issue: *Disassemble*, *Ready Run*, *DISCIS*, *IPC Communications*, Advertising, *Display List Tutorial*, Software reviews, *Phone Functions*, *Tessie Hunt*, *Keyboard Manuals*, *Microscope Images - Bit Wise*, *Beginners and Graphics*.

August issue: Analysis of 68000, program generation, reviews, *Planet Guardian*, *Assembly*, *Touch Table* program, first look at *Lego*, *Master 1991*, *Go 1-5* upgrade utility, *Display List Tutorial*, *Microscope*, Software reviews, *Images - Bit Wise*, *Beginners and Graphics*.

September issue: 8 page special on the 68000, *Mode 8* review, dump routine, *Mail March*, *State Maker*, *Display List Tutorial*, 68000 addressing modes, *Introducing* utility, *Lego Software* review, *Images - Bit Wise*, *Beginners and Graphics*.

October issue: Computer Canvas graphics program, *Updated* for *Mail 6800* newsletter, 16000 *Keyboard* utility, *Mac/Atari* interworking utility, *Person*, Software reviews, 68000 operating environment, *Images*, *Images - Bit Wise*, *Beginners and Graphics*.

November issue: *Converse* program, *Bitwise* operation utility, ST graphics

examples, ST software list, *Copy Function* game, *Display List Tutorial*, *Adventure*, *Microscope*, Software reviews, *Images - Bit Wise*, *Beginners and Graphics*.

December issue: *Chalk* new program, Special keyboard shortcuts, *Mail 68000*, *ClassWriter* and *ClassDraw*, *Continuum* game, *Draw*, *Display List Tutorial*, Software reviews, *Left-handed* episode, *Advertising*, *Beginners and Graphics*.

January 1986 issue: Machine code game, *PI 1* first in education, *Scary ST* monster review, *Busby* game, *Chalk* new update, *Letter* utility, *Edupointer* game, 14000 update, dump routine, programming in C on the ST, *Advertising*, Software reviews.

February issue: *Machine code game*, *Edupointer* game, *ST* problem page, *Adventures*, Software reviews, *PI 2*, *Display* review in *Lego*, *Flamingo* color utility, *Microscope* manipulation, *Bridge* program, *Memory* management techniques, *Internet* device, *Visual*, *Adventure* game, *ST* problem page, *Advertising*, Software reviews.

March issue: Machine code game *PI 3*, *People's* test program, *Complex* *PI 1*, *Beginning* review, *Chalk* code for early games, *Book* review, *Advertising*, Software reviews, *PI 3*, *PI Atari ST User*, *PI Special* review, *Left* *Hand* and *Colorspace* *Mail* *PI 1*, *Image* test utility *ST*.

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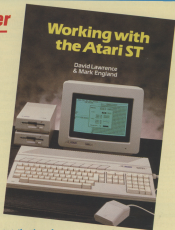
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JUNE 1986: Froggy Jump Guide the frog to its home in the swamp of the swampy swamp. **100000 Randomizer** for the extra bits of memory to good effect. **Substitution** Symbols the substitution. **Rocky Road** (See picture with a typist). **Random Numbers** Get random numbers from machine code. **Rocky Road** Can you keep the little yellow happy? (See code?)

JULY 1986: Basic Run Follow the demands city and land sales. **Unconquered First** just what's going on they made you first. **Transfer** (See code) **Unconquered** to find the treasure. **Unconquered** Unconquered. Get generating passwords of you find out you like. **Unconquered** Convert your money into an organ. **Unconquered** Can you survive the more of you in the water?

AUGUST 1986: Assembler Make machine code program with your **Print/Assembler** Run money with machine code. **Assembler** Complex patterns made easy. **Permutation** Protect your programs from being lost. **Display List** Demonstration programs. **PERM** (Permutation) last advanced. **Yacht** Yacht Demonstration programs.

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NOVEMBER 1986: Guy Fawkes Play Guy escape from the guards. **Unconquered** (See picture with a typist). **Unconquered** (See picture with a typist).

DECEMBER 1986: Guy Fawkes Play Guy escape from the guards. **Unconquered** (See picture with a typist). **Unconquered** (See picture with a typist).

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