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Vol. 2 No. 4

August 1986

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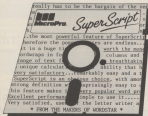
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# Atari 8 bit market is booming

THE Atari 8 bit market is booming as newer babies, keeping computer shop cash registers jingling up and down the country at a time when business is normally slack.

Defying the traditional summer sales lull, turnover in both hardware and software sectors has been brisk during the past couple of months, an Atari UK survey has revealed.

Dealers say there are two main reasons why Atari 8 bit machines and software are moving when other brands are not.

One is the spectacular sale of 100,000 80001 machines through Dixons over Christmas, which boosted the Atari 8 bit user base to a massive 300,000 in the UK.

The other is that software houses are responding to this – and the ongoing success of the 1300X – by producing a steady supply of new programs at affordable prices.

Where the Atari 8 bit owner could expect to pay about £18.95 – and sometimes as much as £29.99 – per game a year ago, he can now get quality titles for £9.99, with some as

cheap as £3.99.

Retailers report that lower prices have dramatically increased unit sales of Atari 8 bit software, making it possible for youngsters to buy games with their pocket money instead of having to save up for weeks.

Although some software publishers were initially unhappy at lower profit margins per title, most say this has been more than compensated for by vastly increased sales.

Marketing director of Atari main dealership Silcoo Shop Tony Dams summed up the current situation: "Owners of Atari 8 bit machines need have no fear for the future.

"The entire trade is very pleased with the volume of recent business, coming at a time when the market is normally slow. In fact we have had a couple of really good months.

"A key factor has been that the Atari 8 bit software scene has changed completely, with a

vast number of low-priced titles becoming available in response to the massive user base.

"What we are seeing is something similar to the way the Spectrum market went, with publishers starting to produce software at sensible prices.

"This has created a brand new buyer market, particularly among children, which is to everyone's benefit. Kids are now able to buy a cheap game each week during their summer holidays where before this was beyond their means.

"The new software situation is exactly what the public and the dealers want – inexpensive titles and vastly increased unit sales.

"The huge success of the Dixons deal at Christmas has assured continuing support from software houses for the Atari 8 bit machines.

"In fact this support is actually increasing momentum as more publishers climb on the bandwagon".

## Latest releases

APL08000 for the Atari ST has been released by Microsoft.

Widely used on mini and mainframe systems, APL is now entering the micro market in a diverse set of applications, including financial modelling, statistics, market research and insurance.

APL functions can exchange data with other Atari applications. As well as the standard APL08000 product, which uses the special APL character set, MicroAPL also has a version which uses plain English keywords to replace the special symbols.

It costs £175.

\*\*\*

CONVERSIONS of four adventure games for Atari ST/XT have been released by Peluso Software. Rick Hanson, Proctor Theius, Island of Acan and Encher Seven will only be available on disc.

Encher Seven costs £17.99 with the other three at £14.95.

\*\*\*

FIVE new adventures – Nightmare Maze, Snowball, Garts, Diamond Mine, and Castle Assault – have been released by Blue Ribbon for the Atari 800 range.

All cassette versions will cost £1.99 with a games disc costing all five at £9.99.

\*\*\*

A NEW to stay overnight in a haunted house named the Ghosts of Ghost of Death, a new adventure for the 80001 and 800X1, from Argus Press Software.

Once in the house the doors slam shut and here comes the Battlemoon from Vragus IV! The cassette costs £3.99.

\*\*\*

A TEST of your knowledge of Britain comes in a new flying adventure for users of the 800/800 XLS and 1300XL.

Released by Aristocrat, Map Britain has you as the pilot of a helicopter seeking locations like towns, cities, rivers and regions. Points are scored when the right place is found in a certain time.

Price: £8.95.

## WHAT THE STARS SAY

A NEW program for the Atari 8 bit range, *Paranormal from Rhineland*, is a four part desktop television.

Company director David Edwards said: "A lot of research has gone into this. It not only predicts your future but indicates your present and past".

After feeding in your time and date of birth a full prediction is produced. In 80P a check can be made on your psychic abilities and Reincarnation – funerals – reveals if you have lived before and as what.

*Numerology* assesses your character and *Big Rhineland* reports your mental, physical and emotional powers.

Price: £4.

## Bundled STs snapped up

BUNDLED Atari ST machines are selling like hot cakes at a North London retail outlet. An average of 30 520STX and 1040STT packages a day are being snapped up by customers at Twitler Computers in Southall. There are six packages to choose from, four including the 520ST and two the 1040ST. The 1040ST package aimed at small business users is slightly subtitled the 520ST one, bought mainly by home users, reports Twitler managing director Amogh Dhari.

Prices range from £375 for a 520ST bundled with 800k disc drive and mono monitor to £950 for a 1040ST with built-in 1mb drive and colour screen.

"We find the bundling of ST machines has been a tremendous success", Mr Dhari told Atari UK. "Customers usually know what they want the machine to do and how much they want to spend, but they are often confused about which add-on to buy".









Steven Burke...celebrating

## Birthday offer

TO celebrate its first birthday Computart, the Atari mail order company, is offering an Atari ST pack, for £445 — a saving of £140.

The pack consists of the 52000TM with 500K drive and 25 3.5in disks.

Company managing director Steven Burke said, "We have just completed a move to a new warehouse in Loughborough and as it is also our birthday we decided to make special offers to celebrate".

For readers of Atari User the company is offering two free disks with every box of 10 bought.

## TEENAGERS SUE OVER ATARI GAME

A MILLION dollar suit has been filed against the Atari Games Corporation by two teenagers from Redwood City, California.

The boys are claiming that the travelling arcade game Paperboy released by the Warner Communications-controlled company had been written by them.

Mark Casner, 14, and Robin Hollingshead, 18, say they sent an outline of the game to Atari back in 1983.

So they were somewhat surprised two years later when they came across the game in a

A NEW wave of games products is about to be launched for the ST market in the UK as the home in sales of the machines continues unabated.

The latest breakthrough has been made by Peter Connors, a regular contributor to Atari User, with a program called Flying Start which he is selling for £70.

"I bought an ST to take the place of my ageing BBC Micro, but I still wanted to be able to access services like Protext", said Connors. "I didn't set out to write a commercial package, just something that I could use myself".

But now there is a good chance Flying Start could be taken up by one of the major games software publishers, and it has already been

enthusiastically reviewed by Micronet.

The package will work with any V20/V33 system and has full colour or monochrome text and graphics. It can handle scrolling bulletin boards and is fully menu driven.

Connors is currently working on enhancements that will lead to a V-1.03 version to follow the existing V-1.01 product at a "nominal higher price".

Meanwhile, modern manufacturer Minolta Technology is putting the final touches to a powerful integrated ST games software package called SuperTern which it intends to launch on the Atari stand at the PCW Show in September.

It will have standard Atari and Viewdata/Protext modes of operation based on the GDM environment with VT100 emulation. Users can select from low or high resolution displays. SuperTern will have capability for telesoftware downloading, file transfer, print frames to printer, and even an in-built telephone directory.

Snatch now will be selectable

between 300 full duplex up to 2400 full duplex and the complete package is expected to cost just under £50.

Bundled with Minolta's new Hayes-compatible VHS4000 modem, it will be offered as a complete communications system for the ST at under £200.

## Trivial Pursuit for Atari

TRIVIAL Pursuit, currently the world's most successful board game, is to be released by Domark for Atari users early next year.

With 70 million copies having been sold worldwide — three million in the UK — there was fierce competition among software companies to obtain the rights to produce a home computer version of the game.

Domark's joint managing director, Mark Strachan, said "We're delighted that the Teve people chose us".

The game will be very similar to the board version with the computer displaying the board and running the game.

A minimum of 3,000 questions will be included with the program, some with text only, but nearly half with sound and graphics.

To make replacement questions easier to make Domark is using a new system, Uniload, which will mean that other versions can use the same EMS tape.

Strachan said, "We have already had 40,000 advance orders".

It is expected to sell for about £14.95.

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# Platform yawns

**Program:** *Run Baby Run's*  
*Save It!*  
**Price:** £2.99 (casual), £5.99  
*(full)*  
**Distributor:** American  
 Software, c/o US Gold,  
 Unit 2 and 3, Motest Way,  
 Holford, Birmingham B8  
 7AR. Tel 021-260 3388

Sorry to have to report that, despite the intriguing title, this game is nothing more than another one off the seemingly interminable production line of platform games. In fact, the only unusual thing about it is the title. Score zero for originality.

The game is described on the packaging thus: "32 fast action screens of action-packed running fun as Butt wanders through the flowing Factory".

There may well be 32 screens but after a few plays I was so bored that I had no desire to put that statement to

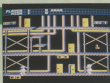
the test. The screens I did manage to try were through were certainly neither fast-action, exciting or action-packed. Slow-action, monotonous and yawn-packed would be more apt.

The Butt of the alternative title is a bloomy pink figure who can run left and right (taking a bit of time to get up steam), and can jump, sit down and fire bullets.

The game begins outside the factory where there are separate entrances for shipping, production and control, each of which leads to a different part of the factory.

Basically, each screen is a series of stages dotted with doors through which the meemies, without which no platform game is complete, appear.

Back shooting means looks exactly the same as the last shooting meemie. Kill one and



another eventually appears from the same door.

As well as meemies, platforms and doors, there are moving trucks, escalators, rolling barrels and blowers, the latter gently floating Butt upwards to a higher platform. Moving off a certain edge of most screens usually takes you to another screen.

Don't ask me what the object of the game is - the minimal instructions were silent on that point. About the only thing they do tell you is that the game can be played by one or two players.

The gameplay was dull, the graphics mediocre, the use of colour unimaginative, the animation basic and the sound below average.

Granted it is inexpensive, but if you really want a cheap but enjoyable platform game, better by far are *Duke Fodder* and *Nuclear Rick* from the same company.

**Bob Chappell**

Sound	2
Graphics	2
Playability	2
Value	5
Overall	2

# Platform fun

**Program:** *Nuclear Rick*  
**Price:** £2.99 (casual), £4.99  
*(full)*  
**Distributor:** American  
 Software, c/o US Gold,  
 Unit 2 and 3, Motest Way,  
 Holford, Birmingham B8  
 7AR. Tel 021-260 3388

**SURPRISE,** surprise. Nuclear Rick is yet another platform game. Nothing wrong with that provided the game challenges and entertains - and this one certainly does.

You control Rick, the usual running, jumping bumbler, whose job it is to visit several various platforms grabbing the goodies and slaying the bad-dies.

The basic villains of the piece are pesky little roly-poly robots which vary touch spells lights. But far out there. Although Rick has no weapons, he can strike back by setting what appear to be - I hope you're ready for this -

radioactive hamburgers!

I can assure you that US Gold sent no instructions with my review copy. But given the title, the flashing of said burgers, the fact that Rick immediately starts to pulsate and glow after feeding his face, and the dire consequences for the robots, it seems a fair deduction.

That being so, the game deserves to win the equivalent of the Jules Verne trophy for daring plots, not to mention the matter of questionable taste (no pun intended).

Gathering down a jump-burger gives Rick several seconds worth of radioactive incandescence, enabling him to neutralise as many robots as he can reach before his digestive system returns to normal. Once victorious, Rick can progress to the next screen.

Further points can be amassed by gathering up small



suspended bricks (nuclear waste, attack robots!) along the way. Rick has five lives and 32 screens to cross, each tougher than the last.

While the robots and burgers are always the same in appearance (if not quantity), each screen has a different configuration of platforms.

The graphics are crisp and attractive and, though there is no music, sound effects are generous and, I think, appropriate (have you ever swallowed a radioactive burger?).

The game is simple to get

into, while the difficulty of the screens range from taking candy from a baby to explosive delight.

Despite its dubious scenario and questionable taste, Nuclear Rick is a pretty good platform game. And at the cheap asking price, it's a genuine bargain.

**Bob Chappell**

Sound	3
Graphics	3
Playability	5
Value	5
Overall	3

## Question time

**Product:** PQ - The Party Quiz Game  
**Price:** £12.95  
**Supplier:** Sunbeam, c/o Software Systems, 614-616 Alum Road, Birmingham B10 3AB. Tel: 021-551 1888.

SINCE the advent of the Trivial Pursuit quiz game, dining rooms have been buzzing until the early hours of the morning with questions and answers on a variety of general knowledge topics.

As parents and children recreate long-forgotten family evenings, even the busy TV faded into the background and the ever popular home video began to feel somewhat neglected.

But fear not, help is at hand for you introverts who suffer withdrawal symptoms from even an eight's absence from your box of bytes.

Sunbeam has released a computer version of this popular family general knowledge game in the form of Party Quiz. You can liken it to the video game seen currently in many public houses.

You are provided with four

neat and well built quick response hand controllers so that the game can be played without using the keyboard.

All the controllers play in to one interface box which in turn connects to both joystick ports. There are four buttons on the controllers and they correspond to the numbered answers that appear on the screen.

There are two types of questions - a multiple choice, which displays four possible answers with only one correct, and a straightforward true/false variety requiring the use of only two of the four buttons.

Two discs contain all the questions, with the Atari version on side A. These questions are pure general knowledge with no specialist subjects, as in the table top game.

Once the game is loaded, pressing Option displays a menu screen. From here you can alter the game format by selecting the number of players, the response time for each quiz, the number of rounds, type of game and whether any of the four players is to be handicapped or not. The response time can be



set to 10 seconds, five seconds or a challenging three seconds and a visible countdown bar in the main game reduces in length as a speed relative to this response time as you attempt an answer.

You can have up to 50 rounds, with each round containing 10 questions.

There are also lightning bonus rounds where the computer randomly selects a player who is given 30 seconds to answer up to 10 questions, it then picks another player until all have had a crack at the bonus round.

The type of game can be altered between competitive and social. In the former only the first correct answer scores, whereas in the latter all players may attempt an answer, with all correct

answers scoring.

Handicapping any player from the main menu screen immediately reduces his response time by half. His controller is automatically rendered inactive until half the response time has elapsed.

The computer automatically takes care of the scoring and at the end of the game all the players are rated according to their performance.

The game is obviously meant for the American market, as the questions generally orientate around American culture, history and general knowledge.

For example the question "The area code for Las Vegas?", would probably leave even the most experienced Mastermind addict clueless.

There are no graphics in this game, and the little use made of sound is restricted to highlighting the decreasing countdown bar, but this does add somewhat to the tension when you are deep in thought.

The idea of four separate controllers is great and makes for quick responses, but this game has been introduced too late, as Trivial Pursuit has already begun to dwindle.

It's a worthy effort, but not for me. The general knowledge addicts among you may quite enjoy it, but it's rather expensive for what you get - and you are going to have to brush up an awful lot on America.

David Andrews

Sound	B
Graphics	N/A
Playability	B
Value for money	B
Overall	B

Party Quiz comes complete with two discs, a manual and four controllers.





be switched off at any time by a single command. There is no speech synthesis in the Amiga version.

In Mail Run mode your job is to deliver sacks of mail across different states to their destinations in as short a time as possible. You can select the level of difficulty from student (easiest) to commercial pilot (most difficult) and decide which destinations and how



much mail and fuel to carry. As the game progresses

weather conditions deteriorate and, depending on the skill level selected, your plane may develop mechanical and instrument malfunctions.

The graphics are fairly satisfactory and the display a little slow and jerky.

Even so, this unusual flight simulator is pleasantly easy to get to grips with, particularly given the presence of the onboard instructor. The Mail

Run option is an added bonus. Enjoyable and entertaining, the new Solo Flight has much to recommend it.

Bob Chappell

Sound	5
Graphics	7
Playability	8
Value	8
Overall	8

## The big topper

**Program:** Ballyhoo  
**Price:** £29.98  
**Supplier:** Infocom, c/o Delta 4 Distribution, 7-9 The Arcade, Manchester Road, Bolton BL7 9JL (0414 455 141) or 0203 83003.

WHAT connection is there between a sucker, an Annie Oakley and a First of May? All those who shouted "Circus!" give yourself a cuddly top. To put the rest of you in the picture, a sucker is a clown-gate, an Annie Oakley is a talent and a First of May is a novice circus performer.

Now the only reason I

happen to be knowledgeable about circus lingo is because I've been playing Ballyhoo. Infocom's latest standard level text adventure, in Ballyhoo, all the action takes place in a circus where the shabbiness of this particular big top is matched only by the weakness of the performers.

Literating after the show was over, I managed to eavesdrop on a conversation between the circus owner, Mumburty (my spelling is backwards), and a private detective. It seems that Chateau, the owner's daughter, has been kidnapped and might have

As you budge along in the wake of the outlinings crowd, you thrust through your memories of this evening. Your experience of the circus, with its halfhearted promises of wonderment and its ultimate disappointment, has been to sink your teeth into a candy apple whose fruit is rotten.

Never mind the outrageous prices, the St. Bernard-wedding, and the...

been stalked somewhere on the circus lot. Since the gumshoe appears to be about as competent as Clouseau, I decided upon a little sleuthing of my own.

The adventure is full of fun and originality and I got to meet many interesting characters. For instance, there is Tina, a lady who let she occupies two locations at once! When I tried to get a little closer to her massive bulk I was told "The stage's too steep!"

There is more to Conrade Thurst, a diminutive Russian, and the hapily named Chatterbox, a early clown, than first meets the eye while a visit to Andrew Jenson (half man, half woman) proves a most confusing experience. And heeding my bumps felt, palm read and being placed in a hypnotic trance by Rinschew the Incomparable are all things I shall forget in a hurry either.

Then there are the animals. Fancying my chances as a lion tamer, I stooped boldly into the lion's cage to put them through their paces. Exit stage right, stooped to pieces but somehow wiser. Maybe there was better luck to be had with Mahler, the handsome gorilla. The question was - should I

enter his cage wearing that delicious gorilla costume I'd found lying about?

Drawing a veil over my experiences with Mahler, I turned to my exploits as a high-wire artist. Here I had the opportunity to excel - and would have done it some doubtabout hadn't removed the safety net when I wasn't looking. Result - back again to being the human plaything in one of the sideshows.

The mystery and danger intrinsic to the plot of Ballyhoo is well-seasoned with wit and humor. I particularly enjoyed an encounter with the Egress - a rare but fearless mammal - and, elsewhere, being able to vent my feelings during the moment between doing something (useful) and actually feeling the pain.

Yes, Infocom has done it yet again. Ballyhoo is a superb adventure, full of intrigue, originality and intelligent humor. Don't miss it.

Bob Chappell

Sound	9/10
Graphics	9/10
Playability	10
Value	10
Overall	10



# Now let's get things moving...

Part Four of **STEPHEN WILLIAMSON'S** series on player missile graphics



**THIS** time I will show how to move players around the screen by using animation techniques.

Program 1 demonstrates the basic method for moving players. The first section, lines 50 to 190, contains the standard player missile initialization routines that you will be familiar with if you have followed this series so far.

**POKE 166,0** in line 50 switches off the cursor, so if you stop the program and want to switch the cursor back on, either press Reset or type **POKE 166,2**.

Moving a player horizontally is straightforward. You simply increase or decrease the value held in the horizontal register corresponding to the player you wish to move. A list of

these registers was given last month, but in case you do not have a copy handy, they can be summarised as follows:

- Registers 53248 to 53251 are the horizontal registers for players 0 to 3.
- Registers 53252 to 53255 are the registers for missiles 0 to 3.

One problem with the horizontal registers is that you cannot **PEEK** them to find out the current horizontal position of the player or missile strips. If you type

**POKE 53248, 140:**  
**PRINT PEEK(53248)**

you would expect the return to print the number 140, the value you have just stored in location 53248. Instead

you get the number 0. So where has 140 gone? The Antic chip has taken 140 into its inner workings, altered the horizontal position of the player strips accordingly and then immediately reset the value held at 53248 to 0 before the **PRINT PEEK(53248)** instruction has been handed. This is all very inconvenient if you want to keep track of the horizontal co-ordinate of the player strips.

For most animation procedures we need to assign a variable to hold the current player strip position. Line 170 of Program 1 uses the variable **MOVHZ** to store the current horizontal value of the player 0 strip, which is initially 130.

Line 180 assigns another variable,

```

10 REM *****PROGRAM 1*****
20 REM *****INITIALISATION*****
30 REM *****PLAYER 0*****
40 REM *****PLAYER 1*****
50 REM *****PLAYER 2*****
60 REM *****PLAYER 3*****
70 REM *****MISSILE 0*****
80 REM *****MISSILE 1*****
90 REM *****MISSILE 2*****
100 REM *****MISSILE 3*****
110 REM *****INITIALISATION*****
120 REM *****PLAYER 0*****
130 REM *****PLAYER 1*****
140 REM *****PLAYER 2*****
150 REM *****PLAYER 3*****
160 REM *****MISSILE 0*****
170 REM *****MISSILE 1*****
180 REM *****MISSILE 2*****
190 REM *****MISSILE 3*****

```

```

200 REM *****INITIALISATION*****
210 REM *****PLAYER 0*****
220 REM *****PLAYER 1*****
230 REM *****PLAYER 2*****
240 REM *****PLAYER 3*****
250 REM *****MISSILE 0*****
260 REM *****MISSILE 1*****
270 REM *****MISSILE 2*****
280 REM *****MISSILE 3*****
290 REM *****INITIALISATION*****
300 REM *****PLAYER 0*****
310 REM *****PLAYER 1*****
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340 REM *****MISSILE 0*****
350 REM *****MISSILE 1*****
360 REM *****MISSILE 2*****
370 REM *****MISSILE 3*****
380 REM *****INITIALISATION*****
390 REM *****PLAYER 0*****
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410 REM *****PLAYER 2*****
420 REM *****PLAYER 3*****
430 REM *****MISSILE 0*****
440 REM *****MISSILE 1*****
450 REM *****MISSILE 2*****
460 REM *****MISSILE 3*****

```

```

470 REM *****INITIALISATION*****
480 REM *****PLAYER 0*****
490 REM *****PLAYER 1*****
500 REM *****PLAYER 2*****
510 REM *****PLAYER 3*****
520 REM *****MISSILE 0*****
530 REM *****MISSILE 1*****
540 REM *****MISSILE 2*****
550 REM *****MISSILE 3*****

```



Table 1: Summary of the data for the first 10 rows of the dataset.									
Row ID	Category	Value 1	Value 2	Value 3	Value 4	Value 5	Value 6	Value 7	Value 8
1	A	10	20	30	40	50	60	70	80
2	B	15	25	35	45	55	65	75	85
3	C	20	30	40	50	60	70	80	90
4	D	25	35	45	55	65	75	85	95
5	E	30	40	50	60	70	80	90	100
6	F	35	45	55	65	75	85	95	105
7	G	40	50	60	70	80	90	100	110
8	H	45	55	65	75	85	95	105	115
9	I	50	60	70	80	90	100	110	120
10	J	55	65	75	85	95	105	115	125







Shape data is not initially loaded into the player data area, but is stored in the unused portion of the player missile array (line 120).

Twenty-six numbers are read, which are made up of two 13 number shapes. The first is the familiar shape of the bug seen in Programs I and II, and the second looks like the bug without its wings.

The machine code routine is loaded into page 6. Addresses 1930 to 1792 – page 6 – are not generally used when Basic programs are running, so can be used as an alternative location for storing machine code routines, as long as these do not exceed 256 bytes in length.

Again it is not necessary to understand how the machine code routine is written. What the routine does is transfer the contents of a specified area of memory to another area of memory. This can have many

applications, but it is ideal for use with the player missile graphics system. The format to access the routines is:

**ADDR** (machine code address, from address, to address, number of bytes)

Line 180 uses this routine to transfer the contents of the first 12 bytes above PMSAGE to the appropriate area within the player 0 data area. Once again, as in Program 8, the vertical position is decided by the variable UPST.

Line 280 then takes the next 13 bytes above PMBASE and stores them in the same place within the device's data area.

The effect is to display the bug shape on the screen, immediately followed by the shape of the bug without its wings to give the illusion of flashing wings. However this pro-

of shape-swapping animation is not restricted to two shapes. Using more than two can create much more sophisticated animation – figures walking, or Faeries gliding for example.

Whether you use this routine or those in Program II is a matter of personal preference. I prefer the Program III routine because, although it is longer — 81 bytes as against 42 for the other two — it is more compact.

Try changing Program III by altering the shape data, or including more than two shapes to create your own animation epic.

■ So far, to keep things simple, I have shown how to display and animate one shape at a time. Next month we will look at how to display more than one player, and at how players and playfields can interact with each other.

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Handy for use from 200 pages/100,000 catalogue, which has a large selection of titles with descriptions and complete details for each issue.



**REMARKS:** 1. (GENERAL) The 100' tall glass sculpture, part of a large scale site art, is "formed" around three upper level trees to be added into the site (about a year) through support to stabilize them. Sculpture supports planting in landscape (plants are about being a living art). It is made of steel and stainless steel, stainless steel and copper. Comes with three chairs and bench or bench. (Photo) 2. (SPECIFIC) This is the

[illegible]

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[illegible]

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[illegible][illegible]

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

*For all computers  
Great and small  
make that call.*



1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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**Abstract**

**EXPRESS**

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## VALUES IDENTIFICATION

LET'S give your computer the power to control mains appliances. It can be operated directly from the keyboard, by a Basic program, or by external sensors such as light or heat detectors.

There are two independent channels, expandable to four, and each channel can handle 750 watts. For now we'll look at the electronics and theory of operation. Next month we'll describe the practical construction and programming.

Safety is our first consideration because, no matter what design is used, the control box must have a mains cable going in at one end and a joystick lead coming out of the other.

If ever the brain should meet, your computer — or at very least its ROM chip — will rapidly depart this life, and may attempt to take you along with it.

This design has two separate stages of protection — an opto-isolator on the input circuit, and mechanical relays to handle the mains voltage output.

Let's look at the opto-isolator first. Figure 1 shows in schematic form how it works — you may recognise the symbols from last month. It has two components, housed together in a light-proof package. The input is a conventional light-emitting diode and the output is a phototransistor which switches off in darkness and on when illuminated.

The only link between input and output is a beam of infra red light, and there's no way that high voltages can cross the gap. Your computer sees only the LED side — all the dangerous work is done by circuitry which it never needs to know about.

Since our controller has two channels we need two opto-isolators, and for convenience we've used a dual type which has everything contained in a single 8 pin package.

A second level of mains isolation is

# Controlling mains appliances

**The accent is on safety in Part 3 of  
LEN GOLDING's series on using  
your Atari to control devices**

achieved by using mechanical relays to do the actual switching. Relays come in many shapes and sizes, but they all work on the same principle — see Figure 2.

A coil of fine wire generates a magnetic field when current flows through it, and the magnetic attraction is used to operate one or more sets of switch contacts. The coil uses little power and can operate on low voltages, but the switch contacts can handle much higher voltages and currents.

Since the coil is heavily insulated from the switch contacts, mains voltages cannot get through to the low-voltage lines.

Figure 3 shows the circuit for the complete mains controller, with its three distinct stages. Stage 1 is the LED circuitry which connects to the computer via a joystick port, and operates on power from pin 7 (+5V).

Control signals are taken from pins 1 and 2 via resistors R1 and R2, to the

base leads of TR1 and TR2 where they are amplified and made to drive LEDs A and B inside the opto-isolator. Resistors R3 and R4 limit the current through each LED to around 5mA.

The two jacks are optional — they connect to the joystick port's analog inputs, so you can use external sensors — like light detectors or central heating thermostats — to control the switching action.

Stage 2 operates on a nominal 12V DC from transformer T1. The power supply is not critical, so the circuit uses a simple bridge rectifier — BR1 — and smoothing capacitor — C1. The output from this network is around 14V when no load is connected, falling to 12V or so when the maximum current — about 500mA — is drawn.

An auxiliary output is provided on the terminal block so that you can tap this supply for other purposes if you wish.

When phototransistor A switches

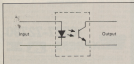


Figure 1: Opto-isolator

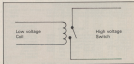
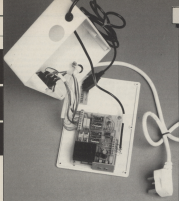


Figure 2: Mechanical relay



on its collector voltage falls towards 0V, causing TR3 to switch on. Current therefore flows through the coil of

Relay 1, and switch SW1 operates. The same happens with TR4, Relay 2 and SW2 when phototran-

sistor B is activated. Diodes D1 and D2 are included to suppress the voltage spikes which relay coils tend to generate.

Stage 3 is the 340V AC section containing the two relay switches, each with a capacitor across its contacts to suppress sparking and mains interference. You can see that if everything is wired up correctly there is no electrical path from the mains supply to the computer.

Even if stage 2 were to become live – for example after an insulation breakdown in the relays or transformer – the opto-isolator still provides protection.

A printed circuit board is used to hold all components as this greatly simplifies construction. If you have facilities to make your own, the foil pattern is shown in Figure IV with the drilling schedule in Figure V.

If you don't fancy making one yourself it's a lot easier to buy the commercially produced board from RH design – see details in the panel – especially since this comes drilled and tinned ready for use.

The basic design will suit most

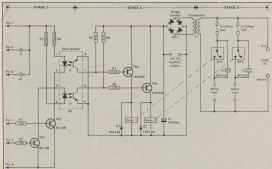


Figure III: Circuit of main controller

domestic applications, and it can easily be adapted to handle specialised jobs. For example, you could use a different type of relay it won't fit on the PCB, but leads to the coil can be taken from points A and B—Relay 1, or C and D—Relay 2, which are marked on the board.

You could drive two or even three

relays simultaneously from each output should your application demand more current or a more complex switch configuration. It doesn't matter which way round the coils are connected, and the output transistors can each handle up to 500mA.

Mains currents in excess of 5

Amps should be kept off the PCB, so use a large screw terminal block or a junction box to connect the switch contacts of any off-board relays.

There is enough power available from the joystick parts to drive two wire channels, making four in all. Use two PCBs and connect joystick pins 3 and 4 in place of 1 and 2 on the second board.

The specified transformer will supply enough current for all four channels, so you can omit T1, BR1 and C1 from the second board, and just connect the 12V and 0V output terminals from one board to the other.

If you plan to drive several relays from each output ensure that their combined coils will not draw more than 500mA, or you will need a more powerful off-board transformer. The bridge rectifier can handle 1.5 Amps at up to 35V.

■ Next month we'll cover the constructional details, testing and programming. ■

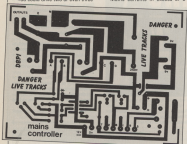


Figure 10: Foot pattern for mains controller PCB

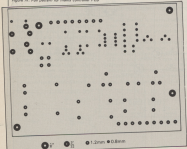


Figure 11: Drilling schedule for mains controller PCB

## PARTS LIST

Resistors: R1, R2 10k (brown/black/orange) Maple order code:MY0K, R3, R4 470ohm (yellow/black/brown) M30P05, R5, R6 47k (yellow/black/orange) M67C, R7, R8 22k (red/red) M262.

Capacitors: C1 470nfd 25v PC electrolytic FF165, C2, C3 0.047nfd 250v AC suppressors FF55K.

Semiconductors: TR1, TR2 BC108 transistors Q8224, TR3, TR4 2N2068 transistors Q8177, D1, D2 1N4148 signal diodes Q408, BR1 W525 bridge rectifier Q1773, BR1 dual optoisolator Y7825.

Connectors: J1, J2 3.5mm PCB jack sockets FX52C (optional), 1-pin D1, IC socket F4527, 2 Euro facility chassis sockets PL42W (optional).

Miscellaneous: 2 12V flat relays AY20M, 1 PCB mains transformer 0V Y4539, 2 Chassis fuse holders 20mm AF435, 2 3.15 anti-surge fuses 20mm A4 F18, 1 Joystick extension lead (eg Tandy 278-1678).

Printed circuit board - order code 08PT - available from R.H. Design, 137 Bonwell Avenue, Harrogate, North Yorks. Tel: 0423 508385. Price £3.95.

Other components available from Maplin Electronic Supplies Ltd, PO Box 3, Rayleigh, Essex S66 6UR. Tel: 0702 582911.

Approximate cost £18 plus case.

LET'S start with a success story. Darren Dodds from Tynes and Wear has the answer for Joy and Dave who were struggling with *Quasimodo* from Bernini: a little white back. They wanted to know how to get the second jewel back to its casing. Well here's how.

Climb back after getting the jewel and climb down the ladder to the platform. From here you then jump onto the first rope in the series of three to the left, but you must not jump to the next rope until there is a gap in the bats.

The gap will appear after 10 bats and you can then proceed. Jump to the next rope and climb immediately to avoid being killed by the pesky bats. You can then jump across to the next rope when there is another gap.

Do not jump across to the last rope until a bat flies up behind you. Then jump to the next rope, go down and jump to the next ladder. You then do exactly the same for the next layer.

So there you are, it was as simple as that. Darren signs himself as a newcomer to Atari Quest, and a very valuable one at that if I may say so.

Joy and Dave can now attempt to get the third jewel, while I try to find out how Darren can progress after getting the skeleton from the horse in English Software's *Mediator*. Perhaps Joy and Dave know the solution.

Two people are stuck on *The Pay-Off* from Signos/Atari in exactly the same place. They are both keeping each other company on top of the fire escape having disabled the alarm, yet they are unable to get through the window without disturbing the guard inside.

Meen, Purvis and Hilman are

## Going bats over Quasimodo

### By Brillig

desperate to solve this one for their sanity, and in Mr Purvis's case for the sake of his future marriage.

To get past this obstacle you must remember that a jewel thief requires sticky fingers, and this may lead you to a very professional method of stopping the glass from crashing into the bats and waking the dozy guard inside.

Of course you will still need to find a way of getting the glass from the window frame, so you may have to read more into this solution than is at first apparent.

Nigel Burton has come up with the answer to my question on *Hitch Hiker's Guide to the Galaxy*, and the strange vocabulary identified by the *Zorkbook* kit.

Wimbags is the equivalent of screaming. However Woonbe is apparently the writer of a slimming guide book, *Galsia's Woonbe's*. As in all instances you should consult the source of infinite knowledge for further details. A large T-shirt for

your help is on its way Nigel, with my thanks.

R Myskow also contributed a neat little drawing of the Wimbags of Wootton County which although not the winner, was a worthy entry. Mr Myskow is also struggling to get past Tarsan in *Morden's Quest* from Melbourne House.

He assured me that he will persevere to solve this game, and I can tell him that he is closer to solving it than he thinks, in this game persistence will be rewarded time and time again.

For this clue, and a comprehensive map of the game, I am indebted to Peter Dean. The map is laid out very clearly and, as Peter comments, the password is the only obscure part of *Morden's Quest*.

From the map I see that you ought to be able to trace a route avoiding Tarsan. That should give me enough time to find the answer to the question.

I also note from a previous letters column an enquiry about adventure writing programs for the Atari. The only known program is *Adventure Writer* from Colewriter Inc, who no longer trade.

Gilsoft, from whom the program was licensed, has no plans to release *The Quill* for the Atari, so there will be no flood of amateur adventures as on other more fortunate machines.

The only adventure I know of that is so written for the Atari is *The Quest of Abraham Cross*. Andy Warwick advised me of its existence, and also of the *Glitch of the Month*, in *Adventure Quest* from Level 5.

At the glass door in the Black Tower you do not have to hold the Mini Stone, merely type IN and you will be there. A medium size T-shirt is on its way Andy, and thanks for the info.

Sorry I couldn't review the games I mentioned last month, but they never arrived! Better luck next time. ■







By  
**STEWART  
BULLOUGH**

OUR hero in this game is Frank, a greedy little fellow whose main aim in life is to collect and eat as much fruit as possible.

To this end you must guide him around eight different levels, each a little harder than the last, until he has devoured all of the fruit that lies scattered around.

Your time is limited though, and as you play you will see the timer at the bottom of the screen tick away relentlessly. You must find the fastest and safest route around each level in order to complete it before your time runs out.

Frank is moved left, right, up or down by moving the joystick in the appropriate direction. He can also jump by holding down the trigger button as you move the joystick. However he can only jump to something which is on the same level as he is.

If Frank can get right to the edge of a platform he can often jump that little bit further, and there are many shortcuts to be found by using this method.

Scoring is very straightforward — for each piece of fruit collected you get 10 points, and each time unit remaining upon completion of a level will gain you a bonus of 100 points.

After you've completed all eight levels you go back to level one at a higher difficulty setting.

There are four difficulty levels, and you can choose them from the main title screen by using the Select button. The higher the level, the less time you will get to finish each screen.

The machine code PMG routine was written by Anthony Hughes. This little routine is really good, and can store up to 48 different frames, so credit where credit's due for a great sub-routine.

After typing in the listing check it with the Get-It-Right! program — see Page 33 — and when it is all correct SAVE yourself a copy and simply type RUN.

The initialization will take just over a minute, so be patient and wait for the game to begin.

## FRANK THE FRUIT FIEND







[illegible][illegible][illegible][illegible][illegible][illegible]

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I **POKE** had an Atari 1300E about last May and I am being plagued by a problem that has caused me considerable irritation over the last 1 1/2 months.

I wonder if anyone can suggest a method of stopping my machine from picking up signals from radio radio.

It occurs only during tape and disc loading operations and stops in signals from up to 30 miles away. I suspect the problem is somewhere in the computer TV cable but have no idea how to stop it.

I have to disagree with J. Wheelhouse's comments on Flathead's *China*. It is definitely inferior to *Atari II*. The graphics are less detailed, less clear and it is mind-numbingly slow.

The loading screen is good for those car compare with those at disc games and only requires loading time. I do agree that the pause mode is probably the best feature of the game.

However, Flathead must be compensated for supporting the Atari—and at a reasonable price too.

If you've bought the game with an uncompensated Flathead on it. This is the only way to encourage companies to support the Atari.

Can you include memory requirements in reviews as I've listed against games that cost less than 49¢? Also with a software boom on the way can you review more software? — **A.W.H. Crawford, Portsmouth.**

## Cartridge not needed

I **ADVICE** just purchased an Atari 800XL for my children and have fallen in love with it myself. Mind you, I am so green you wouldn't believe it. But the point of my letter is that I am told that I need Atari's tape CAS 40007 to play certain tapes and to be able to save programs.

Not all the shops I have been to do not have it. Could you help please? — **R.W. Jackson, Buxton.**

■ The item you describe is actually nothing more than the

# CALLING ALL CARS - ON AN ATARI 130XE

Basic cartridge, as provided with the old 400 and 800 computers.

Your 800XL (and the 1300XL) has the Basic language built inside the casing, and so you don't need the cartridge at all.

When you are asked to "Plug in your Basic cartridge and switch on", all you need to do is simply switch on.

If any program or game requires you to remove the cartridge, just hold down the Option key on the keyboard as you switch on. This will disable the built-in Basic and act as though it wasn't there.

## Database on tape

I **OWN** an 800XL with a 101D monitor, but after a fruitless search of the shops in my area I have found it impossible to obtain a database/spreadsheet on cassette.

Although I am learning programming I am not good enough to write a program for my needs — I own hundreds of records and would like to be able to catalog them for easy access.

Therefore could you please inform me of any database/spreadsheet and how to get it? — **R. Goss, Richmond, W. Yorkshire.**

■ Unfortunately you're quite right — there isn't a desired database/spreadsheet available on cassette for the Atari.

Really, these applications need a disc drive to be effective, as cassette handling is so very slow.

Your best bet would be to buy yourself a second-hand disc drive, and get a copy of *Mini Office II* for the Atari

when it is released shortly.

This features both a database and a spreadsheet, plus a word processor, mailmerge, graphics package and communications software all on one disc. You'll find it the cheapest way to buy these items.

## 600XL upgrade kit

I **ADVICE** your news for 600XL owners why have been looking for a cheap upgrade kit.

A firm in the States has one for \$25 US — shipping included — that will make a 600XL perform exactly like the 800XL.

I recently installed one for a friend of mine in about 20 minutes, and the now has 25,600 free bytes and can run any of the software I have for my 800XL.

The kit consists of two new RAM chips and three jumper wires, two of which require some simple soldering to install.

The instructions are simple and easy to follow. The firm is happy to ship over here as long as payment is in US dollars — such as an international money order.

The company is: Computer Service Land, 1033 Mt. Street, Falls Church, Va. 22048, USA. — **Bob Matlock, USAF.**

## XL-XE compared

I **AM** thinking of buying either an Atari 800XL or 1300XL.

I am getting an 800XL plus 101D disc drive for £230, but

the lowest price I have seen for a 1300XL is 1680 plus what is about £280.

I rather like the 1300XL's styling, but this isn't the best criterion for choosing a micro. I know it has an extra 64K of paged memory, but I have read that 800 software exploits this.

Does the 1300XL have any other different features to the 800XL, and if so are they supported by enhanced software? — **Marion Green, Manchester.**

■ The 1300XL is the same as the 800XL in most respects, and has all of the features provided by its smaller brother.

It does of course feature twice the memory capacity. This is implemented as four 128K banks of RAM, which can be switched in and out as required by the user.

Various software packages use this extra memory, including the DOS 2.5 compiler, SuperScript word processor, SuperFile database and Sync-Calc spreadsheet.

Also Basic XL from 1985 will allow you to write programs of up to 64K, and provides a further 37% for data, strings, graphics and so on.

It also maintains complete compatibility with standard Atari Basic.

## "Missing" memory

WHenever I type **PRINT PRT (0)** on my 800XL, I get the answer: 37800.

I know that the software built into the computer uses game memory, but surely not 25K.

It is possible that I could have destroyed a chunk of RAM by inadvertently switching on the computer monitor in the wrong sequence?

If so, surely I would not have been the first novice programmer to do so. — **Patrick E. Granger, Rotherham, South Yorkshire.**

■ Don't worry, you haven't damaged your computer — this figure is perfectly normal.

Just be thankful you aren't using a 130XE, as you'd have had 90% of owners, by your calculations, if that were the case.

Although the 8000, has 84k of memory the 6802 chip that it uses can only access a total of 84k - including all of the operating system in ROM. Basic itself, your programs and so on.

The CG is 10k long, and Basic is 8k. The screen is about 1k, and various special areas for input and output take up another 1k or so. Thus you have just "lost" 28k.

The area under Basic and the CG is still there as RAM, but you can only get at it by turning one or the other off, and thus sending your Basic program into never-never land.

If you really want to access this extra RAM you must have a small machine code program in command when you turn the CG off in order to stop the system from crashing.

## Ramdisc on 130XE

I WISH to use the ramdisc facility on my 130XE offered by DOS 3.5 when using MacDisk. Which also does Auto? - **Tim Bruce Holt, Camberley, Surrey.**

● Unfortunately VisiCalc comes on a protected disc with Auto DOS 3.0 provided.

It would be quite hard to reformat the disc to use DOS 3.5 as, without any detailed technical programming experience, you'd probably be best sticking with VisiCalc as it is.

## Four line listings

IT said in the manual for my 8000, that no listing should exceed three lines, but in your December issue the *Pentagon* game had three listings of four lines.

So we made each listing in two lines instead of four. The game worked all right but is a bit funny on the writing.

In the January issue you



ATARI USER Mailbag

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

The address to write to is:

**Mailbag Editor  
Atari User  
Europa House  
65 Chester Road  
Hazel Grove  
Stockport SK7 5NY**

have a listing in Mr Happy with four lines. My old disc came and split the line in two. The game works quite well but I wonder if it is all right.

I have read the Atari Handbook and it says you can write listings of four lines or more but does not say exactly how.

It just says to play about with the C6, Ser or Tab key. Could you explain how to write these lines? - **N. Meadows, Esherford, Devon.**

● The computer can only accept a maximum of three screen lines of input for any given program line and there is really no way to get around this.

However there's nothing to say that you can't try and pack as much into these three lines as possible.

Firstly, before you start typing in your program type:

**POKE 512**

This will set the margin to 0, so giving you back the two empty spaces at the start of each line.

If that still doesn't give you enough room to enter a given line use abbreviations. Thus if a line of a listing reads:

**IF BUBBLE=0 THEN L=1  
RETURN L:GOTO "HELP"**

try typing in:

**IF B=0 THEN L=1:GOTO "H"**

The computer will understand the two as meaning the same thing and when you type LIST you will see the full version, not the abbreviations.

Consult your manual for the

correct abbreviations for all of the Basic commands - most are the first few letters followed by a dot.

By using both of these methods there are no lines of program that you should ever have any problem with.

Don't forget someone had to enter them into the same type of computer in the first place, so they must go in.

## Better disc labels

YOU may have noticed that it is very difficult to see floppy disc labels and write-printed labels separate from a bar of magnetic tape.

In searching for a suitable alternative I got a packet of self-adhesive coloured labels from a well known High Street stationer.

These labels seemed to be even more useful than standard write-printed labels since they would double as a colour-coding system.

Naturally I used the real labels to protect discs that I must not write on under any circumstances. However that proved my point.

The write-printed circuitry in the Atari disc drive uses infra red light to sense the presence or absence of a write-enable notch, and infra red goes straight through these labels.

I formatted two discs containing valuable programs before I realised what was happening. This type of write-

protection is worse than none at all since it implies a false sense of security.

The moral of the story is keep trying to find the correct labels, or if you must use coloured labels use any colour other than red - blue or green would be best - **Jolly Rogers, Wincobury, Berks.**

## Using checksum

COULD you tell me how to use your checksum. I have tried to follow your instructions in the March issue of Atari User, but have had no success.

I do not understand your statement "Now load Sin 1 Right into the machine, taking note of the instructions contained in the ROM in the ROM".

I have typed in all your games since I got my 8000, in January 1985, and only two have worked. It is so disappointing to all for several hours typing in and then find nothing happening. - **David Brunton, East Lothian.**

\*\*\*

COULD you please repair your checksum as I have lost my copy of your corrected version. - **Jon, Dale, Manchester.**

\*\*\*

I BOUGHT your December 1985 issue of Atari User and I also bought the tape for that month so I could use the checksum.

However when I tried to follow your instructions on how to load the checksum and then type SIN the program will not work. Please could you print the instructions more clearly? - **T. Macklin, Gwent, South Wales.**

● That was a nice comment. In response to many similar letters pleading for us to repeat the checksum as the original issue is now out of print we have done so this month.

We've even added a couple of extra features. So now you don't need to write in with problems with our listings - you can all find out for yourself where your typing mistakes are.

## Silencing disc din

I HAVE an 80001, with disc drive and was plagued with a terrible disc everytime I used the drive.

Not knowing any better I thought this was normal, but after talking with John Larsen at Computer Support I found out there is a simple way to silence the drive.

Just afterwards all when to the drive, turn it upside down, under the screen and turn the drive back the right way up. Then take off the lid, apply a very small drop of oil to the head runners - being very careful not to get any on or near the head - and finally just put it all back together. — **G.J. Hewitt, Hawthorn.**

## Paint dump program

I AM the proud owner of an Atari 80001, disc drive, cassette recorder and 1029 printer.

The keyboard and disc drive came in a Ghena pack, with which I received *The Name Filing Manager, The Payoff* and *Paint*.

When I added a printer to my system I chose the Atari 1029, this came with Atariwriter and Dump1029.

When I loaded up Dump1029 I discovered to my dismay that the program would only dump 63 screen picture files.

Rather than write my own dump program I decided to write a modifier program to run *Paint* files into 63 screen picture files.

I worked on this in Mode 7 — which *Paint* works in — it took two bits to define each pixel as there are four colours in Mode 7 and there are also four different combinations of two bits — 00, 01, 10 and 11.

Because of this it takes 40 bytes for each screen file in Mode 7.

Getting back to the problem, Dump1029 would only extract pictures drawn in Mode 8 or 16. So to convert

*Paint* files to Mode 16 files all needed to do was duplicate each 40 bytes.

Not quite so *Paint* does not use all of a Mode 7 screen, so extra space must be added to the end to make the total number of bytes up to 1580 (1540+40).

I have written the following self-explanatory program to overcome this problem. — **John Young, Banbury, Oxon.**

```

10 FOR I=1 TO 1000000:PRINT I:GOTO 10
20 PRINT I:GOTO 10
30 PRINT I:GOTO 10
40 PRINT I:GOTO 10
50 PRINT I:GOTO 10
60 PRINT I:GOTO 10
70 PRINT I:GOTO 10
80 PRINT I:GOTO 10
90 PRINT I:GOTO 10
100 PRINT I:GOTO 10
110 PRINT I:GOTO 10
120 PRINT I:GOTO 10
130 PRINT I:GOTO 10
140 PRINT I:GOTO 10
150 PRINT I:GOTO 10
160 PRINT I:GOTO 10
170 PRINT I:GOTO 10
180 PRINT I:GOTO 10
190 PRINT I:GOTO 10
200 PRINT I:GOTO 10
210 PRINT I:GOTO 10
220 PRINT I:GOTO 10
230 PRINT I:GOTO 10
240 PRINT I:GOTO 10
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920 PRINT I:GOTO 10
930 PRINT I:GOTO 10
940 PRINT I:GOTO 10
950 PRINT I:GOTO 10
960 PRINT I:GOTO 10
970 PRINT I:GOTO 10
980 PRINT I:GOTO 10
990 PRINT I:GOTO 10
1000 PRINT I:GOTO 10

```

■ We're glad you liked the 1029 dump program John, and many thanks for the tip.

We're sure that many other readers will like the extra facility of printing *Paint* files as well as *MicroPainter* and *Touch Tablet* pictures.

## The dump that doesn't

COULD you publish a 1029 screen dump between the one you printed all too work.

Also why have you not printed a review on the *Discos*. Having heard that it is very good I would like to hear what you think about it before I buy. — **G. Street.**

■ Have you thoroughly checked your typing to make sure that all of the BASIC statements are correct?

We can assure you that the program does work as printed — as you can see from John

Young's letter above he has managed to get it working with no problems.

## On the Yukon trail

IN reply to Robert and Karen Freeman's letter in the July 1985 Mailbag, to find Yukon Yukon you must fill up the Hi-score table.

Once it is full, play the game once more so that your score is bigger than the last score on the Hi-score table.

Enter your name and the Hi-score score will be brought down off the table and your last score will go up. Then two bulldozers will squash the abandoned lowest score and Yukon Yukon will arrive on a jet, walk over to the squashed score and kick it off the screen.

Yukon can be either sinister or just cheeky. I hope that interests your generation. — **Frank Driver, West Town, Peterborough.**

■ Matthew Barnoughs, of Grimsby, also provided this solution. Our thanks to you both.

## Store data in ramdisc

I WOULD like to know if the Atari 130AE is a 64k or 128k computer as I am writing an adventure which is likely to take up more than 64k of memory.

The manual said that to get 131,072 bytes = 128k — of RAM type the following:

**Poke 54017, 193+4\* address = 10\*mode**

and then press RETURN. It came up with Ready so I then typed:

**Print P&B 10**

and it came up with 37903 bytes free which is not 128k of RAM.

Can you help me? — **Richard Powell, Woodhouse, Sheffield.**

■ The 130AE is indeed a 128k computer. But you must remember that Atari Basic only supports 37903 bytes of memory after the OS and graphics overheads have been

removed from the main 64k area. The four extra 16k blocks can be accessed as you desire.

Perhaps better still you could use DOS 2.6 to store your data in to the ramdisc, and read it back again as a file each time you need it. The ramdisc is very fast, so you shouldn't notice any appreciable delay.

## Flight simulator

ON your May 1986 Mailbag there was a letter from Alan Ford who was interested in flight simulators.

Has he had a look at Digital Integration's rather good *Fighter Pilot*?

Could you help me find some books on Atari. We are in my area schools there, so where do I go? — **R. Haslegrave, Huddersfield.**

■ Thanks for the advice on the flight simulators, of which there are now quite a number, including *Jet Jet* and *Flight Simulator II*.

As to your question on books, if you can't find anywhere locally why not try one of the larger mail order companies?

Both Software Express and Silas Ware should be able to help with most types of Atari book, and also give you advice on which titles would best suit your needs.

This would be far better than ordering blind from W.H. Smith, for example.

## Monitor mismatch

I OWE an Atari 80001, with a 7280 after drive and 1029 printer.

A few weeks ago I was given an Amstrad CV7688 monitor, but I found that the 8 pin plug wouldn't match with the 9 pin DIN socket of my Atari.

I have tried to find help, but am now to connect the monitor to my computer, but

body seems to share how. Can you please help? — R. Zarate, Lower Merion, Baltimore.

The Amstrad uses a system called RGB to connect with its monitor, and the 8000 uses a completely different method known as composite video.

Unfortunately there is no easy way to get the Amstrad to talk to the Amstrad monitor. You will need to get a composite monitor rather than an RGB one.

## Cleaner graphics

HOW do the professionals draw graphics for games so it does not leave a trail and doesn't flash?

Can you give me a short program on how to draw moving graphics, and can you tell me how to combine two graphics modules? — Martin House, Hockley, Essex.

Although your question is simple enough the answer is very complicated indeed. To make a game look as professional as a purchased one you will need to write it in machine code.

That said, you will get some good hints and tips on how to get your games working a bit faster if you have been following our series on Player/Missile Graphics which started in the May issue.

We covered display lists — which allow you to combine different graphic modes on a single screen — in Mike Rowe's series of articles which ran from July to December 1985.

## Simpler scrolling

ANYBODY HAS a solution in your May 1986 issue to Alan's rather fast scrolling was somewhat longwinded and I'd like to suggest some simpler methods of handling this problem.

I think it's even mentioned in the inadequate Atari User Manual that by holding down the Control key and pressing the P key the list will be halted,

WHEN I run the Cavern Escape program from the May 1986 Atari User I keep getting Error 6 at line 5542 and 5550. Could you tell me why this is so? — F.H. Mann, Nottingham.

\*\*\*

I AM having trouble with Mike Rowe's Cavern Escape.

Twice I have programmed the game and twice I have got Error 6 at line 5245.

After 4½ hours of using the keyboard my patience was wearing a thin skin.

The game does run, but so far my son has only been able to find one key in Room 9.

Where have I gone wrong and do I have to retype the full program? — A. Macky, Wilt.

\*\*\*

I TYPED in Cavern Escape from your May issue, and then CSWAVE it on to cassette.

However when I ran the program the screen went black as was stated, but if I didn't press enter it would have stayed black forever.

After having pressed enter and typing RUN all I get is Error 6 at line 5550.

I split line 5550 into four lines to find where the error

was and it showed up a READ A.

As a newcomer to the Atari 8000X I am baffled by this and would be grateful if you could tell me where I have gone wrong.

I have checked my listing line for line and it is exactly as it printed in Atari User.

One more query I have is that after line 5550 there is a line starting:

### 5550 Read

Should this be 8000 or is it a misprint? — Allan Symms, Southleigh, S. Devon.

\*\*\*

I AM having trouble getting Cavern Escape to work. I typed it in, corrected all errors using the checksum and sat back to enjoy the game.

The screen went black after I typed in RUN as it's supposed to — the trouble is that's all that happened.

I have checked the programs checksum several times now, and I find there is an odd discrepancy. In the listing — page 20 — the following line appears between lines 5550 and 5510:

### 5550 Read

I included this line in my

■ This tip is a useful one, but only if you have an XL or XE. The older 400 and 800 computers do not have this feature, which is why we printed Mr Hill's solution.

As you say, for XL and XE owners PORE 822,255 is a very elegant answer to this problem.

## Antic chip playing up?

UNFORTUNATELY it is not well with my 8000X. The graphics themselves on certain commercial programs appear incorrectly.

For instance, on AtariSoft's Pole Position the cars on the racing car begin flashing

twice, but otherwise in your checksum the line is checked in the same order it is listed in my checksum it appears in its correct numeric place. Please could you explain this?

Finally one small point is that in line 1790 the second pair of hash marks is not very clear. Could you confirm that it is in fact a second set? — Nigel Edwards, Leighton Buzzard, Beds.

■ The extra line 5550 crept in to the listing by mistake, and lots of people have pointed it out to us.

However it doesn't make any difference — the program will run correctly with or without it — phew!

The three sets of characters in line 1180 are two inverse hash symbols (#), then an inverse hash and an inverse dollar sign, and finally two more inverse hashes.

If you had used the checksum and got it wrong, the numbers would not have matched, so we can only assume that if you did use it it might you must have typed in the listing correctly.

Anyways — the answer to all of your problems is — use the checksum. You don't have any more now, as the full instructions have been reprinted on page 33.

■ strange software whenever other cars overtake.

On US Gold's Gypsy — an excellent shoot 'em up game — the Defender-style radar screen occupies a part of the screen reserved for score digits.

Also the scrolling sprite columns in the Hall of Fame do not work properly.

On English Software's Elite, perhaps there appear to be three exits from the first tunnel when there should only be one.

I know these errors are not caused by faulty software or hard-shipment problems with my data recorder because I have tried using a friend's recorder to find the same errors, and they do not appear on the 8000X.

My theory is that there is a

Sanctuary Area in the Area's graphic style which only affects certain software - the majority will not be affected.

Do you achieve nothing on faculty machine to start or return it, yet again, to sleep? — Andy Barr, Chairman, Williams Computer Club

■ You'll likely connect either the Serial Hardware or probably the GTAs or ASCII chips.

You might consider returning the machine directly to Atari in the hope that the turnaround time may be a little better than via Pioneer.

The only disadvantage is that you will have to pay the service costs to use it there.

## Elite for Atari

COOP members will receive the April edition of *Community News* in December's issue.

There was no arrest in January's reporting, but when I phoned them up they had resumed trading.

**Also in Series are available:** The  
The Atlas Air XL-600 - P.  
Miles, Millions, More.

Three small bar charts are displayed side-by-side. Each chart has a vertical axis labeled 'Percentage' ranging from 0 to 100. The first chart has a horizontal axis with two categories: 'Yes' and 'No'. The 'Yes' bar is approximately 85% high, and the 'No' bar is approximately 15% high. The second chart has a horizontal axis with two categories: 'Yes' and 'No'. The 'Yes' bar is approximately 75% high, and the 'No' bar is approximately 25% high. The third chart has a horizontal axis with two categories: 'Yes' and 'No'. The 'Yes' bar is approximately 65% high, and the 'No' bar is approximately 35% high.

As the only UK magazine dealing with the best home wires can you try and get to the bottom of the rumpus about BTs for the street.

I wrote the President just over two weeks ago, but have had no reply at all. There is this month's C. & W. I received a letter from a reader alleging that I had been arrested at date by America for being gay, and

—Just what is the issue? —  
Richard Daley, Mayor,  
Chicago

■ A number of people have been writing to us asking about life on the Star, and after a quick phone call to Finland we can now set the record straight.

Reid was planning an IBM version of ERM over a year ago, and early results looked impressive. Unfortunately the programmers working on the project were

from flooded, and plans were placed.

A Finnish representative told us that the main problem was the lack of good talent. Finnish programmers willing to take on the job.

He added that if any professional machine code programmers who are reading this would be interested in tackling such a major project, Flinck would be most eager to hear from them to talk things over.

In any event, don't expect an instant version of *Enter* to be in your local stores within the next few months.

## Designer dilemma

**ADDIT** *Printed Circuit Designer*  
 here my **BOOKS**, and sample part  
 is on hand

I never checked it out by the box set all I got on the screen is "Finger Designer by Stephen Williamson, Alaska."

Source: <http://www.fishbase.org>

Also in the 1980s as it was still in progress as my copy of the program is not very clear - R. W. Hoffman, Boston.

■ It's hard to say where the problem is from your description – the mistake could be almost anywhere.

Adding, now that we've printed Get It Right! you can easily check typing mistakes yourself.

Line 540 says **PMERGE**, not **PMERGE**, so that may be where you're doing wrong.

## Text windows

\* Over an 800,000 sq. ft. area, and have some more than 100,000 sq. ft. of space.

Faculty Advisor: Margaret A. Smith

Generally how do you do  
the whole working in O.C.  
circles? — A.H. Green,  
Lawrence, Kansas

■ A text window can be added to a Q-Session by pressing very quickly on **F000 F00.4**. This will create a new window.

the bottom four times without reaching the surface yet.

You must use PRINT #5 to print to the log portion though, just as you would any other type of screen with a text editor.

To scroll text upwards requires more work, and there is no easy way to do this manually without some specialized machine code. How-

### Intermittent fault

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The problem is that while helping Gervais escape the man and family, we're also indirectly on his side, but would not be involved.

As I had already saved the game to tape I reset the computer and tried to type **NOB**. Alas, the joystick

had' locked-up. So I turned on the computer for five minutes, then turned it back on again. But I still got nothing from the instrument.

I know I cannot do it all again.  
But I cannot let my selfish thinking  
prevent me from doing what I can.

I checked the memory first - 64MB is OK, but not 32MB as Windows never grows and stops just.

So I turned it off again, and switched on white-noise/sleep-aid option. I then put on more sn. But this sleep aid did *not* seem to work on Ritalin. Is my memory all right, or should I take it back to the shop? — Catherine Mason, Wigan.

■ It sounds as though you have an intermittent fault with your power supply.

As it is still under guarantee your best bet would be to take it back to the shop you got it from and ask them to either exchange it, or send it back to Apple for testing and repair.

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[illegible]

More  
**£25**  
winners!

## ELECTRONIC TYPEWRITER

From G. D. MASSEY

Of all the Five-liners that we have received, this one is probably the most straightforward. It enables your Atari keyboard to act like an electronic typewriter using its normal printer.

The screen acts just like the old memo pad made on the 400 and 800 computers, except for the fact that control codes will go straight to the printer, rather than doing their normal function on the screen. Thus you can turn printer options on and off by sending the special codes. Some people may also wish to add a POKE 762,1 to remove the cursor.

The program was written in Class Five at Broadclyst Primary School - so Class Five, thanks for your Five-liner!

10 PRINT CHR\$(205.5) & "ELECTRONIC TYPEWRITER"  
20 GOTO 80  
30 OPEN "E:\TYPEWRITER.DAT" FOR OUTPUT AS #1  
40 FOR I=0 TO 255:PRINT #1,CHR\$(I):NEXT I  
50 CLOSE #1



10 PRINT CHR\$(205.5) & "ELECTRONIC TYPEWRITER"  
20 GOTO 80  
30 OPEN "E:\TYPEWRITER.DAT" FOR OUTPUT AS #1  
40 FOR I=0 TO 255:PRINT #1,CHR\$(I):NEXT I  
50 CLOSE #1

## TWO FOR THE PRICE OF ONE

From RON SMITH

SOONER or later the Atari programmer needs to solve two problems - disabling the Break key and disabling the Attract Mode.

Most solutions for the Break key problem suffer from the drawback of having to repeatedly execute code within the Basic program after each I/O operation or change of graphics mode.

Presented here is a once-and-for-all five liner that solves the problem for most games and applications and throws in an answer to the Attract Mode problem for good measure. These should form the first five lines of your program for earliest protection.

The program uses just 24 bytes of machine code, tucked away at the top of page 8, leaving the rest clear for data or other routines.

The Atari displays a television screen once every 80th of a second, but has time between screens (the Vertical Blank) to leave a Basic program in order to carry out its own housekeeping.

Two user-patchable locations are provided during this time where the programmer may point the computer to a short machine code sub-routine of his own. This routine uses the first of those opportunities, and acts up an immediate mode (as opposed to the second, deferred mode), Vertical Blank Interrupt (VBI) which resets IRQEN, the Interrupt Request Enable byte at \$D774 (\$D3FE) and ATTRACT, the Attract Mode driver flag at 77 (\$404).

The great advantage of this sledgehammer approach is that, once

started, the routine is executed automatically 50 times a second, at no cost to the Basic program. The approach is AI compatible, SPARC vector notwithstanding.

The program is constructed as follows:

Line 10 is a bait-and-trap step, setting up IRQEN and its shadow at 18 (\$10) while the main routine is loading.

Line 20 sets up the Immediate Mode VBI and points the Operating System at our routine sitting at 1376, (\$D478).

Line 30 executes the VBI and our routine becomes operational within 1/50th second.

Line 40 contains the VBI initialization and pointer data.

Line 50 contains the instructions which set IRQEN to 112 and ATTRACT to zero, plus the jump that takes us back into the operating system's tasks, before rejoining the Basic program.

10 PRINT CHR\$(205.5) & "TWO FOR THE PRICE OF ONE"  
20 GOTO 80  
30 OPEN "E:\TWO FOR THE PRICE OF ONE.DAT" FOR OUTPUT AS #1  
40 FOR I=0 TO 255:PRINT #1,CHR\$(I):NEXT I  
50 CLOSE #1



10 PRINT CHR\$(205.5) & "TWO FOR THE PRICE OF ONE"  
20 GOTO 80  
30 OPEN "E:\TWO FOR THE PRICE OF ONE.DAT" FOR OUTPUT AS #1  
40 FOR I=0 TO 255:PRINT #1,CHR\$(I):NEXT I  
50 CLOSE #1

**Original,  
useful -  
or just  
plain fun!**

If you'd like to have a go at writing some Five-liners of your own - and we pay £25 for every one we print - then we'd like to hear from you.

Try to make them original, useful or entertaining. After we'd received the first couple of dozen programs to print your name on the screen, or play a musical scale, we began to get impatient for something more stimulating. Let's see you use your imagination! Also, please remember that

you're far more likely to get one published if you send us a neat listing, with good explanatory notes and a copy of the program on tape or disc. Our staff haven't got the time to decipher little scraps of paper or type in illegible listings. If we did, we'd never actually complete the magazine.

Send your Five-liners to us at: Five-liners, Atari User, Europa House, 48 Chester Road, Hazel Grove, Stockport SK7 5NY.



**THIS** program uses graphics mode 8 to produce an 80 column text display which can be combined with mode 8 graphics to produce professional looking displays in your own programs.

Before running this program **SAVE** a copy to disc or tape. This is very important because the program will rewrite itself then delete a large part of itself. This is to save you a lot of hard work trying to type the control codes in the program correctly.

The program will read the data statements and then write new program lines containing the string definitions for the machine code routine and the character set data. These strings are almost unreadable, containing approximately 400 Escape and Control key characters.

After writing these lines, the program will delete all the data statements and most of the program elements involved in creating these strings, only leaving three lines not needed for the program. These are lines 1235, 1240 and 1250, and they should be deleted. They cannot be deleted by the program because they are required by the delete routine! If you do not **SAVE** a copy before running, and you have made any typing errors, you will have to start all over again.

When you first run this program the screen will go black and the data statements will be counted down on it. When the counter reaches zero the screen will return to the normal graphics 0 display and you will see the strings being printed out and the cursor move down over the screen text.

This is followed by a few screens of line numbers, which is the line deletion process taking place. When complete the program will return you to direct mode 8 again with the familiar READY prompt. At this point the three lines mentioned earlier should be deleted.

Now **SAVE** the new program under a different filename to the original. It is this version of the program that you will use to produce your 80 column displays.

Some of you may be wondering how your Atari can start writing new parts of the program and deleting lines all by itself. This is because your Atari is braver than the average computer.

Actually it is very easy to persuade

# 80 column text plus graphics mode 8 equals the pro look

By R. and A. LINES

your Atari to do the work for you - this can be achieved with one simple POKE. Using the POKE puts the computer in to 'Reset Key mode'. Poking 842 with 13 puts the computer into screen input/output mode. Poking 842 with 12 returns the computer to keyboard input mode.

This means that anything on the screen and below the cursor when this poke is performed will be treated as a direct mode command. Anything you require to be done is printed on the screen and the cursor is positioned above the commands. Then you POKE 842,13:STOP.

You must also have a COUNT statement after the last command

you want executed, which will continue program execution at the next line after the STOP command. This next command should be POKE 842,12. For an example of how to do this see line numbers 820 to 900.

The machine code routine is called by the USER function:

```
Z=USER(ADR(POKE),  
ADR(CHARS),X,Y,ADR(CHR))
```

The first parameter is the address of the string that contains the 80 column program and the second is the address of the string containing all the data for the redefinition of the character set.

The third parameter is the X coordinate of the starting position of

*If you enter in to show you how this routine works we have printed three demonstration programs. To use them you should first delete your main program by following the instructions in the text.*

*After the working version has been created, delete lines 1235, 1240 and 1250 and SAVE it to disc or tape. This is now your master program.*

*For each of the three demo programs type NOW and then type in the lines. You must now COUNT - not SAVE - a copy to your tape or*

*disc, and you may then check them if it you desire.*

*To run them, first LOAD the master program, then ENTER the first demo to merge the two files. You could SAVE a copy of the merged program at this stage if you so desire. After you have RUN it you may ENTER the next demo, and after that the third.*

*Demo 1 shows an 80 column table of computer facts. Demo 2 shows what an adventure game might look like in 80 columns, and Demo 3 shows graphics and 80 column text on a chart.*



the line of text to be printed. It can have a value between 1 and 80, but it should be remembered that text can only be printed on the same line – that is, it will not continue on to the next line.

The fourth parameter is the Y coordinate of the starting position of the line of text to be printed. It can have a value between 1 and 100.

The fifth parameter is the address of the string that contains the line of text to be printed, in this case `CH5`.

The `USR` function is provided at line 300 in the program, although of course you may place a `USR` call wherever you desire one. The one in line 300 is set up to be used as a subroutine with the demonstrations provided.

Each line of text must be terminated by an @ because the machine code routine uses this character to determine when to finish printing.

The normal keyboard characters can be obtained, and in addition a pound sign — £ — can be obtained by using Control-Shift.

[illegible]

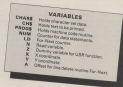
elencados que são os  $\mathcal{H}$  e  $\mathcal{H}$  matris, nos casos em que  
eles ocorrem na literatura, são os seguintes:

Case no.	Sex	Age
1	M	45
2	F	35
3	M	55
4	F	65
5	M	75
6	F	85
7	M	95
8	F	105
9	M	115
10	F	125
11	M	135
12	F	145
13	M	155
14	F	165
15	M	175
16	F	185
17	M	195
18	F	205
19	M	215
20	F	225
21	M	235
22	F	245
23	M	255
24	F	265
25	M	275
26	F	285
27	M	295
28	F	305
29	M	315
30	F	325
31	M	335
32	F	345
33	M	355
34	F	365
35	M	375
36	F	385
37	M	395
38	F	405
39	M	415
40	F	425
41	M	435
42	F	445
43	M	455
44	F	465
45	M	475
46	F	485
47	M	495
48	F	505
49	M	515
50	F	525
51	M	535
52	F	545
53	M	555
54	F	565
55	M	575
56	F	585
57	M	595
58	F	605
59	M	615
60	F	625
61	M	635
62	F	645
63	M	655
64	F	665
65	M	675
66	F	685
67	M	695
68	F	705
69	M	715
70	F	725
71	M	735
72	F	745
73	M	755
74	F	765
75	M	775
76	F	785
77	M	795
78	F	805
79	M	815
80	F	825
81	M	835
82	F	845
83	M	855
84	F	865
85	M	875
86	F	885
87	M	895
88	F	905
89	M	915
90	F	925
91	M	935
92	F	945
93	M	955
94	F	965
95	M	975
96	F	985
97	M	995
98	F	1005
99	M	1015
100	F	1025

As we are using 80 characters per line each character can only be half as wide, that is it is a  $4 \times 8$  matrix.

therefore the character data is stored in pairs of characters. For example, B and C are stored as (B,C).

Week of Year	Days	Days of Week
01	01-01	Monday
02	02-01	Tuesday
03	03-01	Wednesday
04	04-01	Thursday
05	05-01	Friday
06	06-01	Saturday
07	07-01	Sunday
08	08-01	Monday
09	09-01	Tuesday
10	10-01	Wednesday
11	11-01	Thursday
12	12-01	Friday
13	13-01	Saturday
14	14-01	Sunday
15	15-01	Monday
16	16-01	Tuesday
17	17-01	Wednesday
18	18-01	Thursday
19	19-01	Friday
20	20-01	Saturday
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25	25-01	Thursday
26	26-01	Friday
27	27-01	Saturday
28	28-01	Sunday
29	29-01	Monday
30	30-01	Tuesday
31	31-01	Wednesday
32	32-01	Thursday
33	33-01	Friday
34	34-01	Saturday
35	35-01	Sunday
36	36-01	Monday
37	37-01	Tuesday
38	38-01	Wednesday
39	39-01	Thursday
40	40-01	Friday
41	41-01	Saturday
42	42-01	Sunday
43	43-01	Monday
44	44-01	Tuesday
45	45-01	Wednesday
46	46-01	Thursday
47	47-01	Friday
48	48-01	Saturday
49	49-01	Sunday
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67	67-01	Thursday
68	68-01	Friday
69	69-01	Saturday
70	70-01	Sunday
71	71-01	Monday
72	72-01	Tuesday
73	73-01	Wednesday
74	74-01	Thursday
75	75-01	Friday
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101	101-01	Wednesday
102	102-01	Thursday
103	103-01	Friday
104	104-01	Saturday
105	105-01	Sunday
106	106-01	Monday
107	107-01	Tuesday
108	108-01	Wednesday
109	109-01	Thursday
110	110-01	Friday
111	111-01	Saturday
112	112-01	Sunday
113	113-01	Monday
114	114-01	Tuesday
115	115-01	Wednesday
116	116-01	Thursday
117	117-01	Friday
118	118-01	Saturday
119	119-01	Sunday
120	120-01	Monday
121	121-01	Tuesday
122	122-01	Wednesday



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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[illegible][illegible][illegible]



**✓ Get it right!**

	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	1884	1883	1882	1881	1880	1879	1878	1877	1876	1875	1874	1873	1872	1871	1870	1869	1868	1867	1866	1865	1864	1863	1862	1861	1860	1859	1858	1857	1856	1855	1854	1853	1852	1851	1850	1849	1848	1847	1846	1845	1844	1843	1842	1841	1840	1839	1838	1837	1836	1835	1834	1833	1832	1831	1830	1829	1828	1827	1826	1825	1824	1823	1822	1821	1820	1819	1818	1817	1816	1815	1814	1813	1812	1811	1810	1809	1808	1807	1806	1805	1804	1803	1802	1801	1800	1799	1798	1797	1796	1795	1794	1793	1792	1791	1790	1789	1788	1787	1786	1785	1784	1783	1782	1781	1780	1779	1778	1777	1776	1775	1774	1773	1772	1771	1770	1769	1768	1767	1766	1765	1764	1763	1762	1761	1760	1759	1758	1757	1756	1755	1754	1753	1752	1751	1750	1749	1748	1747	1746	1745	1744	1743	1742	1741	1740	1739	1738	1737	1736	1735	1734	1733	1732	1731	1730	1729	1728	1727	1726	1725	1724	1723	1722	1721	1720	1719	1718	1717	1716	1715	1714	1713	1712	1711	1710	1709	1708	1707	1706	1705	1704	1703	1702	1701	1700	1699	1698	1697	1696	1695	1694	1693	1692	1691	1690	1689	1688	1687	1686	1685	1684	1683	1682	1681	1680	1679	1678	1677	1676	1675	1674	1673	1672	1671	1670	1669	1668	1667	1666	1665	1664	1663	1662	1661	1660	1659	1658	1657	1656	1655	1654	1653	1652	1651	1650	1649	1648	1647	1646	1645	1644	1643	1642	1641	1640	1639	1638	1637	1636	1635	1634	1633	1632	1631	1630	1629	1628	1627	1626	1625	1624	1623	1622	1621	1620	1619	1618	1617	1616	1615	1614	1613	1612	1611	1610	1609	1608	1607	1606	1605	1604	1603	1602	1601	1600	1599	1598	1597	1596	1595	1594	1593	1592	1591	1590	1589	1588	1587	1586	1585	1584	1583	1582	1581	1580	1579	1578	1577	1576	1575	1574	1573	1572	1571	1570	1569	1568	1567	1566	1565	1564	1563	1562	1561	1560	1559	1558	1557	1556	1555	1554	1553	1552	1551	1550	1549	1548	1547	1546	1545	1544	1543	1542	1541	1540	1539	1538	1537	1536	1535	1534	1533	1532	1531	1530	1529	1528	1527	1526	1525	1524	1523	1522	1521	1520	1519	1518	1517	1516	1515	1514	1513	1512	1511	1510	1509	1508	1507	1506	1505	1504	1503	1502	1501	1500	1499	1498	1497	1496	1495	1494	1493	1492	1491	1490	1489	1488	1487	1486	1485	1484	1483	1482	1481	1480	1479	1478	1477	1476	1475	1474	1473	1472	1471	1470	1469	1468	1467	1466	1465	1464	1463	1462	1461	1460	1459	1458	1457	1456	1455	1454	1453	1452	1451	1450	1449	1448	1447	1446	1445	1444	1443	1442	1441	1440	1439	1438	1437	1436	1435	1434	1433	1432	1431	1430	1429	1428	1427	1426	1425	1424	1423	1422	1421	1420	1419	1418	1417	1416	1415	1414	1413	1412	1411	1410	1409	1408	1407	1406	1405	1404	1403	1402	1401	1400	1399	1398	1397	1396	1395	1394	1393	1392	1391	1390	1389	1388	1387	1386	1385	1384	1383	1382	1381	1380	1379	1378	1377	1376	1375	1374	1373	1372	1371	1370	1369	1368	1367	1366	1365	1364	1363	1362	1361	1360	1359	1358	1357	1356	1355	1354	1353	1352	1351	1350	1349	1348	1347	1346	1345	1344	1343	1342	1341	1340	1339	1338	1337	1336	1335	1334	1333	1332	1331	1330	1329	1328	1327	1326	1325	1324	1323	1322	1321	1320	1319	1318	1317	1316	1315	1314	1313	1312	1311	1310	1309	1308	1307	1306	1305	1304	1303	1302	1301	1300	1299	1298	1297	1296	1295	1294	1293	1292	1291	1290	1289	1288	1287	1286	1285	1284	1283	1282	1281	1280	1279	1278	1277	1276	1275	1274	1273	1272	1271	1270	1269	1268	1267	1266	1265	1264	1263	1262	1261	1260	1259	1258	1257	1256	1255	1254	1253	1252	1251	1250	1249	1248	1247	1246	1245	1244	1243	1242	1241	1240	1239	1238	1237	1236	1235	1234	1233	1232	1231	1230	1229	1228	1227	1226	1225	1224	1223	1222	1221	1220	1219	1218	1217	1216	1215	1214	1213	1212	1211	1210	1209	1208	1207	1206	1205	1204	1203	1202	1201	1200	1199	1198	1197	1196	1195	1194	1193	1192	1191	1190	1189	1188	1187	1186	1185	1184	1183	1182	1181	1180	1179	1178	1177	1176	1175	1174	1173	1172	1171	1170	1169	1168	1167	1166	1165	1164	1163	1162	1161	1160	1159	1158	1157	1156	1155	1154	1153	1152	1151	1150	1149	1148	1147	1146	1145	1144	1143	1142	1141	1140	1139	1138	1137	1136	1135	1134	1133	1132	1131	1130	1129	1128	1127	1126	1125	1124	1123	1122	1121	1120	1119	1118	1117	1116	1115	1114	1113	1112	1111	1110	1109	1108	1107	1106	1105	1104	1103	1102	1101	1100	1099	1098	1097	1096	1095	1094	1093	1092	1091	1090	1089	1088	1087	1086	1085	1084	1083	1082	1081	1080	1079	1078	1077	1076	1075	1074	1073	1072	1071	1070	1069	1068	1067	1066	1065	1064	1063	1062	1061	1060	1059	1058	1057	1056	1055	1054	1053	1052	1051	1050	1049	1048	1047	1046	1045	1044	1043	1042	1041	1040	1039	1038	1037	1036	1035	1034	1033	1032	1031	1030	1029	1028	1027	1026	1025	1024	1023	1022	1021	1020	1019	1018	1017	1016	1015	1014	1013	1012	1011	1010	1009	1008	1007	1006	1005	1004	1003	1002	1001	1000	999	998	997	996	995	994	993	992	991	990	989	988	987	986	985	984	983	982	981	980	979	978	977	976	975	974	973	972	971	970	969	968	967	966	965	964	963	962	961	960	959	958	957	956	955	954	953	952	951	950	949	948	947	946	945	944	943	942	941	940	939	938	937	936	935	934	933	932	931	930	929	928	927	926	925	924	923	922	921	920	919	918	917	916	915	914	913	912	911	910	909	908	907	906	905	904	903	902	901	900	899	898	897	896	895	894	893	892	891	890	889	888	887	886	885	884	883	882	881	880	879	878	877	876	875	874	873	872	871	870	869	868	867	866	865	864	863	862	861	860	859	858	857	856	855	854	853	852	851	850	849	848	847	846	845	844	843	842	841	840	839	838	837	836	835	834	833	832	831	830	829	828	827	826	825	824	823	822	821	820	819	818	817	816	815	814	813	812	811	810	809	808	807	806	805	804	803	802	801	800	799	798	797	796	795	794	793	792	791	790	789	788	787	786	785	784	783	782	781	780	779	778	777	776	775	774	773	772	771	770	769	768	767	766	765	764	763	762	761	760	759	758	757	756	755	754	753	752	751	750	749	748	747	746	745	744	743	742	741	740	739	738	737	736	735	734	733	732	731	730	729	728	727	726	725	724	723	722	721	720	719	718	717	716	715	714	713	712	711	710	709	708	707	706	705	704	703	702	701	700	699	698	697	696	695	694	693	692	691	690	689	688	687	686	685	684	683	682	681	680	679	678	677	676	675	674	673	672	671	670	669	668	667	666	665	664	663	662	661	660	659	658	657	656	655	654	653	652	651	650	649	648	647	646	645	644	643	642	641	640	639	638	637	636	635	634	633	632	631	630	629	628	627	626	625	624	623	622	621	620	619	618	617	616	615	614	613	612	611	610	609	608	607	606	605	604	603	602	601	600	599	598	597	596	595	594	593	592	591	590	589	588	587	586	585	584	583	582	581	580	579	578	577	576	575	574	573	572	571	570	569	568	567	566	565	564	563	562	561	560	559	558	557	5
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**Table 1**

The checksum table for the main program printed here is for the original listing. Once you **PLIN** the program it will modify itself, and hence give a different table of values. Make sure that you checksum it, removing any typing errors, before you **PLIN** it, otherwise you may have to type it all over again.

Year	1994	1995	1996	1997	1998	1999
1994	1,000	1,000	1,000	1,000	1,000	1,000
1995	1,000	1,000	1,000	1,000	1,000	1,000
1996	1,000	1,000	1,000	1,000	1,000	1,000
1997	1,000	1,000	1,000	1,000	1,000	1,000
1998	1,000	1,000	1,000	1,000	1,000	1,000
1999	1,000	1,000	1,000	1,000	1,000	1,000

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項目	2016年12月31日	2015年12月31日	2014年12月31日	2013年12月31日	2012年12月31日
現金及現金等價物	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
應收賬款	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
應付賬款	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
其他應收款	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
其他應付款	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
總計	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000

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## SIDEWINDER

The top-selling Atari 48k game from FUTUREWARE (See Atari User review, June '85)

Fly Sidewinder through a maze of twisting underground caverns, pass enemy defense systems dodging lasers and blasting your way through layers of floating mines. Your mission is to destroy any underground enemy installations, fuel dumps and to get Sidewinder out in one piece.

Design and save your own screens with ease using Futureware's scrolling screen editor.

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**July issue:** Disassembler; Basic: Run; S000 2.5; 17 Commandments Advertising; Display List Tutorial; Software review: Power Functions; Treasure Hunt; Keyboard Sounds; Microscope; Inights - 68k; News; Beginners and Graphics.

**August issue:** Analysis of S0001; program generation routines; Print Symbols; Assembly: Traps; Tapes programs; Test bank at Logo; Editor 1990; Line 2.4 upgrade offer; Display List Tutorial; Microscope; Software review; Inights - 68k; News; Beginners and Graphics.

**September issue:** Single resolution for S0001; Mode 8 review; always ready; New Month; Don Maki; Display List Tutorial; 68000 addressing modes; for processing with Logo; Software review; Inights - 68k; News; Beginners and Graphics.

**October issue:** Computer Canon graphics program; Updates for S0001 S0002 assembler; 13000 Run data utility; MacDraw memory dump utility; Fontcon; Software review; 68000 operating environments; Mapping; Inights - 68k; News; Beginners and Graphics.

**November issue:** Converter program; Brown operation utility; 67 graphics examples; 67 software in; Day/Week game; Display List tutorial; Advertising; Microscope; Software review; Inights - 68k; News; Beginners and Graphics.

**March issue:** Machine code generator; 3; Inights' two programs; Computer 19; 1; Superchip review; Chat to review for early games; Basic review; Advertising; Software review; PLUS Atari ST User 6 Special review; Jeff Minter and Commodore; Main Pt. 1; Making the most of the ST.

**April issue:** Sound synthesizer; Computer Pt. 2; Using mode 13 and 15; Microscope strategy game; the drawing printing utility; Advertising; Software review; PLUS Atari ST User Review of 13000 Mode 2; more on the Mapping; Making the most of the ST; and all the latest news.

**May issue:** Sam Tatum Interview; Games (except maze game); Computer Pt. 3; Paper Mario Graphics Pt. 1; Atari's Spelling Program; Advertising; Software review; PLUS Atari ST User Atari Interview; The Font and Ink Utilities reviewed; 67 Graphics Pt. 1; Export-Import/Commodore Future convention; programs; Making the most of your ST; and the latest 68k and 68000 news from the States.

**June issue:** Canon Reader main editor; Part 2 of Great Little Gadget - Build a right corner; First part of Basic Graphics review; the June No. 1; Paper Mario Graphics Pt. 2; Advertising; Software review; American Voice; PLUS Atari ST User Conclusion of ST Art review; Sports 2.0 maze game in Basic; Two Young computers; Software review; Making the most of the ST; and all the latest ST news.

**July issue:** Space Maze maze game; Contra looking opened; gadgets that is Poland; the 0 Basic test; Paper Mario Graphics Part 3; Free Lines No. 2; Advertising; Game & Graphics packages review; American Voice; Mapping News; PLUS Atari ST User 68k graphics in 67 Basic; Three C packages reviewed; Making the most of the ST; Review 6.17 News.

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**ADDENDUM:** Assemblies: Make machine code programming easy. **Visual Graphics:** Save money with this true graphics simulation. **Miniballs:** Complex patterns made easy. **Protection:** Protect your programs from piracy. **Display List:** Demonstrate programs. **Master 1001:** Valuable test adventure. **Touch Tables:** Demonstration programs.

**SEPTEMBER: Make March's trip home** the last month the "most moments" month. **Do It Now:** Convert your machine-wide routine to GAT statements. **Display List:** Demonstration programs. **System Cleaner:** Dump your Mode II system to a 10255 printer. **Release:** Solve the Rocky problem.

**OCTOBER:** Postpone: Taitf Road Memory Dump: Examine history in his and Paul Display List: Demonstration programs. Swap: Frags: Action game for one or two players. Computer Classes: Make your own more computers. Assembly Update: Improve skills for IBM assembly. Ram Disk: Make the most of the IBM's extra memory.

**HELP-EMERGENCY:** Gang members help-Cops struggle down the streets. (Continued) Thanks come about as

for a psychotherapist. **Grouping List:** Demonstration programs. **Military Operations Unit:** to provide logical functions. **Checker:** Draw and fill a circle. **Place/Probe:** of the memory. **Concepts:** evaluate each individual case.

**DECEMBER:** Countdown: More versions of the famous TV game, *Get It Right!*; *Agent X*'s own classic maze program, *Disco Fun*; or *Samurai on your Side*, *Line-Ups!* Make listing easier. **Display List:** Demonstration programs, *Phar*; *Freddie* of the month - *June's Program*; machine code, *unabridged*.

**BASIC COMPILER:** The entire set of Basic Compiler programs from the March to June issues on one tape/disc. Write easy routines for your programs that will run at machine code speed. Contains the Compiler, Library and many example programs. (N.B. Requires an assembler.)

**JANUARY 1986:** *Roller: Help Mr. Hammer rescue Garibaldi. Get it Right! And Use!*  
*cost-effective program, Admin Attack:* The game to accompany the machine code series.  
*Letter: Make listing programs easy. Disk:* Play the mice or push or play at the strategy game.  
*Change 1985 printer/player routine. Plus:* Feature of the month - *Survivable Fighter* machine code game.

**FLIMFLAM?** Manipulation Programs to manipulate Microsoft scores. Clock: Internet debate clock ticking. Flasher: Flashing colour onto. Download: Simple to play, hard to master. Frisker: The fishing vessel's card game. (Page 10)

**Freedom of the press: Democrats Lead -- in**

**REAR-TH:** Home Play: Knight's four program. **Rein: Campbell:** Program to accompany the new series. **Allen: Black:** Final part of assembly. **Interv: Pines:** Profile of the month. **Wharton in the Lines:** — see you (any your head) and help. **Wharton:** Read in?

**APRIL: Synthesizers:** Activate the hidden depths of the Aesop sound chip. **Disc Index:** Keep track of disc files and free space with the index printing program. **Captions:** Make the most of Movie 12 and 25. **Manicure:** Can you beat the queen that leaves toes in shambles?

**MAY: Canine Computer** Can your help lead the dog escape from the laboratory with Ring Mastering's gold? **Player Wheeler Program** to accompany the start of the season. **Spelling** Automate three weekly school spelling tests.

**PLAY:** Make Creative Credits hundreds of new names for last month's Creative Escape game, **Playa Studio Design:** Create your own digital stamps with the Playa Studio Editor. **Free Linear 1:** Simple Once collaborations... build it into your own collection.

**P.L.T. Space Master:** Marooned just inside deep through the treacherous space currents. **Player Mosaic Examples:** Program to display your Player Mosaic graphics. **Guides:** Test programs to run devices via your new modchip port interface. **Five Lines 2:** Create GBC-type displays on your Atari. **Handson:** Connect those hands to the GBC's Play & Pause.

**WGLIST:** *Frank the Funk Friend: Funky Action in Blues and soulful style. 88-Columbia Tripping: Use 60's culture tripping on your 5th Ave. Get It Right? By popular demand, an updated version of our showtunes program. Player Missile Programs: Three programs to make your PDA's virtually Fly Linear! Moved our studios to New York.*

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