

ATARI[®]

INPUT/OUTPUT

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MAGAZINE OF

THE ATARI

HOME COMPUTER

CLUB

ISSUE ONE

WINTER 82/83

Q&A

SETTING UP A USER GROUP:
OUR EXPERTS TELL YOU HOW

FREE TICKETS TO E.T.
IN OUR COMPETITION THIS ISSUE

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THE SOUND EFFECTS FOR TRON

MAKING THE MOST OF GRAPHICS WITH GTIA

PRODUCTS, PROGRAMS, PUZZLES
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I/O

Welcome to the first issue of I/O, our new-look quarterly news magazine for Atari Home Computer Club members throughout the UK.

I/O will provide you with all the latest information you need to get the best out of your Atari computer - and a lot of fun besides! Each issue will carry a special feature, graphics, programs and program puzzles, a competition, club merchandise and product news, as well as regular news briefs from Atari worldwide, a focus on the user groups and a whole section devoted to your stories and opinions.

Our special feature this issue tells the fascinating tale of Atari's involvement in the making of the soundtrack for Walt Disney's new sci-fi film, Tron. And our competition on this page, see below, gives everyone a chance

to that other film of the moment - ET!

Don't miss the article on GTIA graphics inside. GTIA stands for Graphics Television Interface Adapter, the new super-chip which is now standard in all Atari Home Computers. You may not know it, but the capacity to create these sophisticated graphics is already at your finger-tips.

But whatever you do, please keep in touch. Write to me, the Editor, at the address below and tell us what you think. This is your magazine. We want to get it right.

I look forward to hearing from you.

Editor

THE EDITOR, I/O
ATARI INT. (UK) INC., ATARI HOUSE
RAILWAY TERRACE, SLOUGH, BERKSHIRE

INPUT

This is - quite literally - where you come in.

Every issue, the INPUT column will feature news, views and opinions from Atari Home Computer Club members.

We'd like to hear any thoughts, problems, discoveries or ideas that you feel may be of interest to fellow Club members.

Tell us, for example, how you first became interested in computers, why you chose an Atari model and how it has changed your life, leisure or working habits.

Perhaps you feel particularly strongly about some aspect of the Home Computer market and how you think it might develop. You may even have found a use for your Atari Computer which no one else has yet discovered!

Whatever your thoughts, we would love to hear them. And so, we feel sure, would the thousands of other I/O readers.

Write in to the Editor, giving background details including your age, address, computing

history and a photograph if you so wish. Send your letters to the editor at the address on this page.

We are also looking for new program ideas to be included in future issues of the magazine.

Most of you will have heard by now of the Atari Program Exchange (APX). But for the benefit of new members, APX is a library of user-written software for use on Atari Home Computers. In our experience, some of the most imaginative and effective programs are written by our customers. Atari already holds over 100 such programs, most of which are available from UK dealers in the £10-£24 price bracket.

So don't be shy, if you have written a practical, educational or entertaining program of which you are proud, send it in to us and we'll put it up for inclusion in APX.

Atari UK has also just initiated its own Software Development Group. The group aims at improving all Atari Home Computer Software - both from users and the company itself.

If you have any ideas on Atari software of any kind, do get in touch. We look forward to your INPUT.

NEWS



*ET and the ET character are trademarks of and licensed by Universal City Studios, Inc., ALL RIGHTS RESERVED.

ET* exclusive

Steven Spielberg, creative genius behind "Close Encounters", looks set to break all box office records with his new film about a strange bug-eyed little extra terrestrial - ET - and his adventures on earth.

The film opens in London this December and we are delighted to announce that soon you will be able to buy a special Atari Home

Computer games cartridge, based on the very special effects created in the film.

The cartridge is the only one of its kind and well worth adding to your collection. More details next issue.

Don't miss our exclusive offer for free tickets to see ET in your local cinema. Enter our easy competition on this page.

Free tickets to ET

The chances of meeting someone who hasn't heard of ET must be about as good as a close encounter of the other kind. It's one of those films you've just got to see.

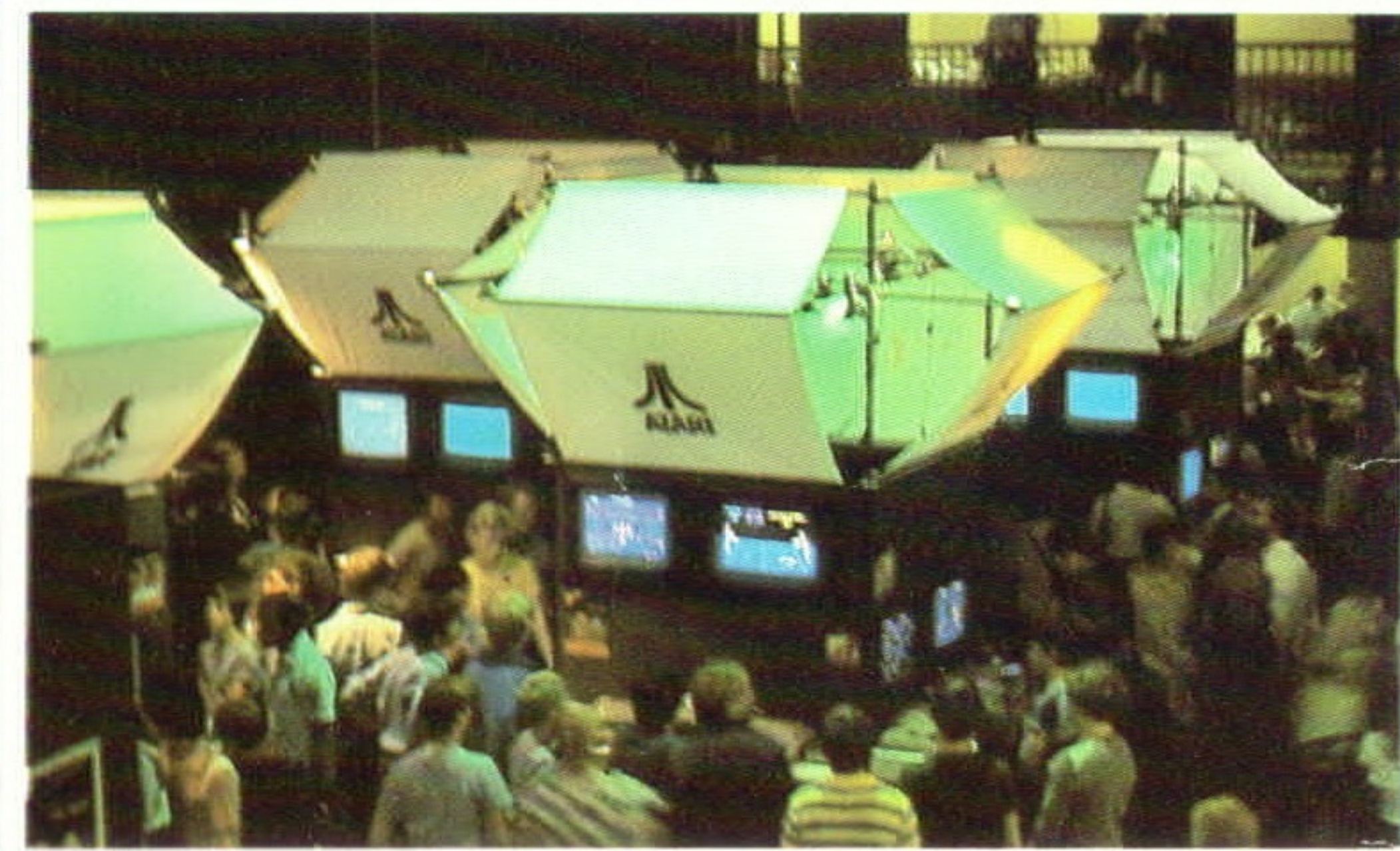
With this in mind, we're giving away 100 free tickets, in pairs, to 50 Club Members who send us correct answers to the competition below.

The ticket vouchers are valid for all screenings of ET - or any other film - at any ABC cinema throughout 1983.

Send in your entry, as quickly as possible, to the Editor at the address on this page. All correct submissions received by 10 January 1983 will be eligible for the lucky draw. Only one entry per person, please.

- 1 Your Atari computer contains many graphics functions. One of these allows you to superimpose characters. What is it called?
- 2 How many graphics modes does your computer have that are accessible from BASIC?
- 3 Which command would you use to change the contents of a colour register?
- 4 What happens to your computer screen if you don't touch the keyboard for 20 minutes?
- 5 In GRAPHICS 0, how do you adjust the left-hand margin?
- 6 What memory location do you need to examine to determine whether start/select/option are being used?
- 7 Which command is necessary to perform a "FILL" operation?
- 8 Which poke would you use to get lower case letters on a GRAPHICS 2 screen?
- 9 What function does the Atari 410 have which makes it uniquely different from any other cassette recorder?
- 10 What does SHIFT/CONTROL/I do on "SUPER BREAKOUT"?

Exhibitions and shows



Look out for the Atari stand when next you visit one of the many exhibitions and shows for microcomputer enthusiasts that are springing up around the country. For if it's good, we intend to be there!

One of the most successful events in which we took part recently was the 5th Personal Computer World (PCW) show, from 10-12 September at the Barbican.

PCW beat all its own records and put itself on track as the best-attended microcomputer show in the world.

The Atari stand, which was one of the largest and most popular, gave visitors the chance for 'hands on' experience of the Atari 400 and 800 models.

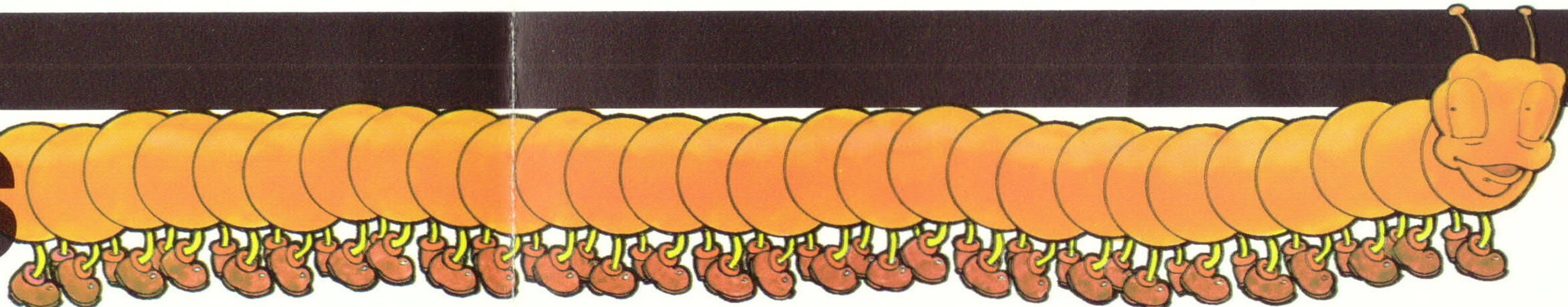
Reports from around the halls reflected the fact that businessmen, the trade, teachers and microenthusiasts were all there in large numbers.

The reports also confirmed that visitors to PCW were generally more knowledgeable than two years ago. It was the 14-year-olds who asked the difficult questions!

ANSWERS TO PROGRAM PUZZLE INSIDE

Program 1	Program 2
300000100130160	1020407090120140170

PRODUCTS



Centipede, the popular arcade game, is now available on Atari Home Computer games cartridge.

As before, the Home Computer version of the game features Attacking Centipedes, Jumping Spiders, Frenzied Fleas and Scurrying Scorpions - all moving towards Lord Motley Bugnut, bug expert, through a field of fluorescent mushrooms.

The player's only protection from the creeping menace is the mushroom patch. But, as the Centipedes launch their attack from the top of the TV screen, the garden pests

conspire to destroy his cover.

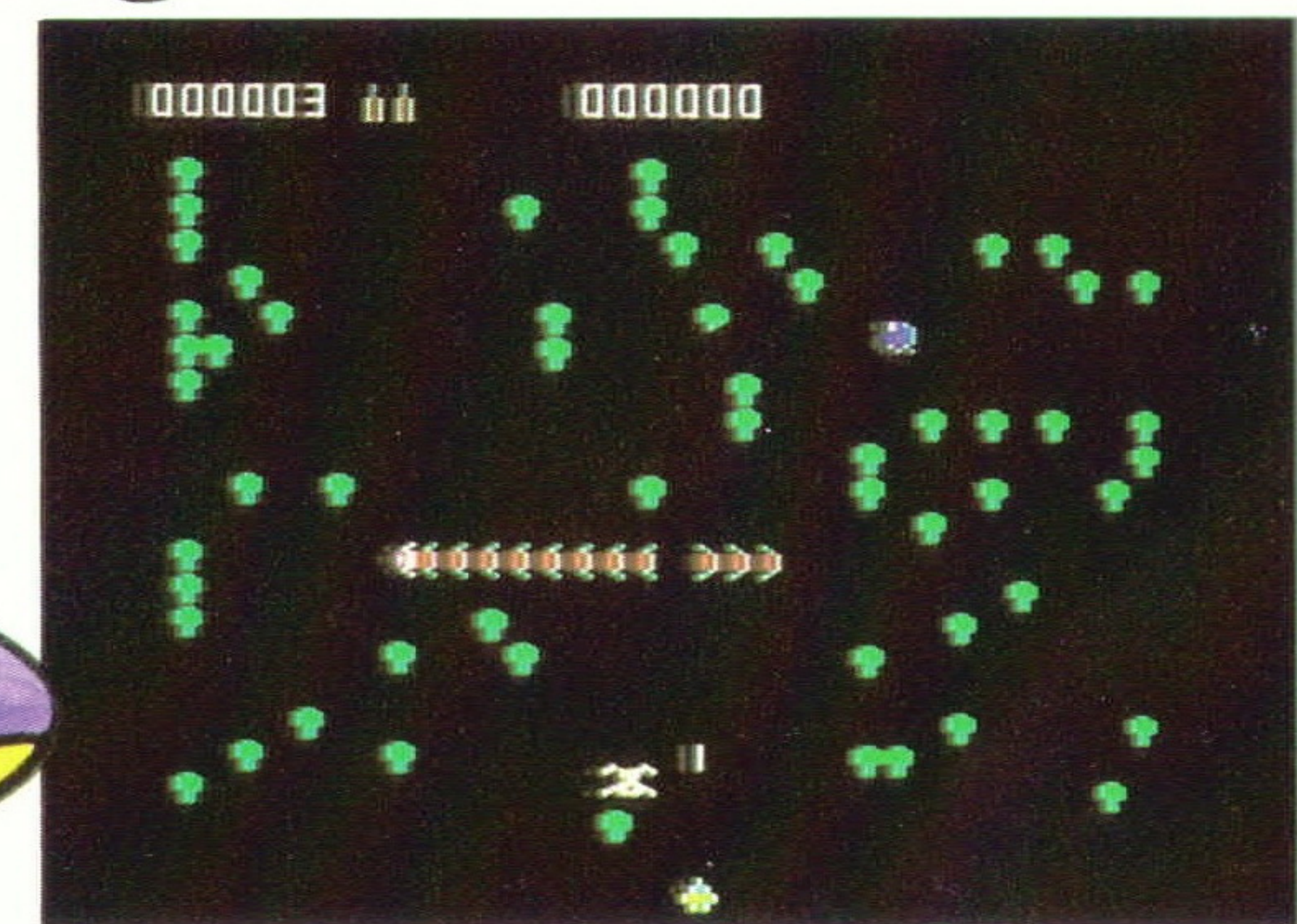
The Spider bounces from its web and removes all mushrooms in its path and Scorpions scurry across the patch without warning, poisoning all mushrooms in their way.

Another troublemaker is the Frenzied Flea. Like the other bugs, the Flea has special power and can create more mushrooms wherever it lands. This makes it increasingly difficult to shoot any insect until it is dangerously close. The flea also has a deadly bite and can destroy the bug blaster on contact.

The Centipede game package includes a

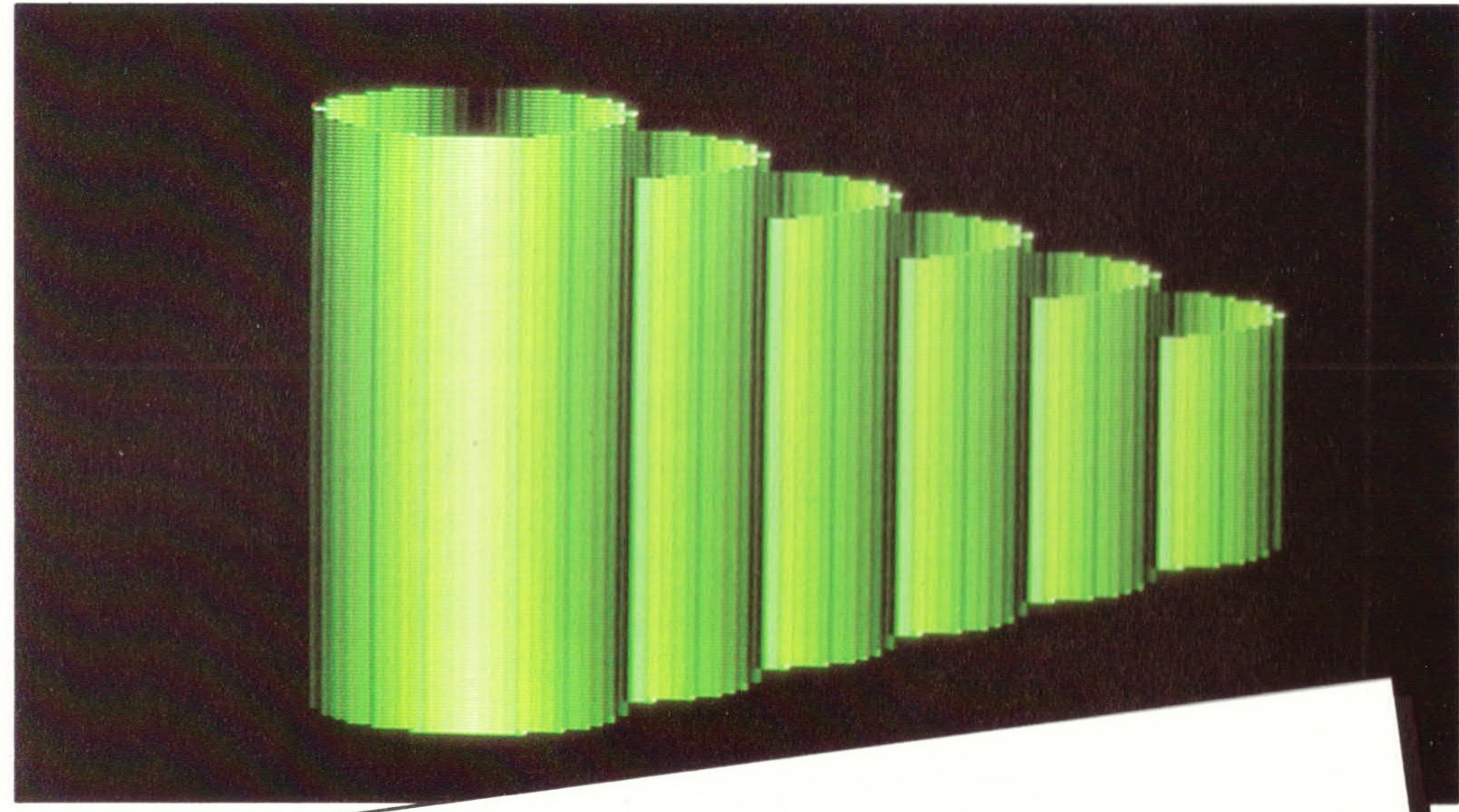
fully-illustrated instruction guide and tips on how to increase your bug-blasting skills.

This tricky and whimsical game is available from all normal outlets, but please note that the program requires a minimum of 16K RAM. Good hunting!



ENTERTAINMENT

A new dimension in Atari graphics



```

10 GRAPHICS 9
15 SETCOLOR 4,15,0
20 FOR Y=55 TO 0 STEP -10
30 FOR X=0 TO 24
40 C=X: IF X>11 THEN C=24-X
45 C=C+3
50 Z=Y+(X)
55 D=INT(SQR(144-(X-12)*(X-12)))/2
57 COLOR 15-C
58 PLOT Z,Y+7-D
60 DRAWTO Z,180-Y+D
70 COLOR C
80 DRAWTO Z,180-Y+D
190 NEXT X
190 NEXT Y
200 GOTO 200
    
```

Program in BASIC

Atari Home Computers have the best graphics capabilities in the market. And that's because of GTIA.

GTIA stands for Graphics Television Interface Adapter - the chip in your computer which controls TV displays.

GTIA works in conjunction with another custom-designed chip called ANTIC which retains its own separate area of memory, which can then be manipulated and superimposed on the screen display.

It is this facility which gives Atari computer games their wide range of independently moving parts - and which enables you to produce a multi-level screen.

With GTIA you can plot pictures on the screen, then rotate colours through them and create kaleidoscopic, whirling imagery.

You can even have photographs digitized and transfer them onto the TV screen in lifelike dimensions.

Follow the simple program for our cylindrical graphic and see for yourself how GTIA lends beauty and depth to even the most abstract design with its unique intensity control.

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The painted house - A Pilot program

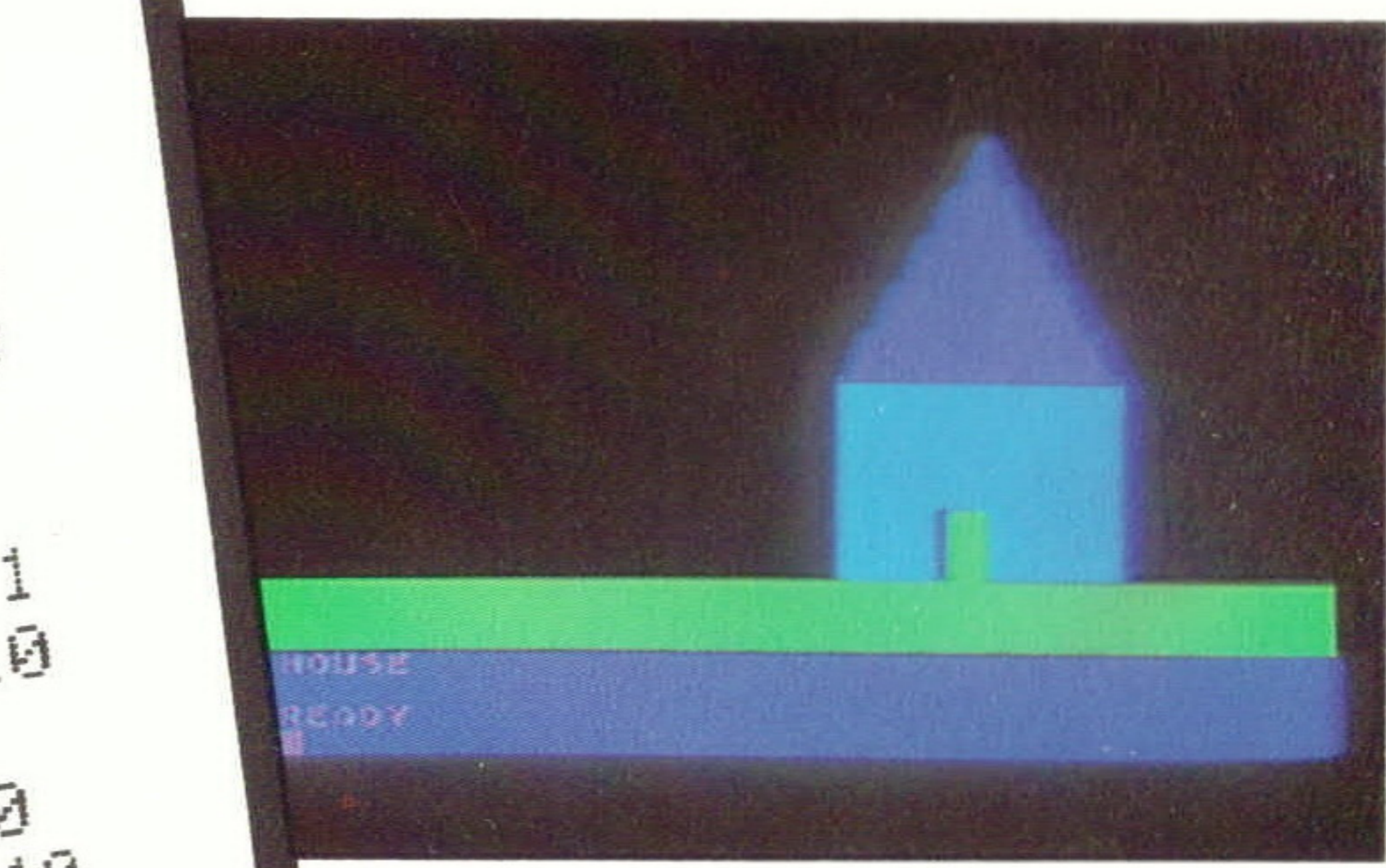
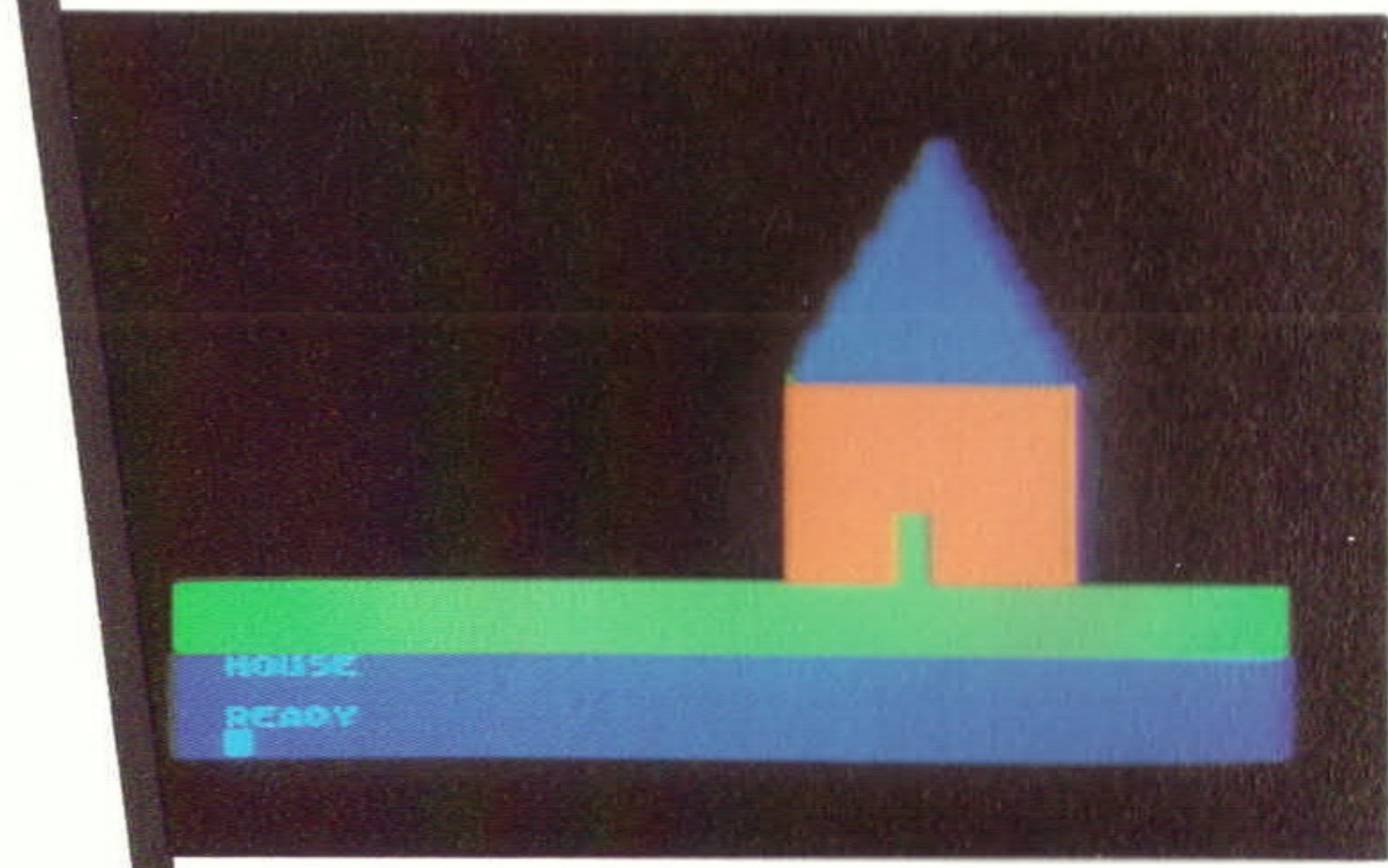
When you enter Graphics Mode from Text Mode (any GR: command), the PILOT Pen Colours are automatically reset to their normal values.

Similarly, when you leave Graphics Mode (GR: QUIT), the colour registers are automatically reset to the standard colours. Thus, to change colours, you must first change modes and then change the colour values.

The program (below) contains the four new PILOT program instructions that change the colours for the PILOT's house.

Type it into your computer and RUN it. You've just changed the PILOT Pen Colours!

Now that you know how to change colours you can have some fun experimenting with all the new brilliant colours at your command with ATARI PILOT ("turtle" graphics).



Pilot Program and Kid's puzzle reprinted by permission of Atari Connection magazine.

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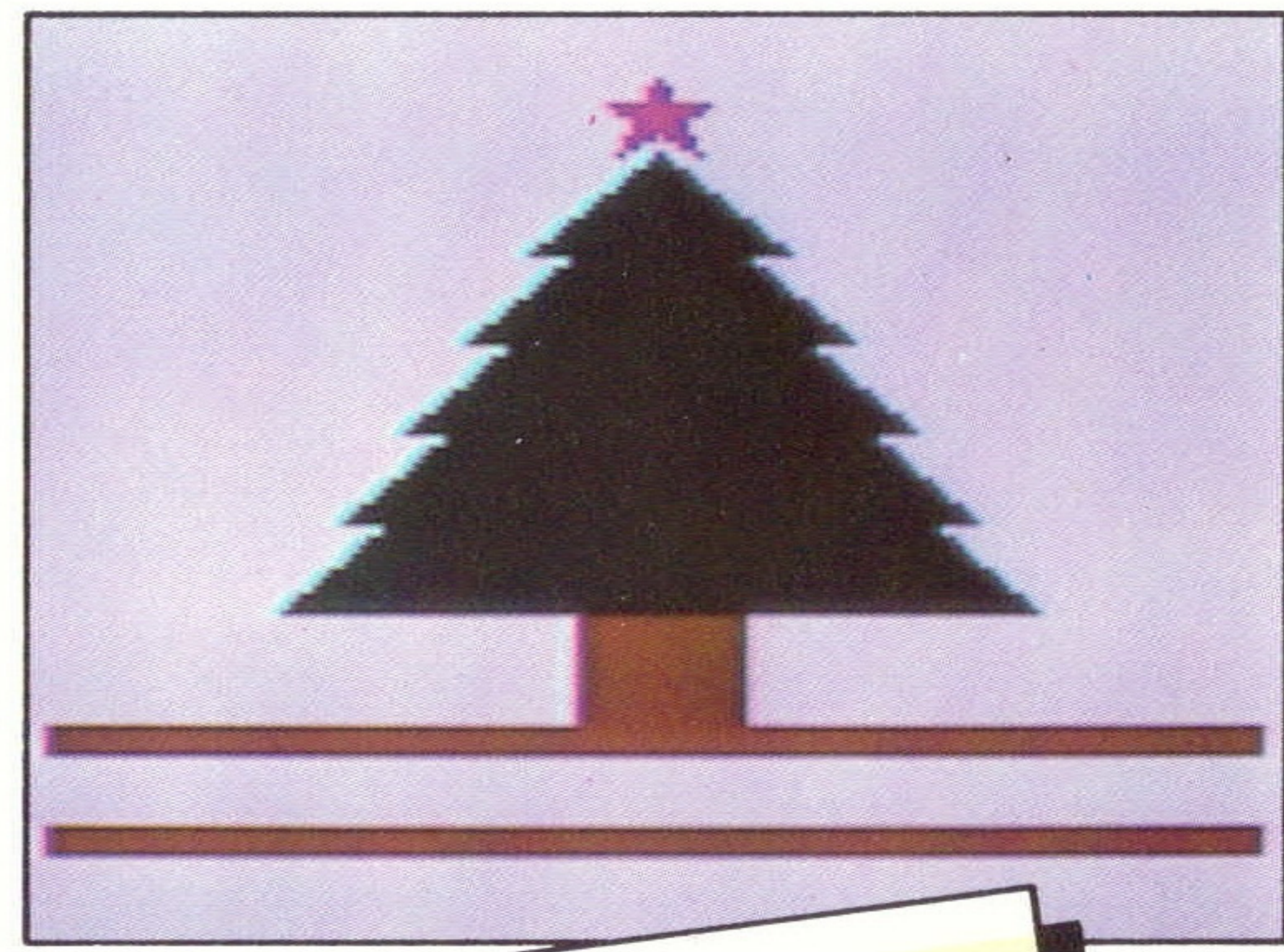
10 GR: CLEAR
20 T: HOUSE
30 C:QB703=118
40 C:QB709=200
50 C:QB710=30
60 C:QB712=90
100 GR: PEN RED
110 GR: GOTO 10,-20; TURN 0
120 GR: 2(DRAW 30; TURN 90; DRAW 40; TURN 90)
130 GR: PEN BLUE
140 GR: 6030; TURN 30
150 GR: 3(DRAW 40; TURN 120)
160 GR: FILL 39
170 GR: PEN YELLOW
180 GR: GOTO 26,-20; TURN 0
190 GR: GOTO 26,-20; TURN 0
200 GR: 2(DRAW 10; TURN 90; DRAW 5; TURN 90)
210 GR: GOTO -79,-32; FILL 11
220 GR: GOTO 26,-20; FILL 10
230 GR: PEN RED
240 GR: GOTO 10,-20; FILL 30
250 GR: GOTO 31,-20; FILL 10
250 E:
    
```

A graphic for all seasons

The Atari Christmas Tree

Use the graphics command program below to create your own Atari Computer Christmas card.

Then consult the colour chart to change its hues to suit your artistic taste.



Christmas tree program by Lane Winner, reprinted by permission of Atari Connection magazine, ©1982, Atari, Inc.

```

10 GRAPHICS 7
20 POKE 708,196
30 POKE 710,65
40 POKE 712,15
50 POKE 709,70
60 POKE 765,1
70 FOR X=2 TO 6
80 A=8*X+80:B=11*X:C=80-8*X
90 COLOR 1
100 PLOT 81,9
110 PLOT A-16,B-13: DRAWTO A,B
120 PLOT C-1,B+1
130 POSITION C+16,B-13
140 XIO 18,#6,12,0,"S:"
150 COLOR 2
160 PLOT A,B: DRAWTO A-1,B+1
170 DRAWTO A+1,B+1
180 PLOT C,B: DRAWTO C+1,B+1
190 DRAWTO C-1,B+1
200 NEXT X
210 COLOR 0
220 PLOT 81,9
230 COLOR 3
240 POKE 765,3
250 PLOT 90,67: DRAWTO 90,79
260 DRAWTO 70,79
270 POSITION 70,67
280 XIO 18,#6,12,0,"S:"
290 COLOR 2
300 POKE 765,2
310 PLOT 80,1: DRAWTO 85,10
320 DRAWTO 83,9: POSITION 74,4
330 XIO 18,#6,12,0,"S:"
340 DRAWTO 86,4: DRAWTO 75,10
350 DRAWTO 80,1: DRAWTO 80,5
360 DRAWTO 76,9: PLOT 83,5
370 GOTO 370
    
```

Sets graphics mode
Sets tree colour
Sets trunk and border colour
Sets background colour
Sets star ornaments colour
Puts colour on brush to fit tree
Sets loop for drawing tree
Defines tips of tree branches
Puts colour in Register 708
Sets point on top of tree
Draw tree

Fills tree with colour
Puts colour in Register 709

Draws ornaments
Puts colour in Register 712
Sets point for tip of star
Puts colour in Register 710
Puts colour on brush to fill tree trunk

Draw and fill tree trunk
Puts colour in Register 710
Puts colour on brush to fill star and ornaments

Draw and fill star and fill ornaments

Program in BASIC

COLOURS	
BLACK	0
RUST	16
RED-ORANGE	32
DARK ORANGE	48
RED	64
DARK LAVENDER	80
COBALT BLUE	96
ULTRAMARINE BLUE	112
MEDIUM BLUE	128
DARK BLUE	144
BLUE-GREY	160
OLIVE GREEN	176
MEDIUM GREEN	192
DARK GREEN	208
ORANGE-GREEN	224
ORANGE	240

LUMINANCE (BRIGHTNESS)	
MIN. BRIGHTNESS =	0
	2
	4
	6
	8
	10
	12
	14

KIDS CORNER



Program Puzzle by Tom Hudson

Look at the two programs below. What? You say you can only see one! Well, you're half right. We have combined the two programs into one list. What you have to do is unmix them. The lines are in the proper order from top to bottom, but just to make things interesting, we have included two lines which do not belong to either program. Can you work out which they are? Here are a few hints.

PROGRAM 1 is a sound-generating program. You will make a series of random "bounce" sounds.

PROGRAM 2 is a graphics program. This draws a series of 35 boxes from top left to bottom right.

The answers are on the "News" page. Good luck!

```

10 GRAPHICS 8+16: SETCOLOR 2,1,0: COLOR 3
20 A=0: B=15: C=10
30 P=INT(80*RND(50)+1)
40 FOR X=1 TO 35
50 FOR J=8 TO 0 STEP -0.2
60 FOR U=1 TO J: SOUND 0,P,12,U: NEXT U
70 PLOT A,A: DRAWTO B,A
80 FOR U=2*J TO 1 STEP -1
90 IF X=0 THEN PRINT "TOO LOW"
100 SOUND 0,P+2,10,U: NEXT U
110 DRAWTO B,C: DRAWTO A,C: DRAWTO A,A
120 A=A+5: B=B+5: C=C+5
130 NEXT J
140 NEXT X
150 NEXT A
170 RUN
    
```

BREAKING THE SOUND BARRIER

How ATARI helped to create the sound effects for TRON, Walt Disney's ambitious new computer-age adventure film, now on release in this country. Special report from Jim Inscore of ATARI's Home Computer Division in the United States.

Photography courtesy of Walt Disney Productions. Copyright © 1982.

The television monitor flickers briefly, then comes to life. On the screen, a young man races madly through a buzzing maze of pure energy, pursued by electronically controlled computer bugs.

No longer merely the figment of some programmer's overactive imagination, these bugs are in hot pursuit. They look like mutant water-spiders hatched from integrated circuit chips. And they sound like . . .

But wait! Something's missing. The huge, predatory computer bugs aren't making any sound at all.

The screen flickers again as Frank Serafine taps out a few nimble keystrokes on his ATARI 800 Home Computer. The video tape recorder beneath the monitor rewinds, a 16-track audio recorder across the room whirs to life, then stops. With a few more deft keystrokes, the audio and video tapes start rolling at the same time.

The bugs once again bear down on the young man. But now their eerie cries screech from the monitor speakers. It's a strange, ominous sound. The sound of live crickets electronically manipulated and mixed with some piercing computer-generated chirps and bleeps.

This time we feel the cold fear of the hero's desperate race. An icy chill runs down the spine. The scene ends, the sound fades.

Frank Serafine, sound effects expert extraordinaire, has just made a perfect "take" using some extraordinary film and audio equipment and a standard ATARI 800 Home Computer.

Frank's sound effects project is for the latest

feature film from Walt Disney's studios in America, a computer-age fantasy entitled "TRON". Capitalising on the current popularity of video games, TRON takes us inside the guts of a computer, where games are larger than life - and computer bugs are real.

TRON uses computer-generated graphics and sound effects, plus state-of-the-art optical effects to bring to life a fantasy world where characters made of pure light and energy defy the laws of physics.

This fantastic landscape is governed by a demonic Master Computer Program (MCP) who puts master programs to death on a video game grid. Into this electronic Oz comes the human Flynn (Jeff Bridges), a god descended from Olympus - a "user", as humans are known to programs.

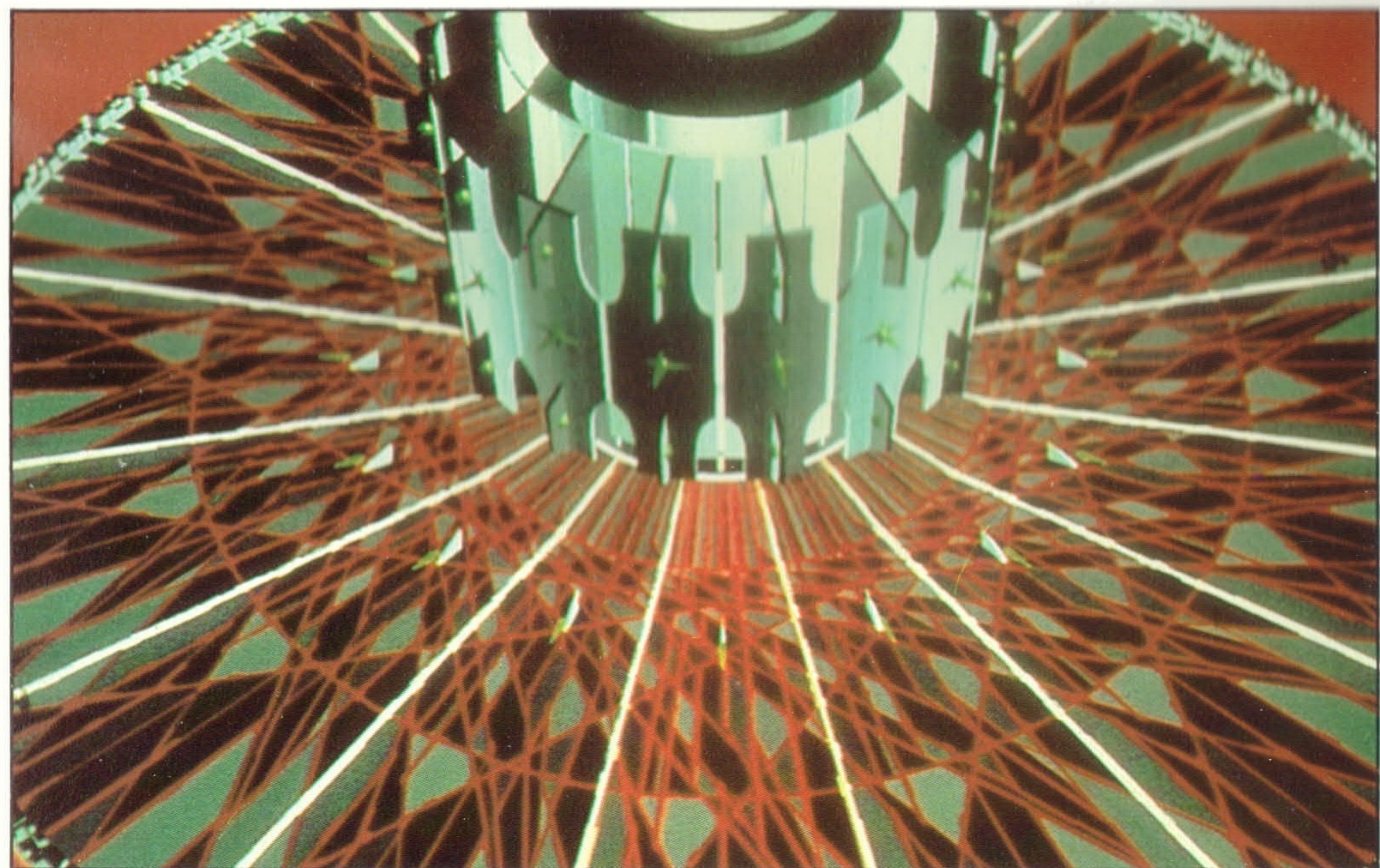
Frank Serafine and his SFX Studios in Los Angeles were the natural choice to create sound effects for this high-tech adventure film. Frank is a trained musician, an expert on digital synthesisers, and a well-published proponent of computer applications for music and film sound tracks. At SFX he has worked hard for the last few years, creating effects for top films including "Star Trek" and "The Fog".

"The ATARI 800 is perfect for a film like TRON," says Frank. "I can recreate all the same sounds or make up new ones of my own. In TRON, we wanted to create an impression with sound images as well as visual images."

To do this, Frank and his two sound editors recorded the real sounds of army tanks rumbling, missiles firing and crickets chirping.

By combining these "organic" sounds with sounds generated by the ATARI Computer,

TRON



then enhancing the mix electronically, Frank created the surreal sounds you will hear in TRON.

Part of the task for any sound editor is to search through reels and reels of 35mm sound stock for just the right effect. Then the sound effect must be cut and spliced together by hand on a film editing machine called a "Movieola". Using this technique, sound editors may take several days to assemble just one effect. But over the past two years, Frank has used his ATARI Computer to revolutionise that process.

"I've assembled a collection of over 60 reels of sound effects tapes. The filing program I'm using with the ATARI 800 allows me to enter every effect and cross reference each of them under several different categories," says Frank. Now, when he wants a sound, he asks his ATARI 800 for a listing of each category, and gets the sound he wants in minutes instead of hours or even days.

While sound generation and file management are tasks the ATARI Computer handles daily for many users, Frank has one use for his ATARI Computer that is unique. Using an interface that allows the ATARI 800 to

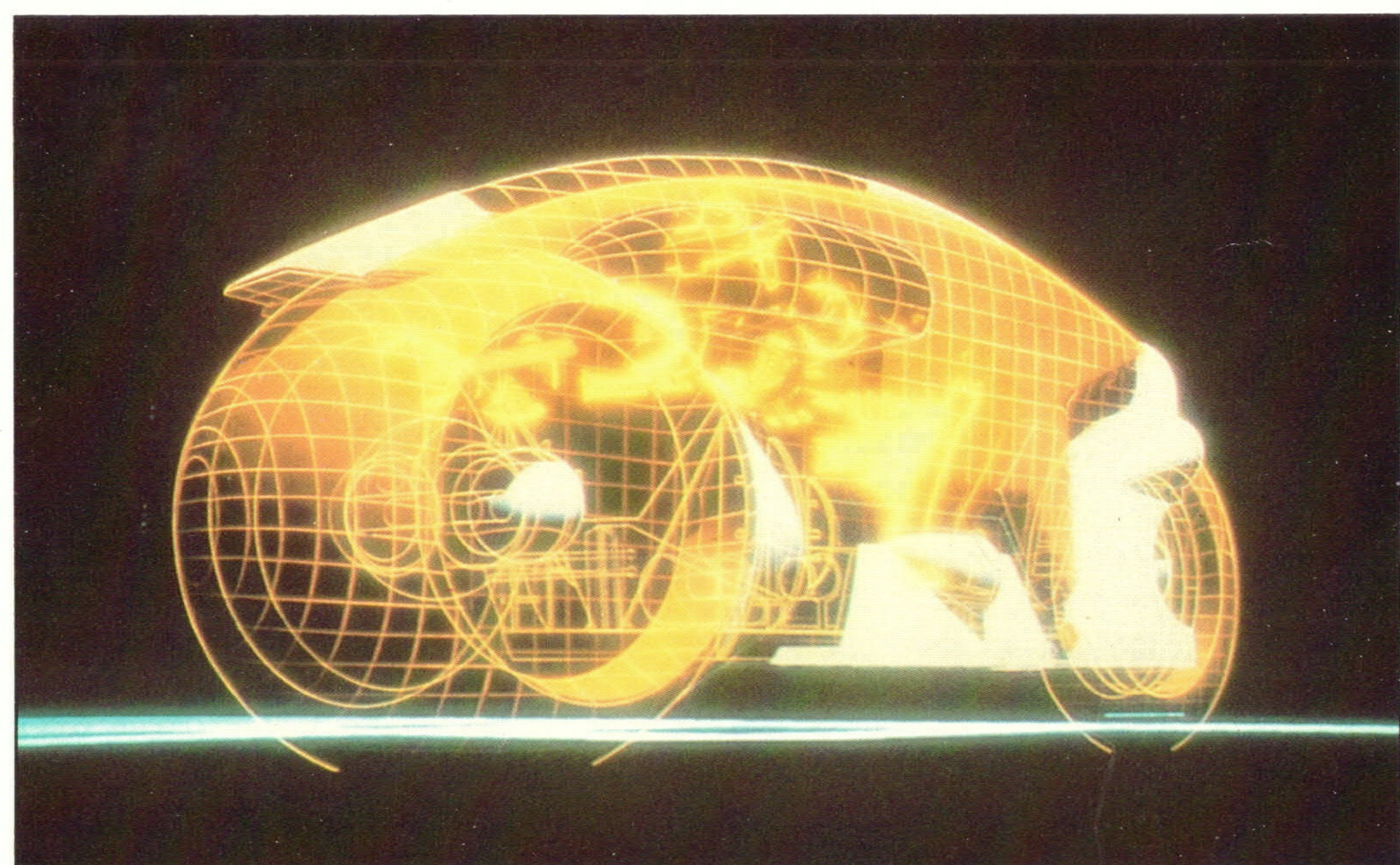
control both audio and video recorders, Serafine is able to edit sound effects incredibly precisely - right from the keyboard of his ATARI 800 Computer.

"You've got to understand what this means for the industry," Serafine emphasises. "As much as one-third of the sound budget for a film could go into looking for the right effects. And the actual editing process could take several days per effect."

Frank is very enthusiastic about what he is doing with his ATARI Computer. And his enthusiasm carries over to those he works with. "Producers come in and say 'Oh, I love the games', but when I show them what I'm doing with it, they just shake their heads in amazement and ask me how to make theirs do the same thing."

"The ATARI 800 is made for this kind of creative work," says Frank. He points to the racks of equipment around him. "Here is some of the most powerful state-of-the-art gear being used in the film industry. And the ATARI 800 is able to tie into it and make it all work. I guess that's the bottom line for me."

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NEWS FROM THE USER GROUPS

Things begin to happen when a group of Atari Home Computer owners get together. And when they do, we feel that you would like to hear about it. From now on, therefore, this page of I/O will be devoted to news and views from the user groups.

If you're keen to voluntarily recruit and administer one of these groups in your area, write to or telephone Graham Daubney at:

I/O
ATARI INT. (UK) LTD
ATARI HOUSE RAILWAY TERRACE
SLOUGH BERKSHIRE.
Tel: Slough (0753) 33344.

Two heads are better than one, so why not get together with other users in your area and swap ideas on how to get the best out of your Atari computer.

Whatever the situation - whether you are looking for a group to join, are recruiting members for a new group, or merely thinking about setting one up - I/O would like to help.

We can put you in touch with people of a like mind living nearby, lend advice on the most effective ways of setting up and running a computer user group and, most important, we can relay information on the groups' latest finds and activities to other Home Computer Club members.

But we need your help to do this. First, please make sure that existing groups are on our records: Write to or telephone Graham Daubney at the above address, and give him the following details:

CONTACT NAME
GROUP NAME
NUMBER OF MEMBERS
PRESENT ACTIVITIES
MEETING TIMES AND PLACE
PLANNED ACTIVITIES

Include a little background information on your group and list areas where you feel that we can be of assistance.

There are simple technicalities that need to be observed, and can be with ease if you have the right advice. Write to Graham and he will send you a set of straightforward notes.

Graham's information package also includes some very helpful hints for those who organise meetings and want to make them interesting for all concerned.

For example, Atari will try whenever

possible to supply speakers for group meetings. A member of our team can be invited to come along and demonstrate our latest products and programming techniques to keep you up-to-date in every way. We hope that small groups of users will also be interested to visit our super new training room at Atari HQ.

In return, please let us know if a member of your group is ready and willing to present a lecture on an Atari subject. We can then make other groups aware of his talents.

We are very keen to put groups in touch with one another - or "network" - in this way. And once our directory of user groups is well established we will be able to make sure that you are kept informed of other groups' activities around the country.

In addition, anyone who wishes to make contact with other groups in order to set up a mini program exchange, multi-group meeting or speakers panel, will be able to do so with our help. We can already provide quite a few leads in this area, so do keep in touch.

This interchange of skills and ideas will ensure that user group meetings remain an exciting forum for the introduction of new ideas and talents; that you keep to the fore of everything that your Atari Home Computer is capable of.

WILL YOU BE OUR REPORTER?

We hope too, that you will keep us informed of everything that goes on in your group meetings. And to make this easier for you, we have set up the I/O Correspondents' Service.

All you have to do is appoint one member of your group to become the I/O Correspondent. Write in to Graham Daubney at the above address and he will send you some simple forms on which your chosen correspondent will enter his name, the name of the user group, details of the time and place of the meeting, and any matters of interest that arise.

Send the form back to us and, who knows, you may find yourself in print!

CALLING FOR NEW MEMBERS

If you have made the decision to set up a user group but are having difficulties identifying and contacting Atari Home Computer owners in your area, write in to I/O. We will then send you a list of User Groups in your area. Good luck!

HOTLINE

 (0753) 24561

Problems? Don't panic. The Atari CUSTOMER SUPPORT GROUP is always on hand to help out.

Ring 0753 24561 for advice and practical assistance on all matters relating to Atari Home Computer hardware, accessories, software and programming problems.

Most queries can be answered over the telephone, but in the event of mechanical

failure, get in touch with your local dealer who will contact the nearest Atari INDEPENDENT SERVICE STATION.

Our new nationwide network of Service Stations ensures that a member of qualified Atari personnel is always on hand to help the dealer handle your problem quickly and efficiently.



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