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Vol. 4 No. 5 September 1988 £1.25

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10

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Vol. 4, No. 5 September 1988

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All major listings in this issue are accompanied by checkmarks to help overcome typing mistakes. For full details of how they work, see the article on page 23 of our November 1987 issue.



# Gallup Software Chart

THIS MONTH	LAST MONTH	TITLE (Software House)	COMMENTS	PRICE
1		GRAND PRIX SIMULATOR Code Masters	The ultimate in simulators stays at the front of the field. This can be played again and again.	1.99
2		GREAT AMERICAN ROAD RACE Firebird	Ten drivers await you in this race-crossing the USA. Beware of the police, your speed and the obstacles.	1.99
3	•	DAYLIGHT ROBBERY Atlanta	From the same stable as Cops 'n' Robbers - a fun, safer but money ramp on the wrong side of the law.	1.99
4	•	LEAPSTER Alternative	Great if you enjoy jumping over cars and bombs while collecting items from open windows.	1.99
5		AIR WOLF Firebird	Translated from the TV programme, 'You are a man with a mission flying a helicopter'.	1.99
6		STEVE DAVIS SNOOKER Blue Ribbon	Re-released to coincide with the last snooker championships; good for its genre and hasn't dated.	1.99
7		ZYBEX Zappella	An excellent shoot-'em-up, worth more than its budget price. Good graphics.	2.99
8		SPEED ACE Zappella	Zappella's first release for the Atari. Good use of the split screen in this motorcycle simulation.	2.99
9	•	POTHOLE PETE Atlanta	Good price and clean graphics in this adaptation of a common platform game.	1.99
10		BMX SIMULATOR Code Masters	Code Masters is renowned for its simulations. This one is no exception with nice graphics and sound.	1.99
11	•	DESMOND'S DUNGEONS Alternative	Join this little fellow as he struggles to gain points, wealth and safety. Platform games are in this month.	1.99
12	•	EXTIRPATOR Firebird	Another release from the British Telecom budget label. No complaints at the price.	1.99
13	•	LEADERBOARD US! Gold	Making a comeback - so if you missed out at St Ann's cross the Atlantic for this golfing spectacular.	9.95
14	•	BOULDERDASH Piran	Your chance to play the diamond chasing, rock-swinging fiend. Add it to your collection if you haven't already.	2.99
15	•	FOUR GREAT GAMES Milton Value	Superb value especially as it includes Phantom and Polished. Not one to be missed.	3.99
16		HENRY'S HOUSE Mastertronic	If you haven't already got this platform game add it to your collection; stunning graphics.	1.99
17		REVENGE 2 Mastertronic	Jeff Miner's long-awaited sequel to Revenge of the Mutant Carnies. As strange as ever.	1.99
18		SPOOKY CASTLE Atlanta	This one starts difficult to play and rapidly becomes impossible as Gnomish Gary invades the bats.	1.99
19		DECATHLON Firebird	Exercise without leaving your chair with multiple events to choose from in your quest to beat the field.	1.99
20		MATTA BLATTA Firebird	Fallen from last month, but Firebird is holding its own in the market with four games in the chart.	1.99



## Now try before you buy

HERE'S a sneak preview of what you'll see when the new Atari Games Centres begin to open up throughout the country.

Atari plans to set up between 30 and 40 such centres — based on retail outlets located in Britain's biggest cities and towns — where games players can try out the latest releases for themselves before deciding what to buy.



# ATARI PLANNING ST CONVERSIONS

FRESH waves of 8-bit entertainment software will soon be pouring into the shops as a result of new Atari initiatives.

At least six games among a batch under development at Atari UK headquarters are very near to completion, the company's software chief, Bob Katz, told Atari User.

And a licensing agree-

ment with a leading software games publisher has guaranteed a further supply of titles in the New Year.

The deal will result in at least 20 programs being ported across from the ST.

The new titles — on the Atari label — will initially be released for the XE with 2600 versions to come later.

The ST conversions will

run right across the board — XE, 5600 and 5800. "These should be ready for release at the start of next year", Katz said.

"I can't give you details of the deal just yet except to say that a major publisher is involved. But I can promise that some of the titles involved are very big games".

## Legend comes to life

A BLOCKBUSTER illustrated adventure game based on the legend of King Arthur is shortly to be unveiled by Level 9.

Lancelot is the second title to be released by the specialist software house under the exclusive Morden's label, the first being the Time & Magic trilogy.

The game closely follows Malory's Le Morte D'Arthur, and traces the legend of King Arthur from the founding of the Round Table through to the successful conclusion of the search for the Holy Grail.

Pete Austin of Level 9, himself an authority on King Arthur, insists that this is "the best game to date" from the company that is the acknowledged world leader in adventure software.

"The legends of King Arthur and his Knights of the Round Table are known to all", says Pete, "but it is a sad fact that most modern interpretations seem to owe nothing to the original tales."

"Most people will have seen software programs with Arthurian titles which turn out to involve Merlin jumping from platform to platform while juggling cats with fireball spells.

"We got tired of waiting for someone else to do a proper job, so here's our faithful interpretation of the Arthurian saga".

The package contains three adventures, with more than 60,000 words of text interspersed with high-quality graphics. Price £14.95.



## INGRID IS BACK...

THE sequel to the successful Gnome Ranger from Level 9, Ingrid's Back is on schedule for release in October.

It features the same accident-prone heroine as the original. This time she's tasked with thwarting Janger Quickback, insider-dealing lord of Rulley's Manor who's planning to steamroll the groovy belt for a Paganie Home development. Price £14.95 on tape, £19.95 on disc.

## New graphics system

CHICAGO-based Reeve Software (9191 312 350 2317) is promising to open up a whole new world for Atari XLXX users with the release of Diamond — a complete graphics operating system.

An environment rather than a program, it allows the Atari to use the icon-based point-and-click menu systems that ST owners already love at their fingertips.

Features include a mouse cursor that can be operated by keyboard, joystick, touch tablet or mouse, drop-down menus and desk accessories

which can be called up from any Diamond-based program at any time.

Icons can be activated through a point-and-click system with a mouse, then shaped or moved. Dialogue boxes and windows are also easily manipulated.

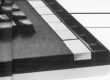
The package includes Diamond Desktop Software which is designed to keep keyboard use to a minimum. Desktop is compatible with floppies, hard drives and ram discs as well as with most disc operating systems. Price \$29.95.





MOST modern Epson and compatible dot matrix printers have a download capability which allows you to replace the standard characters with ones of your own design. You could go Gothic for example, or produce a sans serif font similar to school script.





the specified block, otherwise you'll get peculiar results.

Line 118 instructs the printer to use the character set in ram instead of its usual rom set. Line 120 prints out the re-defined characters. When you Run Program 1 you will get a Greek letter  $\alpha$ , the Ordinance Survey symbol for a church with spire, a small man and the circuit symbol for an NPN transistor.

Each character pattern is made up of 12 numbers, the first of which contains attribute data. This specifies whether or not a below-line descender is required — as in y or j.

You'll see it's 11 for  $\alpha$ , which has a descender and 120 for the other symbols which all sit above the baseline. If your character is to be used in proportional mode, this first number also contains the necessary size data.

Working out the attribute value can be a pain and, unless you know precisely what you're doing, it's best to steer clear of proportional characters. However, if you read out this mode the editor program will do the calculations for you, provided you obey the rules on character widths, which are laid down in your printer manual.

Also since the LPRINT command cannot handle semicolons in the right way, And semicolons are absolutely vital — leave one out or put it in the wrong place and your program won't work properly. To get round this problem, we have to use something like this:

```
10 DEF FN(L),T(
20 PRINT FN: CHR$(11);CHR$(12);CHR$(13);CHR$(14)
```

Program 1 illustrates the download system in position. Line 20 copies the character set from rom into ram and line 30 tells the computer which characters are to be re-defined by indicating the first and last characters in the desired block.

The inverse 14 specifies all characters from inverse 1 — CHR\$(171) — to inverse 4 — CHR\$(188). If you want to re-define only a single character, this must be specified as both the start and the end character in your block. For example, to re-define only the letter A, you would change line 30 to read:

```
30 PRINT FN:CHR$(171);CHR$(171);FN;
```

```
FN;
```

```
30 PRINT FN:CHR$(171); FN:CHR$(188);
FN:CHR$(188);
```

Almost any block of characters can be re-defined so long as you start clear of the essential printer control codes: 7 to 22, 122, 126 to 128 and 255. It's most convenient to use the inverse character set, especially if you're designing an entire font. But there's nothing to stop you re-defining non-inverse characters — say by changing the a and j into school-script forms, or putting a Copyright symbol on the  $\alpha$  key.

Lines 40 to 100 in Program 1 send the new character data to the printer. You must provide exactly the right amount of data — twelve numbers a character — to replace everything in

**Printer manuals are notoriously unfriendly, especially when they are written in Japanese English**

The remaining 11 numbers all specify shape data. They are treated as binary numbers and your printer manual should contain a diagram showing how they are translated into print-head patterns. You don't need to understand how it works though, because the editor will work out all the numbers for you.

Now let's look at the editor program itself. When you Run it, there is a delay of about five seconds while the machine code routines are initialised. Then you'll see a grid and a cross-shaped cursor displayed on screen.

Use a joystick to move the cursor and press the fire button to place dots where you want them, or to erase existing dots. The cursor can be speeded up or slowed down by increasing or decreasing the value of SPEED in line 10.

A dot can go in any cell or on any of the vertical lines, so the grid is in effect 11 columns wide by 8 rows high. However, because of the printer's

internal limitations, you can't put a dot on a vertical line if either of the adjacent cells is occupied — and vice versa. If you try to position a dot illegally, the computer will refuse to do it and you'll get a polite beep.

At the bottom of the edit screen you'll see a menu of options, any of which can be selected simply by typing the initial letter. **Clear** clears all dots from the grid. **Fill** puts a dot in every cell — but not on any lines.

**Toggle** replaces every dot with a space and every space with a dot, creating an inverse image.

However, dots on lines will not toggle correctly so they are erased and only the dots in cells are inverted. This is to ensure you don't end up with an illegal pattern.

The **Convert** option presents you with a second menu, asking whether you want a descender and whether proportional data is to be included in the attribute byte. Once you've supplied the necessary information the twelve numbers describing your character will be worked out and printed on screen.

The **Print** option requires a selection from menu 8, but then it prints a third menu which allows you to specify the print mode — enlarged, condensed, emphasised and so on. When you have made your choice, the program will dump your new character to the printer — along with the twelve numbers describing it.

In fact, it prints the character several times so you can see how it looks on its own and in comparison with other letters. Line 1500 controls the print-out and you can easily change it to suit yourself. After printing you get the chance to try the same character in a different mode without having to repeat the whole conversion process.

When any menu is displayed, pressing the Escape key will return you to the Edit mode, with the re-designed character intact. All the likely errors are trapped, the menu system makes it hard to crash the program — which is designed to be as user-friendly as possible.

When you're satisfied with your artistic efforts, the new character data can be inserted into Program 1 replacing or adding to the examples already there. Just make sure that you have exactly the right amount of data — 12 numbers a character — to replace everything in the specified block.

The new routine can now be incorporated into your own Basic software, so that the new characters are downloaded at the start of your program and can be used like the standard character set.

**Turn to Page 84**



Age Group	Total (%)	Male (%)	Female (%)	Unknown (%)
18-24	12.5	11.8	13.2	12.0
25-34	28.3	27.5	29.1	28.0
35-44	22.1	21.5	22.8	22.0
45-54	18.7	18.2	19.4	18.5
55-64	14.2	13.8	14.6	14.0
65+	5.2	5.0	5.4	5.1

[illegible]

Figure 1. Defines and prints four demon variables: `chapters`, `pages`, `lines`, and `words`.



Year	Income	Year	Income
1	1000	1000	1000
2	1000	1000	1000
3	1000	1000	1000
4	1000	1000	1000
5	1000	1000	1000
6	1000	1000	1000
7	1000	1000	1000
8	1000	1000	1000
9	1000	1000	1000
10	1000	1000	1000

[illegible]

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# CHRISTMAS JUST WOULDN'T BE CHRISTMAS WITHOUT THE ATARI USER SHOW

ALEXANDRA  
PALACE  
WOOD GREEN  
LONDON N22

NOVEMBER  
25-27  
1988

Too early to think about Christmas? Not when it comes to the Atari User Show.

For this is the festive event that has it all:

- LOADSA exhibitors (around 70)
- LOADSA hardware
- LOADSA software
- LOADSA new products
- LOADSA games
- LOADSA happenings
- LOADSA technical advice
- ...and most important of all for you, the visitor —
- LOADSA bargains!**

With hundreds of special show offers to choose from, here's one place you can do your Christmas shopping and end up in pocket.

You can even save £1 a head before you get there by using this advanced ticket form.

If you enjoy competing with Atari, you'll be thrilled with the Atari User Show!

## SHOW HOURS

FRI-SAT 10am - 6pm  
SUN 10am - 4pm



No matter which Atari machine you use from the 8-bit through to the mega ST you'll find just what you are looking for. And even some exciting things you didn't know existed!

For all the leading companies in the Atari market will be out in force to demonstrate their latest developments.

Traditionally the liveliest Atari event of the year, this pre-Christmas show is shaping up to be the most entertaining of them all.

**Don't miss it — and make sure YOU enjoy a Merry Christmas!**

## How To Get There

Alexandra Palace is so easy to get to by car, rail, underground or bus. It has its own British Rail station, just nine minutes away from King's Cross, and there's a free bus service shuttling between the station and show every 10 minutes.

If you're traveling by road, the show is only 15 minutes away from Junction 25 on the M25. Car parking is free.

## ADVANCE TICKET ORDER

Post to Database Exhibitions, Sports House, Aylesbury Park, Aylesbury, Bucks HP20 1EJ, UK.

Please Supply:

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TOTAL £ \_\_\_\_\_

- ☐ Cheques enclosed made payable to Database Exhibitions
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- ☐ Address: (if new)

\_\_\_\_\_

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Address \_\_\_\_\_

Signed \_\_\_\_\_

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Advance ticket orders must be received before November 15, 1988

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Phone Orders: Tel: 0494 666000  
Mailorder/Telex/Sale Orders: Mailbox 72, MA666T  
Please quote credit card number and full address.

DATABASE EXHIBITIONS

887



# Software

## SCENE

### Hopping mad!

**Product:** Leapster  
**Price:** £1.99 (suggested)  
**Supplier:** Atari World, 10  
Farnell Street, Man-  
chester  
**Tel:** 061-634 4047

THIS is one of the strangest games I have ever played on an Atari. You are a young schoolboy called Henry Leapster bent on getting to school on time.

To do so you must travel across the town, through the missile base – very strange town this is – and the graveyard. (What. I went to school I only got the bus. I must have been missing out on something when I was a young lad.)

On each screen you must

collect several items which will allow you to progress to the next one.

On the debit side you have to avoid cars, missiles, troops and a number of unfriendly zombies – and before you ask, they aren't retired teachers.

Most of the objects up for collection are located in very difficult positions so you'll find you have to leap on to other things to reach them – hence the name of the game. Be very careful before you jump as a misleap can result in sudden death.

You control Henry using a joystick plugged into port one. If you want to take a coffee break press the Start



function key – pressing it again will restart the game. Select will turn the sound effects on or off and Option will toggle the title music on or off. The graphics are

nicely presented and the sound effects well implemented.

Playability caused me some concern though. Although I started off enjoying this very original game I quickly tired of it. This is unfortunately a problem with a lot of budget games today.

If Leapster cost £3.99 I would have to think very carefully about recommending it. As it's priced at £1.99 give it a try.

**Nail Forward**

Sound	4
Graphics	7
Playability	3
Value for money	7
Overall	6

### Not so ferocious

**Product:** Airwolf  
**Price:** £1.99 (suggested)  
**Supplier:** Atari World, 10  
Farnell Street, Man-  
chester  
**Tel:** 061-634 4047

IN this game from Empire you take the role of Birdgirl/Hawk, a former Vietnam chopper pilot, and the only man in the five billion dollar helicopter Airwolf, the latest in hi-tech killing machines.

You have been recruited by the Fm to undertake a dangerous rescue mission. Five important US scientists have been taken hostage and are being held in a subterranean base beneath the Arizona desert.

You must guide Airwolf through enemy defences –

using its special stealth capabilities – on a series of night-time missions. Only the destruction of the defense control bases – strategically positioned deep within the enemy installations – will allow you to descend into the heart of the base where the scientists are being held.

It's not an easy task and I found this game rather difficult to master although it has a certain addictiveness.

The graphics disappoint – being rather dull and colourless. I don't think the programmers have ever heard of Display Lists or Vertical Blanking. Versions for other machines are vastly better.

There were also times when I couldn't figure out just why my helicopter

exploded. On mission two I flew into a cloud and blew up – have clouds suddenly become man's adversary?

Enemy guns fire bouncing bombs. When they reach the edge of the screen they don't go past, but just bounce down again – yet another miracle of modern technology.

The cassette intro boasts the game has frantic arcade action built in. I became frantic trying to figure out why all the laws of nature had suddenly changed.

The sound effects are absolutely terrible. A blimp here and a loop there are all you get – not a great deal when you consider that the Atari has four sound channels and not a keyboard speaker like the BBC Micro. Airwolf is playable



providing you ignore the occasional and inexplicable destruction of your helicopter.

**Nail Forward**

Sound	3
Graphics	4
Playability	6
Value for money	6
Overall	5



### Heavy metal

**Product:** Kampfgruppe  
**Price:** £19.99 (full)  
**Supplier:** 20015 Gold Units  
275 Midland Way, Maidens,  
Birmingham B2 9AU,  
Tel: 021-358 3388

This expanse of land dotted with rubble is quite still, save for a distant clanking which soon becomes a crescendo of screeching gears, of giant treads crushing rocks into dirt.

These are the pride of Germany's armoured force - the dreaded Panthers.

This is the way *Kampfgruppe*, a tactical wargame simulating tank warfare on the Eastern Front. Spanning the years 1941-45, it puts you in command of either a German or Russian battle group.

Available only on disc, you load it by removing all cartridges from old Atari routines, or holding down the Option key and switching on with your game disc in drive

one. Once loaded you choose what game you want from the options menu and away you go.

Your commands to your motorised units are sent via a status window at the bottom of the screen.

The action is split into several phases and you will have to read the manual carefully before you can understand their operation fully.

All game play takes place on a full colour map. This is composed of a 60 by 80 grid, of which 20 by 10 squares may be viewed at one time. By pressing keys 1 to 8 you can move your cursor around the map.

When this cursor highlights an armoured unit a description of it will be displayed in the status window.

You have a quick reference chart to identify the terrain and units. I found it useful to place sticky backed plastic around it to stop it getting too soiled.

Many historical scenarios



are detailed within the booklet supplied, and as with all SSI products, it is very well written.

At the end of it is a short story about Ivan and the Valkyries.

This makes for very interesting reading and adds a feeling of reality to the packaging.

*Kampfgruppe* is an excellent tactical simulation

and will provide many interesting hours of enjoyment as you re-enact momentous battles from WWII.

**Steve Manning**

Sound	AAA
Graphics	5
Documentation	7
Playability	7
Value for money	6
Overall	6

### Great quartet

**Product:** Four Great Games II  
**Price:** £9.99 disc, £3.99 tape  
**Supplier:** Microvision/Tyresoft, Unit 3, Ashton Industrial Estate, Middlesbrough NE21 4TE  
Tel: 090-474 0811

FOUR Great Games II is the latest budget package to come from Tyresoft/Microvision.

The four games you get are pretty varied and one of them is an old full price best seller. However, I found

*Rebound* the best, a game I reviewed in the March 1988 issue of *Atari User*.

The title screen uses varying text fonts and colour to good effect and the accompanying music is a superb percussion piece which really gets your foot tapping. As you play, the music can be heard in the background - a feature that I really like.

As to the game itself, imagine that you sit a tennis court, in half along the net, then place one ball at the top of the screen and the other at the bottom. You

have a ball at each end moving left and right. Add a ball and build the sides of the court up so the ball can rebound off them and there you have it.

There are three levels of play. The first is just right for the novice, but don't try level three unless you have the speed and reactions of Boris Becker.

The object is to score seven points, or goals, accomplished by making your opponent miss the ball as it passes his bat.

The game has all the features needed to make it a winner were it released as a

full price game. As a budget offering it's wonderful value for money.

Next comes *Phantom*. You play the part of a professor of astrophysics interested in psychic phenomena.

You just happen to be in possession of a nuclear accelerator. You arrive at Ye Old Inn, and are met with a plan view that looks more like a maze. Scouring around are ghosts who, when they see you, begin to converge. So with reactor in hand you are well prepared for the horrors that face you.

The graphics used throughout are first rate and



### Deep in a hole

**Product:** *Desmond's Dem*  
**Year:**  
**Price:** £1.99  
**Supplier:** Atari Games, 70  
**Phoenix Street, Man-**  
**chester.**  
**Tel:** 061-434 4941

THE Handish Alfonso Schwert has found the ideal place to hide his plundered gold. He's stashing it in an underground dungeon, a labyrinth of connecting passages.

One day our hero Desmond - that's you - cut for a wall, stumbles across Alfonso's hiding place. Realising that the vast fortune could be his, he descends into the depths to seek out all the loot.

The gold is scattered around the dungeon in bags which you collect one at a time before returning to the surface with it. As usual there are a multitude of nar-

rows lurking around the corner waiting to do you no end of harm.

Large, furry spiders want to tear your throat out and deadly plungers will stun you if you get stuck underneath one.

Each time Desmond is stunned his strength is reduced. If it reaches zero he will automatically be given another re-charge unit. You start with three and when they have all gone the game is over.

Occasionally Alfonso flies overhead to drop off some more loot. If he sees you he will attempt to olive bomb you and drop a bag of gold on your head. This also will reduce your energy level.

The game is split into two sections - the dungeon and the vault. In the dungeon you must collect bags of gold from the floor. When you reach the vault you



have to catch the bags when they are dropped. Then you have to throw them back into a grab which passes overhead.

On later levels some gold is hidden behind locked doors and you have to find the key before you can get to it.

You control Desmond using a joystick plugged into port one. Pressing the Select key will pause the game and you just move the joystick to restart. If you get tired of the

music press Return to switch it off.

The sound and graphics are superb. Coupled with the overall addictiveness, this budget game is a definite winner in my book - buy it.

#### Neil Forecott

Sound	9
Graphics	9
Playability	9
Value for money	10
Overall	9

coupled with the wonderful background music add a splendid feel to the game. Phantom is also well worth buying on its own.

Now on to the two new games on the compilation pack - *Countdown* and *Casibels*. The former is based on the exploits of Commander Zakaria Fitzwilliam - played by you.

Apparently, an American B52 bomber has lost one of its A2 Stratohawk bombs. It has been located but unfortunately its casing has been damaged and it is leaking radioactive particles.

You have already sent in a TPI remote control unit but it has been damaged by the radiation. To add to your troubles, the tools you need to repair the bomb have been lost by the TPI when it went berserk.

You have to collect the

four tools you require - in the correct order - and disarm the bomb before the timer rushes over.

However the TPI is still roaming around and if it touches you it'll disarm you - permanently. And if you make any contact with the radiation particle cloud you'll die.

If you move on to the bomb before you have collected all four tools you will also lose a life.

*Countdown* isn't a bad game, neither is it anything to write home about. Reasonable sound and graphics make it fair value on a budget compilation.

Now on to the last of the four, *Casibels*. The plot revolves around the exploits of Arthur who is having a nightmare, pursued by robots, ghosts, aliens and cannibals.

You take Arthur's part as

he scrambles around several platforms trying to escape. Armed with a shovel, you must dig a hole in which to trap the monsters and then bash them over the head.

All in all this package is wonderful value for money.

#### Neil Forecott

Sound	7
Graphics	7
Playability	8
Value for money	10
Overall	8

*Figures are an average taken for all games*





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It is the year 2367 and the world is under the threat of total destruction from a danger created by its inhabitants themselves.

Their mistake was a simple one. All they had wanted was the perfect civilization, so to make it possible they perfected the positronic brain, the ultimate synthetic personality.

But as with all dreams of perfection something was bound to go wrong — and it did. In 2366 a group of synthetic people — androids — rebelled against their owners and caused a number of deaths as they escaped.

Now, they have returned and plan to destroy mankind so that they can rule the Earth.

The military minds, at a loss as to what to do, called in you, Security Hunter Chuck Masters. You have a reputation as a violent, shoot-first, think-later killer. Just the qualifications for the assignment.

The Earth Intelligence Department has collected months of reports of sightings and fed them into Zip, your ship's computer. After your briefing you transport on to the mother ship and set course for the Nala caverns where you believe the androids to be hiding out.

Once there you board your own ship and discover that the androids already know of your presence and are waiting for you.

You control your ship with a joystick plugged into port one. Up, down, left and right move you in the desired direction, while the fire button operates the thrusters which accelerate your craft.

Your prime directive is to destroy eight android vessels, two of which are located on each of the four levels. Each level gets progressively more difficult, with mines, laser barriers, falling bombs and narrow passageways to navigate.

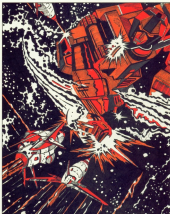
Located around the caves are a number of fuel dumps — marked with an F. By landing on them you can refuel and continue your search.

You run an android craft to destroy it and once you have blown up all the enemy vessels you must leave the tunnels and dock with the mother ship to complete your mission.

The game can be paused at any time by pressing the Option key. If during the pause you hold down all of the function keys — Start, Option and Select — you can move on to the next level.

#### VARIABLES

Alt	Holds instructions
Ctrl	Holds the rank for your final score
MSB	Guns on
DBB	Guns off
SHIFTCtrl	Moves the mother ship
Ctrl	Fuel left
GNB	Subroutine for guns
MSB	Subroutine to move the mother ship



## Caverns of Nala

Can you destroy the robot killers?  
Find out in DEREK THOMPSON's  
fast-action game of survival

180-120  
260-400  
400-600  
600-800  
870-900  
900-950  
970-1000  
1040-1080  
1090-1200  
1200-1600  
1610-1700  
1750-1870  
1880-2400  
2420-2490

Set up strings  
Main loop  
Collision detection routine  
Drop bombs routine  
Guns on routine  
Guns off routine  
Move the mother ship  
Plot mines routine  
Player missile movement routine  
Redefine the character set  
Main screen  
Loading tune routine  
Level complete routine  
Title screen and instructions

Start on Page 68







## Wishful thinking

NOT a lot is happening in the adventure world as I write, so I'll gratefully seize the opportunity to reminisce about one of the older, but much-loved adventures in my collection, Infocom's *Wishbringer*. With the price of 8-bit Ataris and disc drives being quite low these days, more and more people are playing adventures. It's very likely that many of you have never tried any of the Infocom best adventures, let alone *Wishbringer*. For those who have, I'm sure you'll enjoy a walkie in nostalgia - and who knows, you may even decide to play them all over again.

*Wishbringer* is available on disc only and was written by Brian Moriarty, who was later to go on and write the excellent *Trinity* adventure for the same company.

The game is aimed at the novice adventurer but still offers a great deal of pleasure to even the most seasoned of players. What it may lack in difficulty for the experienced adventurer, *Wishbringer* more than makes up for in wit, originality and charm.

You begin as an assistant in the local post office of Festeron. Your boss, Mr Crisp, a cantankerous so-and-so, sends you off to deliver a letter to the old woman who owns 'Ye Olde Magick Shoppe' at the top of the hill at the north end of town. It's well worthwhile spending some time exploring the town, even though your boss does tend to shout at you from afar when he sees you dawdling.

The reason for the reconnaissance is that things will change very suddenly once you've delivered the letter. So it's best to have a good look while you still can. In any case, there are a certain number of items you'll need to find to help your progress later.

The cemetery is always a good place to start, and particularly so in *Wishbringer*. The graveyard sports such appropriately named places as Spooky Copses, Creepy Corner and Twilight Glen.

You may not find the strange gravedigger or the open grave very welcoming, but persevere and you will find something to your advantage.

There's a snappy pebble not far from the post office and you'll need to

***Rouloc  
reminisces  
on an old  
much loved  
adventure***



### HINTS AND TIPS

This month's hints and tips concentrate on *Jinxies*, the popular Rainbow and Magenta Scrolls follow-up to *The Pawn and Guild of Thieves*.

Their latest, *Corruption*, should be with us any time now and there's also *Lancelot*, Mandarin Software's newest product from Level 9 to look forward to as well.

#### ***Jinxie***

##### ● *Bel's a problem?*

Try acting like a meatator with something red.

##### ● *Silly gardener keeps running off when you approach?*

The squeaky doors alert him. Get the plastic bottle and put the contents in a bigger container than freeze it to get the oil. Put the oil on the runners of the outhouse door.

##### ● *Canoe got a hole in it?*

Wrap your sock round the bung and bung it in.

##### ● *Baking a loaf proving difficult?*

Slave the flour to get the charm. Slave it in the baking tin with the dough then overbake it in the oven.

##### ● *Mound of dirt in the way?*

A pair of gloves and a cat-of-worms is all you need.

##### ● *Want to see in the dark?*

Stand under the holy bush near the herb garden and listen to the magpie - he'll give you something spectacular!

##### ● *Can't open the mailbox?*

Tricky one, this. You need to warm the plastic key - hence - with the candle before putting the key in the lock.



## 4 From Page 17

do something about the unlikeliest mutt if you're not to be fished to take a detour round it. The video game arcade and pleasure wharf are also worth a visit.

When you finally deliver the letter to the old lady, you'll discover what you have actually handed over is a ransom note. "Deliver the Magic Stone to me before the moon sets or you will never see your cat again. Signed, The Evil Owl".

Well, never one to fail to help a fellow human being in distress, you offer to assist in finding the good woman's cat with the aid of the legendary Wishbringer stone. Once you return down the hill, things have taken a serious turn for the worse. The whole town has altered – and not for the good.

A sort of decaying, evil influence has affected every place, object and human in Festeron. For instance, where once goldfish swam in the pool in the park, there is now a piranha. The profile has become a halfhead, the post office a tower – no, not the Post



Office tower – complete with torture chamber and laboratories, and there is now a Grue's nest under your favourite hillside beauty spot.

Magic features strongly in Wishbringer. "Seven is the number of the wishes issued into the stone. And if ye speak a wish, that wish is spent and lost forever. Also know, that ye must hold the wishingslate within the hands to wield its magic". In fact, not all the wishes are suitable only once.

A wish will only work if you are also carrying a special object that relates to it. For example, a broomstick must be

held when making the wish of flight. The other six wishes are for rain, advice, darkness, foresight, luck and freedom. One of the interesting features of the game is that you can complete it without using all of the wishes – it's up to you how you go about achieving your objectives.

There are many funny moments in Wishbringer, not least when a formerly inanimate mutton suddenly becomes alive and tries to eat you. I loved the Grue puzzle. Fans of Infocom games will know that Grues are creatures who dwell in the dark and are the scourge of lamp-less adventures. They appear in many of Infocom's adventures, and in Wishbringer there's even a baby one, the puzzle revolving around a bottle of Grue's milk.

While most of the puzzles are fairly easy to solve, one or two will have even the most skilled of adventurers scratching their heads for a while. The atmosphere and wit are what make this adventure so enjoyable, so if you haven't yet played Wishbringer, I hope I've whetted your appetite enough for you to go and try it.

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**THE XIO** - Extra Input-Output - command is probably the Cinderella of Atari Basic. This extremely versatile tool is actually 30 commands rolled into one, but very few people know how to use it. This letter from Jasper Columbus of Bristol highlights the confusion caused by Atari's failure to provide a comprehensive Basic instruction manual.

"I am writing a program which displays high resolution graphics and I believe Atari Basic has a Fill command. But after wasting hours trying to get it to work I resorted to using Plot and Draw commands, which take ages to plot in.

I mentioned my problem to another customer when I visited a local computer shop and he said something about a complicated Basic command called XIO. I did not really understand what he was trying to tell me but I hope you can shed some light on it.

Your acquaintance at the shop was quite correct in suggesting that you use XDS – and like most commands it isn't particularly complicated once you understand it.

Let's examine each component of the contracted bundle in turn:

DOI: 10.1002/anie.200500000

The first item after the `XID` is the code number which represents the operation to be performed. Although a variety of options are supported, many are duplicated by standard basic commands — such as `input` — and others which relate to the configuration of the 386 interface's MS3232 card.

If we disregard these we are left with the list shown in Figure 1. Disc users will already be familiar with most of the entries since they are

This month **MICK RANDLE** takes over from **ANDRÉ WILLEY** to provide more help for puzzled programmers.

available from the Dos 2.5 menu, but it is not generally realized that they are also available from Basic. As you can see, code 19 indicates the graphics fill operation.

The next component of the XIO command represents an IOCB channel number. Since the operating system always uses IOCB xio for graphics output, we must also use it for the graphics fill operation. Any IOCB from one to seven may be used for the disoptions, provided it is not already in use.

The next two components are only important when using the RS232 ports and they should be set to zero for all the options we are discussing. What could be easier?

The final component is the name of the device which is to be the subject of the action. The Atari considers almost everything to be a peripheral device – even the keyboard and monitor screen – and each device is given a name, such as K: for the keyboard and S: for the screen. When using the graphical fill option we must use the screen device name. Data users must use the

Full-disk Encryption is available across all individual files

Disc users should also be aware of a special feature of XDD. Normally, it is necessary to issue an Open command before a disc file can be accessed. This is not the case with XDD which automatically opens the DICE, performs its task and then closes the DICE afterwards. Program 1 is an example of what can be achieved from Basic. Note the real little trick which writes DICE.SYS to the disc. Unfortunately, this does not work with the DUMP.SYS file.

The graphics fill option is slightly more involved, but all will become clear when you understand why certain actions are necessary. The easiest way to explain this is to describe

**Keywords:** child sexual abuse; disclosure; self-blame; social support

CODE	PURPOSE	EXAMPLE
10	Graphics colour file	NO H+P+J.S."S"
20	Randomize disc file	NO H+P+J.S."B-NAMES NAMES"
30	Device disc file	NO H+P+J.S."B-DNAME.DT"
40	Lock disc file	NO H+P+J.S."B-ATWILL"
50	Unlink disc file	NO H+P+J.S."B-MYFILE.DL"
260	Single density format disc format	NO B23+P+J.S."(X)J.S. only"
261	Chk format	NO B24+P+J.S."D"

Figure 4: Table of  
1993 construction  
and other services  
in Asia-Pacific.

[illegible]

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## Programming

1000 1000 1000 1000

what happens when the Area is told to fill a one-chamber shape with colour.

Colouring begins at the top left corner of a shape and continues horizontally until it hits the right hand boundary of the shape. It then drops down a line and, beginning at the left edge, repeats the process until it has finished colouring the last line.

Before we can begin colouring we must tell the computer where on the screen to start and where to stop, and which colour we want it to use. These three instructions should be executed in the correct order to avoid unpredictable results:

- Define the top left point by using the Plot command.
- Define the bottom left point by using the Position command.
- Define the fill colour by poking the colour register number into address 705 – in the form Poke val,5

Program 11 draws and fills two shapes, so you should have no diffi-

Now that we know how to fill simple shapes with colour we can

proceed to the next stage – which provides us with a short cut. Since we use *Fill* and *Position* to indicate the top left and bottom left points of the shape, it does not matter if the left edge is not perpendicular to the screen. Similarly, since the colour fills from left to right, any existing bottom edge will be overwritten by the 100 percent

Program III is the short-cut version of Program II. Notice we don't use the Position command to define the top-left corner this time - Draw2 performs the same function.

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to bear in mind when using XID graphics fill. The left edge of a shape must be a straight line. If you have an irregularly shaped polygon, you must divide it into smaller sections, each having a straight left edge, and perform several XID commands to fill the entire shape.

Finally, since the following steps when it hits the right hand edge, you can only colour an area which contains the background colour - Color 4. Any other colour in the shape will be assumed to be the edge and the colouring will stop at that point.

```

10 REM PROGRAM 111
11 REM SURVEYING ROUTINE
12 REM USE ROUTE FROM TILL CARD
13 REM THEORETICAL VERSION OF PROGRAM 1
14
15 GOSUB 11
16 DELAY=10000:GOTO DELAY
17 REM
18 REM USE from right edge of a triangle
19 GOTO INPUT "X,Y,Z" TO GET TO 14,19
20 GOTO DELAY
21 REM
22 REM Calculate the triangle
23 POSITION=0,0
24 PUNCH P(1,1)
25 REM
26 REM
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OVER the years Atari has led the way in home entertainment. In the early seventies the Atari VCS cartridge game system – or 2600 Games System as it is now known – sold between 35 and 40 million units worldwide. Third party software houses produced games for it at such a rate that by the late eighties an estimated 150 million cartridges had been sold.

Not only does this show the superb ahead-of-its-time design, it also says something for Atari's ingenious sales strategy, which swamped the market.

To back this up it is estimated that one million 2600 systems were sold last year, more than 100,000 of them in the UK.

With companies like Epyx, Activision and CBS supporting it with what seems a continuous stream of new game titles, it's easy to understand why it is so popular. Atari is also writing new games for the 2600 and an ex-director, Nolan Bushnell, has rejoined the company.

His main aim is to create new and more exciting games to challenge today's growing breed of game players. Judging by his success in the past, you never know what's going to come out next.

### What is the VCS?

The most common mistake people make when buying the 2600 is that they think it's a programmable home computer, which it is not. It's basically a dedicated box of electronics to be attached to your television to play games plugged into it. You can't attach a disc drive or tape deck, nor can you type in the listings which appear in Atari Games.

What you CAN do with it is have a lot of fun. It makes an ideal companion for any of its Atari home computer. If dad's busy typing away and the kids want a to play a game, just plug the VCS into the TV and away they go.

And that's the most endearing feature of the 2600. Its ease-of-use. You



## Very Clever System

In Part 1 of his new series NEIL FAWCETT reveals the facts about the 2600 Games System

plug a 9v DC adapter into the mains socket, a jack plug into the 2600 and an aerial lead into the television. Turn it on and you can have hours of fun playing your favourite game. Atari

Users will be taking a look at the games available – both old and new – and reviewing them each month as we do the 8 bit computer games.

Each month we will be talking to different suppliers about what can bridge the gap. To start with we've compiled a list from the catalogue of Palen Electronics.

■ Palen Electronics can be contacted at Freshish House, Brunswick Industrial Park, Brunswick Way, London N11 1NL. Tel: 01-261 2054

Boeing  
Chopper Command  
Submarine  
Indestructo  
Private Eye  
H.E.R.O.  
Vanguard  
Star Voyager  
Ray Voyager  
Ray Link  
Cosmic Ark  
Beastmaster  
Quick Step

Tornado  
Laser Gates  
Seaquest  
Nightmare  
Raiders Battle  
Chaos Masters  
River Raid  
Run Righter  
Ming War  
Kung-Fu Master  
Riddle of the Sphinx  
Atari  
Moon Sweeper

Demon Attack  
Swordfish  
Space Shuttle  
Gexch  
Pre-Warrior  
Laserblast  
Quest for Quetzcoatl  
Orbit Prix  
Megaspace  
Krytostar Kapers  
Dragonair  
Spider Fighter  
Sequester

Turn to Page 28



## California dreamer

Proton California Games

Price: \$29.99

Supplier: Epyx/US Gold, Units: 20

Hatfield Way, Hatfield, Birmingham B6 3AA

Tel: 011 366 3366

"Way, brother! Don't take over our new pads!"

"Oleja see that? He caught some air on the half pipe! Raduza!"

MEET the wonderful world of the half pipe skateboarders — just one of four events on this new California Games cartridge from Epyx. The others are football, BMX bike racing and surfing. Together they make a compendium of the most exciting street sports to sweep across America.

You compete for a trophy in each event. The first, football, is described as being the most laid back event. Basically it's like juggling with your feet. You have to keep a bag in the air for 30 seconds without using your hands.

I found this to be one of the hardest events, but great fun. If you get your timing right you can keep the bag high in the air — and score extra points for performing stunts.

Next comes half pipe skateboarding. This is one of the most exciting sports to watch and the mixture of strength and coordination can result in some awesome results.

You are given 90 seconds to per-

form as many stunts as possible. Timing is all-important — if you hold on to the skateboard too long you'll fall off the pipe. Speed is another important factor. If you're not going fast enough you won't be able to perform a jump or a aerial turn.

Once you've completed the skateboarding it's time to put your petting foot to use and join in the BMX race. The idea is to cover the course — avoiding the obstacles — in the fastest time.

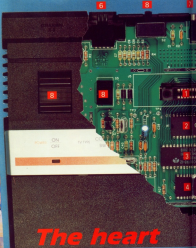
Ramps, logs, tree stumps and trees make life difficult and going too fast can result in rather nasty crashes. Finally comes surfing,

which started life as the entertainment of the Hawaiian kings, but now rules the Californian coastline.

The art of competition surfing lies in keeping as near to the curl of the wave as possible and manoeuvring your board smoothly at high speeds.

I found finishing this event very complicated but I still enjoyed playing it.

Overall, California Games is an excellent cartridge and well worth the £9.99 price tag. Nice graphics and neat sound effects add a wonderful feeling of reality to each game.



# The heart of the VCS





## The ghost with the most

Product: Ghostbusters  
Price: £9.99  
Supplier: Atari World, 70 Fennel  
Street, Manchester.  
Tel: 061-634 4341

"WAV, anybody seen a ghost?" Do you remember the superb film with Bill Murray and Dan Aykroyd? You

do? Well in that case you're bound to enjoy this superb game for the 2600 which is based on the film.

For £9.99 you get paranormal activity, franchise applications, ghost-catching gear, one hit song, slime, laser-stream throwers, a street map, the temple of Zau and a million ghosts. That's what I call value for money.

I remember playing the 8 bit Atari version of Ghostbusters when it first came out and thoroughly enjoyed it. The story line is very simple: Hundreds of evil ghosts and ghouls are heading for the centre of the city in an attempt to

turn it into Spook Central. Luckily for the city you and your friends have just decided to form your own Ghostbusters franchise.

The bank has loaned you \$5,000 to start the company. It has also told you to earn as much money as you can busting ghosts or it will close you down.

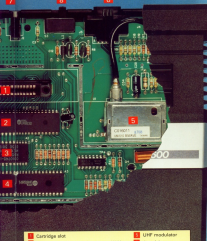
You have until the city's PC energy level reaches 9999. After this point it won't make any difference what happens because the spoils will have taken over.

You must buy all your equipment and a vehicle to transport yourself from one location to the next. Equipment ranges from an image intensifier for \$500 to a ghost vacuum for \$800. Don't squander your money, think very carefully about what you will need to bust the ghosts.

Having chosen everything you can begin the game. Four ghostbusters cyrcles will appear on a map of the city and several haunted houses will be revealed. Drive as quickly as you can to the haunted house and deploy your traps. Then activate your laser stream throwers and bingo, you've trapped a ghost. Don't cross this beam - that would mean disaster.

Although it sounds very easy you'll find the game gets harder as it goes along. Considering the 2600 is only a games system the standard of Ghostbusters is superb.

Neat graphics and excellent sound effects give you wonderful value for money. If you haven't got it go and buy it now.



- |   |                    |
|---|--------------------|
| 1 Cartridge slot                          | 5 UHF modulator    |
| 2 6502 peripheral interface adapter (PIA) | 6 Javelot ports    |
| 3 6803 central processor unit (CPU)       | 7 DC power input   |
| 4 TIA interface adapter (TIA)             | 8 Control switches |



Turn to Page 261



## Rom chop

Product: *Kung-Fu Master*

Price: £9.99

Supplier: Palen Electronics Ltd,  
Brunswick Industrial Park,  
Brunswick Way, London N17 5NR  
Tel: 01-261 5000

DEEP within the temple of the evil wizard lies the sleeping Princess Victoria. Held against her will she awaits a young hero to rescue her. Charged with the task of retrieving her, you as a Kung-Fu master are the only one strong enough to defeat the evil one's minions.

Trained in the art of karate you must penetrate the five treacherous levels and battle with the witless army of enemy soldiers.

Using your superb martial art skills you can laugh henchmen, knife-throwers, dragons and a few other not-very-nice types.

If you do manage to defeat everybody on a level, you'll automatically move to the next. In the



upper left quarter of the screen you'll see some numbers and bars holding the current status of several game variables.

They are the timer, your and your

enemy's energy bar and lives remaining.

Watch your energy bar carefully, because when it runs out so does your life. That of your enemy only indicates the strength of certain soldiers, usually the mean-looking one at the end.

A number of contrasting monsters and soldiers await you – henchmen, knife-throwers, mid-gets, dragon balls, snake basters, killer moths and the five biggies. All use different fighting techniques, so be very careful when engaging them.

Of all the people you must fight the biggies are the toughest. They appear at the end of a level and when they hit you they make a large dent in your energy level.

I remember Kung-Fu Master from the arcades. The 2600 version may not be as graphically good as the arcade version but it has the atmosphere and playability of the original.

I can recommend this cartridge to anyone who likes sport simulations – if you can call a karate game this.

## Our hero

Product: *M.U.R.C.*

Price: £9.99

Supplier: Palen Electronics Ltd,  
Brunswick Industrial Park,  
Brunswick Way, London N17 5NR  
Tel: 01-261 5000

DUFF calls and Roderick Hero – as it, Hero to his friends – is always at your service. Being an outward going, all-around good guy and idol to fledgling heroes around the world, he is always there when trouble looms.

In this superb arcade adventure game you take the role of Roderick and rescue trapped miners lost in the subterranean catacombs of Mount Leone. Decked out with the latest and most up-to-date rescue equipment – personally designed by Roderick – you must enter this underground world and find these lost men.

Several starting levels can be chosen by pressing the game select button. This means you don't have to start on level one all the time. You can jump to level 17 if you want, but be careful it's a deadly serious level. The only way to ex-

plain the various pieces of equipment you have is to let Roderick do it himself:

**Prop-pack:** "My greatest inspiration, to which I'm very attached. This propeller pack allows me to fly where I wish".

**Micro-laser Beam:** "The *Ashlar* comes equipped with a micro-laser beam. With it I can blast vile vermin. The beam can also slice through walls, but this takes time and time costs precious power".

**Dynawire:** "You begin each game and each mine shaft level with six shots of dynawire, each of which can demolish a small wall".

A number of possible deaths await as you explore the labyrinth, so you'll have to keep on your toes. Walls which glow red contain mines and will burn you to death if you touch them.

Killer creatures inhabit every tunnel and they tend to be found in the most awkward places – like the bottom of a shaft when you drop down it. Some areas are illuminated by lanterns but if you land on them the lamps will go out and you'll have to continue in the dark.

The graphics are absolutely astounding for a 2600 cartridge – this is the best conversion of a



home computer game I have seen for the VCS. Sound effects are very well done, and when combined with the quality of gameplay you get excellent value for money.

Our thanks to Atari World, Manchester, for supplying the 2600 hardware used in this article.



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Marlborough, Wiltshire SN8 1YS

**DATABASE SOFTWARE**

Europa House, Arlington Park,  
Arlington, Marlborough SN8 1NP.





# Getting to the root of the problem

Better disc handling with **PHILIP DOBSON's** superb program

## DCS command syntax

Where DIRNAME is used in the following list of commands, you should define a word or name of your choosing up to eight characters in length. The pointer routines have been written for an Atari 1025 and will have to be modified to work with a different printer.

**D:\ROOT>**

The program prompt. The name displayed between % and > is always that of the active directory. Changes the active directory to that nominated after the % to the one you want to investigate.

**CD\DIRNAME**

Returns you to the ROOT directory.

**CD\**

**MDIR\DIRNAME**

Used when you wish to add another disc directory to the ROOT disc. Once you have created a directory with this command, label the corresponding disc with the same name.

It removes the need to be precise in the art of small writing in order to squeeze the disc contents on to the disc label.

**RMCDIR\DIRNAME**

When DCS prompts you to insert SOURCE disc in this procedure, the disc you wish to take the directory from should be put into drive one.

**RMCDIR\DIRNAME**

Deletes or removes a directory from the root disc.

**PRDIR\DIRNAME**

Modifies the contents of the nominated directory to be re-written after the original has been altered.

Places a hard copy of a nominated directory.

Displays the contents of the active directory.

Displays the contents of all directories filed on the ROOT disc.

**FORM**

Formats a disc. Before it is a blank disc you put in the drive so any data present will have vanished forever after it has been formatted.

Causes the program to modify ROOT\DIR if directories have been created or deleted on the ROOT disc. It also asks you from the Root program.

If you have ever had to take directory after directory of inaccessible discs in order to find a particular file or program – and who has not? – this utility could save you a lot of time, disc changing and the odd expletive as well.

It's designed to help you keep a better track of which files or programs are on which of your discs, and does so in a simple way. In principle the program mimics to a limited extent the type of file handling directory found on most Desktop PCs. However, if you have never used one this will mean nothing to you so let me briefly explain it.

The Doc on a PC usually allows you to split a disc into a number of different areas – directories – at will, each area being an independent section from others on the disc. These directories are given a unique name when they are created, usually something meaningful. For example, a directory holding files created by a word processor might be called WORDPROG.

These directories can have files and programs saved in them in the same way we Atariers would use separate discs to save different types of files or programs on.

However, the beauty of a multiple directory system is that in order to find out what is in another directory – in our case on another disc – you'd







#### 4 From Page 33

RETURN

END INTERPRETATION, END INTERPRETATION  
END OF THIS PROGRAM/PROGRAM

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**Table 1** Summary of the study design and participant characteristics



# Sounds spectacular

Improve the sound quality of your Atari with LEN GOLDING's superb D-I-Y gadget

MODERN games make increasingly impressive use of sound, but unfortunately the average small TV can't reproduce computer audio at its best. The trouble is that TV speakers are usually quite small low quality units and poor at handling bass frequencies. Consequently explosions tend to sound more like waves on the shore, while background music lacks any body and presence.

It's even worse with monitors, especially the cheaper ones, where the sound output is often too thin for anything other than beeps and whistles. In fact, some inexpensive monitors designed originally for the communications field don't contain an audio channel at all.

This gadget will let your computer drive a large hi-fi speaker to give you better quality sound, or to produce a realistic stereo effect in conjunction with the existing TV system. It will also drive certain types of headphones, so you can follow your mind without upsetting the neighbours.

The amplifier plugs into the monitor socket on your 800, 50, or XE console - sorry 480 users - and will work in addition to the TV or monitor's existing sound system.

Figure 1 shows the circuit, which is based upon the TBA820 power amplifier chip. It's particularly suitable for computer applications, since it will work on five volts and takes relatively little current. You can power it by battery or even from the computer's own internal supply.

The gadget is very easy to build, using a printed circuit board supplied by RH Design. Alternatively you could etch your own PCB from the foil pattern in Figure 1. Because all the component connections are already made for you on the board, you need only plug in the various components and solder them to the tracks under their mounting holes. It could hardly be easier - this gadget is a good project for beginners.

The component layout is shown in Figure 1b. Start by soldering the three resistors and the IC socket, all of which can go either way round. A good tip is to insert the components, then invert the whole assembly on to a foam pad 20mm or more thick. This will help



hold the components in place and prevents the assembly from sliding around on the table while you're soldering it.

The capacitors go in next. C3 and C4 can go either way round, but C1, C2 and C5 must be fitted as shown. The negative side of these polarised capacitors is marked by black chevrons and - usually - the number 0. The 5-pin DIN sockets, volume control (VR1) and PCB terminal blocks are soldered last.

The speaker can be connected either way round to the two terminals marked a in Figure 1b. The amplifier will drive a speaker or combination of

speakers whose total impedance is not less than 4 ohms. 8 ohm types work satisfactorily, but produce slightly less volume with this particular amplifier.

Most hi-fi speakers are suitable, and the ones designed for car radios will also give satisfactory results.

Now we have to think about a power supply, and there are several options open here. You could, of course, use a properly stabilised mains power pack, but these are expensive and introduce an extra mains lead to fall over. Ni-cad batteries are suitable - four C size cells

Turn to Page 36 for

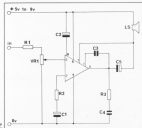
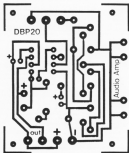


Figure 1. The amplifier circuit







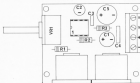


Figure 10. Documented invasion

positive by supply and pin eight the negative. It's very important not to reverse these connections, nor to let them touch each other when your gadget is plugged in to the computer.

With this method you will need to discharge the power supply, otherwise all you'll get is an unpleasant

## TIN SOLDERS

It's a whole lot less and you can do anything soldering technique so if you're new to the game there are a few tips. Choose a modern electric soldering iron rated between 15 and 25 watts, with a Tame or Steno bit. Also use 20 SpwS multigrade solder if you can get it — it is thinner than the more common 10 SpwS type and less likely to have

When the iron is hot enough, tin the bit by melting a small amount of solder on to its working surface.

Make sure the component you are soldering is correctly inserted and sitting tightly up to the board surface. Then apply the soldering iron so that it touches both the component lead and the PCB track simultaneously. Now touch the solder to the lead/track junction - not to the soldering iron - and watch until it flows smoothly across both lead and track.

You're unlikely to damage any of the components in this project by a serious test, so don't be too afraid a heavy to remove the iron. A good solder joint can be recognized on sight — it has a triangular profile, not a blob or flat highpoint, and it should be smooth and shiny.

If you've never done any electronics, soldering helps. It's worth spending an hour or so practicing on an odd scrap of Vero-board - all electronics shops sell this - before tackling the job.

butt. Do this by fitting a 220- $\mu$ F capacitor across the supply lines at the connecting block, taking care that the 0x side (marked with chevrons) and 0y goes to the 0x line.

When everything appears to be wired correctly, insert the amplifier chip, ensuring that it goes the right way round and that all eight pins fit firmly into their sockets. Turn the volume control to its half-way position and connect the power — you should now hear a low hum from the speaker.

If not, disconnected power at once, and check all your joints making sure you haven't missed soldering any (and that no stray bits or threads of solder have accidentally bridged any trails).

Also double-check that the positive and negative supply wires are listed correctly and the right way around. With



Figure 10. *Plot illustrating – when long the sum of the horizontal segments lies*

all is well, plug one end of the 5-pin to 5-pin cable into one of the PCB's 5-pin sockets—it doesn't matter which—and the other end into your computer's monitor jack. If you're using a monitor as opposed to a TV, plug the monitor lead into the other 5-pin socket on the PCB.

Any sound produced by your computer will now be heard from the new speaker as well as from your TV. If you like this stereo effect, use the volume controls to balance the channels, otherwise turn the TV volume off. Incidentally, you may get a slightly better stereo effect if you connect the speaker connections at the PCB. Try it and see.

It only remains to mount the whole assembly in a suitable box and fit some kind of output socket for the speaker. A 3.5mm jack socket is suitable and will accept many types of headphones as an alternative to speakers. However, most headphones these days are stereo types, so you'll need a stereo-to-mono converter plug if you want sound in both ears.

Also you'll find that the lower the headphone impedance the better the sound quality and the lower the background hum.

1. **Project description**  
 2. **Project objectives**  
 3. **Project scope**  
 4. **Project timeline**  
 5. **Project budget**  
 6. **Project risks**  
 7. **Project communication**  
 8. **Project closure**

Component Description		M.E.S. Code
R1	22k	R22K
R2	120k	R120K
R3	1 ohm	R1A
VR1	10K Lin. Potentiometer	P10K2C
C1	100 mfd 10v	FF10L
C2	47 mfd 25v	FF40L
C3	220 pF (marked n22)	W0202
C4	0.22 mfd Polyester type	W0202A
C5	220 mfd 10v	FF10P
IC1	TDA2020M	W0202T
	8-pin DIL IC socket	BL17T
	4-way terminal block	BN790
	Two 8-pin 180 degree DIN sockets	W081Y

All components are available from M.E.S., P.O. Box 3,  
Ravenshoe, Essex, SS56 6UA. Tel: 0300 552911

Printed circuit board (order code DDP30) Price £3  
 Jewels extension lead (order code AT111) Price £2.99

Available from R.H. Design, 137 Shorefall Avenue, Harrogate, North Yorkshire HG2 9BN Tel: 0470 560356

(Please include UAT and monitoring)



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Age Group	Total (%)	Male (%)	Female (%)	Unknown (%)
18-24	15	10	20	5
25-34	25	15	35	10
35-44	35	25	45	20
45-54	45	35	55	30
55-64	55	45	65	40
65+	65	55	75	50

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Group	Yes (%)	No (%)
Overall	55	45
Male	58	42
Female	52	48
18-29	50	50
30-49	55	45
50-69	60	40
70+	65	35

[illegible]

**Figure 1**

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DOI: 10.1002/for



FOR a number of months we have been printing letters from concerned readers wondering what the future has in store for the Atari 8 bit market. Admittedly, several of the major software houses have stopped producing games, due to external pressures mainly directed from distributors who will not stock 8 bit products any more.

Apparently, they feel the market isn't profitable enough for them to continue supporting. So, where does that leave the average 8 bit owner? How can he get the games he so desperately wants?

To whet your appetite let's take a look at some hardware and software products available in the USA and where possible give addresses and phone numbers of the distributors.

Some problems arise when buying hardware from the States and the major one concerns the voltage of US electrical equipment. In the UK we employ a 240 volt system, whereas the Americans use 115 volts. So if you buy an Indus GT disc drive as a replacement for your old 1050 you'll have problems. Also the British mains frequency is 50Hz but in the US it's 60Hz, which can upset timing circuits.

Luckily it's not too difficult to modify, or scratch build, your own power supply. And if this is too complicated a local electrical shop could do the job for a small fee, say around £20.

## Hardware

If you would like to turn your Atari into the ultimate system, take a look at the BTL customised parallel interfaces. For those of you with an 8000, there is the BTL 2001 interface or the 2002 for XL systems. Both attach to the computer's parallel bus slot.

You can also buy the 2004 hard disc adaptor which attaches to a standard SMD hard disc controller. This will allow you to control one or two hard

# The American experience

**NEIL FAWCETT takes a look at how American 8 bit users are faring compared to their UK counterparts**

The superb 3D perspective created by Chessmate



drives, giving a massive 128Mb of storage. BTL sells complete packages with up to 65Mb, or you can just buy the interface and controller and supply your own hard disc.

Prices? You can get a 10Mb system complete with MYDOS for \$160 — that's around £285. But remember you will have to add postage, package and import duty.

For more information write to: William Lurie & Associates, P.O. Box 2548, Van Nuys, CA 91409. Or telephone 0701 878 780 1123.

Atari has released the long awaited

REP-88 plug-in 88 column video module. According to Atari it boasts a razor sharp text display, plugs into a joystick port and has its own Centronics parallel printer interface.

We took a look at the REP-88 in the January 1987 issue of Atari User while it was under development. Unfortunately no software has been released to use the display it produces but we live in hope. One important factor to take into consideration is that you need a composite video monitor to view the display — it will not work on a TV or RGB monitor.

If you are intended to buying the REP-88, get in touch with Blue Shop — 01-309 1111 — who sell it for £35.

Earlier I mentioned the Indus GT disc drive. I don't know too much about it except that it looks very sleek with its shiny black finish. Priced at \$179 — around £328 — you can get more information from CMC, 417 East Third Street, Dept. 8861, Williamsport, PA 17781 or you can ring them on 0101 1213 327 9876.

If you see your Atari as something more than a games machine, why not take a look at the Conco Voice Master. It allows you to digitally record and



Chessmate!

Turn to Page 42 for



## 4 From Page 47

manipulate your own voice.

For a cost of \$89.95 (around £95) you get a small white box, headset, connecting cables, program disc and documentation.

Also included on the disc is a game of Blackjack — or Pontoon as we call it — which uses voice recognition to understand your commands.

## Games

The games market in America seems as strong as ever. Over the years I have played several chess simulations on my Atari, but never have I seen one as good as Chessmaster 2000 by Electronic Arts. It offers a superb 3D perspective of the board and plays a really mean game.

As you can see from the screen shots, it's graphically superior to any other chess game you'll see on any of the major today. Packed with a multitude of features it will keep you happy for months. Priced at \$25.99 (£18) you can get it from CMO — same address as for the Index ST disc drive.

If you've bought the new XE Games System you will have received a free cartridge containing Right Simulator II. Now Sublogic, the master of aircraft simulations, has brought out several new scenery discs which add to the enjoyment and playability of this superb program.

You have a number of choices, so I recommend you write to the Sublogic Corporation, 713 Edgemoor Drive, Champaign IL, 61820 for more information on its products.

If you're into sport simulations you'll love World Karate Championship from Epyx. An excellent piece of music accompanies the superb graphical representation of the oriental martial arts. Fighting in several locations around the world you have to defeat your opponents in a flurry of moves before you can be crowned champion of the world.

There is a similar game already available — International Karate — but it doesn't appear to be the same as World Karate Championship. The music is different and I don't remember International Karate having as many locations.

Available from CMO again in retail

at \$79.99 (around £12). That's knock-out value for a game of its quality.

MicroProse has put together a bit of its best-selling flight simulators on the Atari. Top Gunner gives you all the excitement of Helios Ace, Mig Alley Ace and Air Rescue. The first two are familiar to me but the last is a mystery.

Apparently you take the part of a chopper pilot who has to rescue a team of trapped archeologists in North Africa. A two dimensional third-person view is used to display the treacherous underground labyrinth. For more information write to MicroProse Software, 120 Lakeshore Road, Hunt Valley, MD 21036 or telephone 0301 381 751 1151.

When contacting the companies mentioned above please tell them you read about the products in Atari User. You should allow up to a month for delivery of anything you order — overseas mail can be a pain at times.

■ Next month I'll take a look at some more products and hopefully show you a few screen shots of Infiltrator — an animated graphics adventure from Midtwatch.



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## HARDWARE

120 XE Computer	£119
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THANK you for the superb article in the June 1988 issue of Atari User about the foreign language tutorial programs for the Atari 8 bit. Unfortunately, they are only available on tape and I only had a 1050 disc drive.

So after paying my local Atari dealer a visit, I bought an XC-12 cassette deck together with French and German language courses at a very reasonable price of £8.99 each.

They are wonderful value for money and a hassle to use - and the XC-12 is a very reliable cassette deck.

The reason I bought them is because I am in the process of taking a night school language course and felt I needed some extra practice with the oral side of learning a language. HOLA

## Putting in a good word

the help of the Longmans tapes I have also improved my spoken French and German and can follow conversations in these two languages in a useful lot better than before.

It was also nice to see that a woman had written the article. I would like to thank Alan James and Longmans for the article and recommend the tutorials to everyone. — Miss Sarah Smithwaite, Aberdeen, Scotland.

■ It's always nice to hear

from happy readers and we'll pass your comments on to the individuals concerned.

## Faster than it seems

AT last, the XF-85T disc drive review we had all been waiting for. After all of the months Atari kept us waiting we were finally allowed to see an in-depth article about it.

However, after looking at the accompanying timing tables the drive seems to be identical to a standard 1050.

I thought that after all this time Atari could have pulled it together and done a good job. — Graham Saunders, London.

■ If you take a close look at the review you will see a panel next to the timing tables which explains all. The DCA used for the review was a prototype and there was no way to switch the verify off when the drive was in write mode.

Because of this the results make the drive seem very slow, but believe us it is a superb machine and works an awful lot faster than the older 800 and 1050 drives.

## Stealth is out

I WAS recently reading another computer magazine and I came across a review of Project Stealth Fighter by MicroProse. According to the magazine it is available for the Commodore 64 and Atari micros, but on the main MicroProse advert only the Commodore 64 version is mentioned.

I have also seen the

manual for the game Stealth and there are loading instructions for the Atari XL/XE computers. So, now to my question: Where can they be found?

Moving away from games software, I'm glad to see Atari is advertising on TV and loading the 8 bit again. I certainly hope it will boost the sales of Atari micros. If this happens software houses may well resume writing programs for the dear 8 bit computer.

Most done with the new test mag, I especially like the games review and the Gulp! Chart. Keep up the good work. — Stuart Evans, Kirkcaldy, Glasgow.

■ Well Stuart you had quite a lot to say there. As to Stealth Fighter coming out on the Atari, they were probably referring to the ST version — and made a mistake by not putting ST after Atari.

MicroProse told us last time we contacted them that they were dropping their support of the 8 bit Atari.

Now on to the second game from them. Gambit appears to have been released in America for the 8 bit Atari according to several advertisers in American magazines. We'll try to get hold of one and report on it in our new series on American products.

And, yes, it is nice to see Atari supporting the 8 bit again!

## Games galore

I HAVE come to the conclusion that some software houses have replaced the land of the living. A few weeks ago I went to Bristol with my father to buy a new computer game with my pocket money.

We went into Virgin Games expecting to see a few crummy offerings on a shelf. When we saw four shelves packed with games we were amazed.

There were loads of new

From Page 44 to

## CLASSIFIED INFORMATION COMES IN USEFUL

AFTER seeing an advert in the classified section of Atari User about somebody selling Atari hardware, I went round to see them. I was interested in buying the PR Converter by ICD because I was in the process of buying a Star LC10 printer.

As well as this the advertiser was selling the Atari-Minter Plus program and Print Shop, which I thought was yet another word processor.

When I found out it was a graphic designer I was over the moon. It's just what I have always wanted but never knew existed.

Its features include making cards, letterheads, banners, telephones and a facility to make your own symbols and logos.

I have never been so pleased with a program and I've had an 8 bit Atari computer for five years now. If I

hadn't seen the advert and gone to see the person concerned I don't think I would ever have discovered this absolutely excellent program from Broderbund Software. — Ben Sharpe, Ensworth, Kent.

■ Thanks for the letter Ben and for readers who haven't seen Print Shop in action here are some examples of what it can do:



# ATARI USER



4 From Page 43

order I had never seen before. My dad gave me an extra £3 to go with my pocket money and I bought a pack of four games for £5.

So, all you other Atarians out there, get down to the Virgin Games store in Bristol - but don't buy them all because I still want a few. - **Kara Ball, North Bristol, Avon.**

## Retrieving lost files

I WAS wondering if you could provide me with a solution to a little problem I have. I recorded another program over the end of *Cavern Escape* - from the May 1988 issue of *Atari User*.

The worst thing about it is that it has almost finished loading when it errors. Is there any way I can load what's left and then type in the missing lines? - **Peter Gibbs, Horne Bay, Kent.**

■ Why not try the Recovery program we printed in the July 1988 issue of *Atari User*? It will read in as much of a damaged file as it can and reassemble it for you.

## A good Recovery

THANKS for the very good *Basic Recovery* program in the July 1988 issue of *Atari User*.

I have had two programs which failed to load for some time now. But after running them through the recovery program I managed to get at least 85 per cent of them back. It was a great relief I can tell you.

I enjoy your magazine and type in all of the correspondence. Ratings. - **L. Hoppesford, Measor, Derbyshire.**

■ We try our best to help all of our readers. Mr. Hoppesford. Thanks for the letter.

## Compatible printers

COULD you please tell me if the Star LC-10 printer is compatible with the Atari XT computer systems? And could you also give me a list of other printers which are compatible with the 8 bit Atari? - **David Pansenny, Burton, Derbyshire.**

■ The answer to your question is yes. The LC-10 is Epson-compatible and with the aid of an interface the Atari can be made to communicate to its Centronics parallel printer port.

The list of printers you could use is rather long, but here are a few: Panasonic KX-P1080, Epson FX-80, Epson LX-80, Epson LX-95, Epson LX-800, Epson LQ-1050, Citizen USP-100, Star LC-10.

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## Backing at last



WHAT a relief it was to me to read the news story in the August 1988 issue of *Atari User* about Atari supporting the 8 bit in *Atari*.

I had begun to worry about the future of my micro. I knew I may sound biased when I say this, but my Atari 1300X is the best 8 bit micro ever to be designed, built and sold.

It's brilliant, stupendous but unfortunately underused. It has been designed for its poor *Basic* and for the lack of support it has had over the years in the UK.

Usually when entering into a conversation of this nature with another computer owner - you know the type - BBC Micro, Commodore, Amstrad and so on - I begin to lose my temper.

But no more. I have recently obtained Turbo *Basic* - readily available in the public domain - and I am very impressed with it.

Not only is it a correctly structured programming language, it also has a compiler program which will compile TB *Basic* and old Atari *Basic* programs as well.

So with Atari backing the games scene and such a wonderful program as Turbo *Basic* available free, the future looks healthier - doesn't it? - **Stephen Pratt, Kingston-upon-Thames.**

■ Hopefully Stephen this will be the start of better things for the Atari 8 bit micro. And maybe it will be given some credit for its quality and ahead-of-its-time design.

As to your reference to Turbo *Basic*, we at *Atari User* are interested to know how many of our readers have this superb programming language.

## Switched cartridges

I HAVE a *TURBO* and constantly use the *MacOS*, *Basic* XT and *Action!* cartridge-based languages. The wear and tear on these very expensive items caused by plugging and unplugging them is causing me some concern.

Recently you published two letters from other readers on the same subject. I would like to add my voice to theirs and ask you to come up with something that would hold all my cartridges and allow me to switch them in and out individually.

Such a gadget is available for the Commodore and it would be nice to see one for the Atari. - **G. Howell, Wokingham, London.**

■ It appears that with the introduction of the new games console and the re-release of games on rom cartridge a device of this nature would be very useful. Peripheral manufacturers please note.

## Saving to disc

IN the March 1988 issue of *Atari User* there was a letter concerning *Blackboard Conclusions* £3 on tape. It appears the writer was having problems saving newly-created levels to disc. Here is the solution:

■ Turn on your disc drive, insert a Disc that had you want to save the levels to and plug your cassette deck into the back of the drive.

■ Load the game as normal. When it has finished the screen will go blank and start up *Disc*. The conversion program will then run.

You can now create your new levels and save them to disc using the cassette-based main program. - **Shel Cheung, Luton, Bedfordshire.**



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... YOU HAVE DESTROYED ALL 8 SHIPS AND  
 0 THE GAME IS NOW OVER. \* \* \* \* \*  
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 AND THE GAME WILL NOW BE RESTARTED...  
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Unfortunately, he wasn't willing to disclose it, even though offered a bribe of a year's free subscription to *Joan's User*.

Now on to Bryan's complete solution. Remember that once you have used something you should drop it, because you can only use each item once.

#### THE ISLAND

- Go N, E, E and get wine.
- Go W, W, S, E and tie wine to rock.
- Go down, W, get rock, dig ground and get the shell.
- Go West and enter the hut before you get the straw.
- Go S, N, E, N, E, E, S, S, E and get the rum.
- Go W, N, N, W, W, S, W, S, S, S and get the shell.
- Drop the straw, hit the rock with the steel and give the rum.

# Your HINTS & TIPS

#### THE SHIP

- Go N, W and talk to the doctor. Then think gash.
- Go S and hit the man.
- Go S again and get the cleaver.
- Go N, N, E, N, W, S and get the canvas. Now repair it.
- Go S, E and cut the chain with the cleaver.
- Go E, N, N, E and enter the boat.

#### LONDON

- Go E, E, E, S and search the man before you get the hat.
- Go N, W, N, S and give the hat.
- Go E and examine the dress. Follow the man and think *tycoon*.
- Go S, W and get the hat. Now examine it.
- Go W, S, W, S and buy the gold.
- Go N, W to the fish dealer and read the newspaper. Now think *Asymen*.
- Go E, N and pay the man.
- Go S, E, N, N, E and buy the ticket. Type *Chendral* and buy the ticket.
- Go W, S, S, W, N, N and enter the plane.

#### LUXEMBOURG

- Go N, E and enter booth 11. Search the man and get his ID. Read it and think *Baba*.
- Get the note and read it. Now think *Jared*.
- Go E, E, N, E, E, S, E and dig. Get the leaflet and read it.
- Go W, N, N, W, W and talk to the clerk. Get the box and examine it before you get the gun.
- Give the box and go E, N, W. Now go up then N, W and get the parachute. Now read it.
- Go E, N, N, N, E and shoot the man. Then think *William*. And that's all there is to it.



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