WINTER 81/82

VOLUME 1, NUMBER 4

THE ATARI® CONNECTION™

$3.00

MERRY CHRISTMAS FROM YOUR ATARI COMPUTER

FREE ATARI PILOT CALENDAR GIFT INSIDE!

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WE'VE BROUGHT THE COMPUTER AGE HOME™...ATARI®

Once upon a time, there was a computer named ENIAC. It weighed 30 tons, used 18,500 vacuum tubes, and took up 1500 square feet of space. You could easily set up housekeeping in that amount of space.

Time passed, and so did ENIAC. But not before its influence was felt in the electronics industry. Gradually, engineers developed ways of making computers more reliable, responsive, and compact in size. Christopher Evans, in his popular book, *The Micro Millennium* illustrates the phenomenal advancements that have taken place since 1955 (when ENIAC was retired).

"Suppose for a moment that the automobile industry had developed at the same rate as computers and over the same period," suggests Evans, "Today you would be able to buy a Rolls-Royce for $2.75, it would do three million miles to the gallon and deliver enough power to drive the Queen Elizabeth II. And if you were interested in miniaturization, you could place half a dozen of them on a pinhead."

The *microprocessor* was introduced by Intel Corporation in 1971. Enormous strides occurred following the development of microprocessor chips and high technology continues to find ways of packing more and more circuitry into the tiny silicon units, enabling them to perform thousands of calculations even faster.

As computers became smaller, they also became more affordable. In fact, so affordable, that companies were finding a marketplace they had never considered before--the home user.

1979--enter Atari, Inc. With several years of success as the leader in home video games, Atari, always looking to the future, realized the potential for bringing the computer into the home. Before long, the dream became a reality with the introduction of the ATARI 400™ and ATARI 800™ Home Computers.

Now, in 1981, Atari is fast becoming as synonymous with simple, yet powerful home computers as it is with home video games. The reason: *Atari recognizes the needs of the home user.*

Running a household is like running a business. Expenses cannot exceed income, making it necessary for most people to maintain a strict budget. The ATARI Personal Financial Management System™ is the perfect program for keeping track of a family's (or individual's) expenses on a daily, monthly or yearly basis. Not only is there a Record Keeping and Checkbook Balancing program, but Budget Manager and Budget Analyzer sections help you analyze what percentage of your income goes to different needs.

But keeping track of one's expenses isn't the only reason an individual or family needs a home computer. The home plays an important role in a child's education, which doesn't start and stop when the school bell rings.

Atari is dedicated to the reinforcement, enhancement and enrichment of one's learning years (do they ever end?). An entire library of Talk & Teach™ cassette courseware is available for all educational levels on a wide range of subjects. Other educational programs set up a game/learning situation, such as Hangman, Energy Czar™ (you must control the distribution and use of vital energy resources in the U.S.), or Scram™ (a Nuclear Power Plant Simulation).

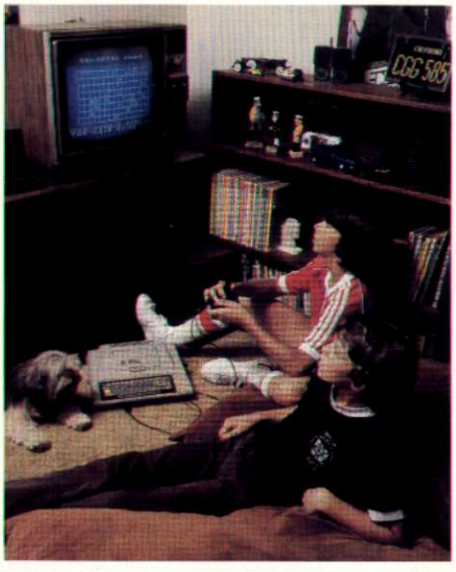
If you dabble in the stock market, you can get up-to-date stock market quotations with your ATARI Home Computer and the Dow Jones Investment Evaluator™. The TeleLink™ 1, cartridge connects you to CompuServe*, and THE SOURCE, AMERICA'S INFORMATION UTILITY**, two complete information services dedicated to the home and family.

Besides the many modern applications and labor saving jobs your ATARI Computer can perform, the machine itself has a number of convenient and outstanding features. The fantastic ATARI Computer graphics capabilities make any program you write not only attractive but more effective. Some of the graphics features include being able to access 128 color registers, and programming in eight graphics modes.

Sound also plays an important part in the ATARI Home Computer. The ATARI Computer's four independently programmable sound channels allow you to program music in four-part harmony, or create fantastic sounds for your own animated computer games.

Whether you buy ATARI Computer programs or create your own, you know you are working with one of the simplest to operate, yet powerful home computers made (with the quality you expect), because it's from Atari—We've Brought The Computer Age Home.

Ann Gechman, Senior Product Writer and Ted Richards, Editor, THE ATARI CONNECTION.



* *Registered Trademark of Compuserve Inc., an H&R Block Company.*

** *THE SOURCE, AMERICA'S INFORMATION UTILITY are service marks of Service Telecomputing Corp. a subsidiary of the Readers Digest Association, Inc.*

ENIAC, the world's first electronic computer. It weighed 30 tons, used 18,500 vacuum tubes and occupied a room 30 by 50 feet--enough room to set up housekeeping plus an ATARI Home Computer!

NEW PRODUCTS

ATARI PILOT WITH "TURTLE" GRAPHICS FOR THE HOME

PROGRAMMING LANGUAGES AND AIDS

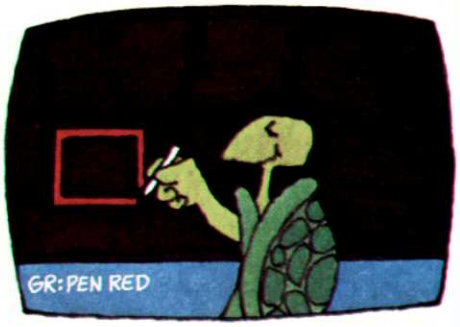
By Brenda Laurel

The new ATARI PILOT (with "Turtle" graphics) programming language may revolutionize your relationship with your ATARI Home Computer. Originally designed for use in schools, ATARI PILOT is now being offered in a new package for the ATARI Home Computer users. The new home computer package includes the PILOT language in an easy to use cartridge, a quick reference card with a summary of PILOT commands and a super cartoon-illustrated learning guide for folks of all ages (*The Student PILOT Reference Guide).*

ATARI PILOT has two powerful features which make programming easier and more fun: a set of text commands in simple English (that is, doing things with words and numbers) and a set of simple graphic commands ("Turtle" graphics) for drawing pictures and creating animation.

PILOT commands are so simple to learn and use that a child of eight can be writing interesting little programs in an hour or two, and so powerful that anyone (with a little practice!) can write quite sophisticated programs within a few weeks study. Even though it is simple, ATARI PILOT performs even better than BASIC in some areas. Kids have used the literary capabilities of PILOT to write things like interactive fairy tales and word games.

ATARI PILOT graphics commands are especially easy to use compared to other languages like BASIC. ATARI PILOT uses a special kind of graphics commands called "Turtle" graphics. Instead of a complicated screen memory map, the PILOT screen map is based on Cartesian



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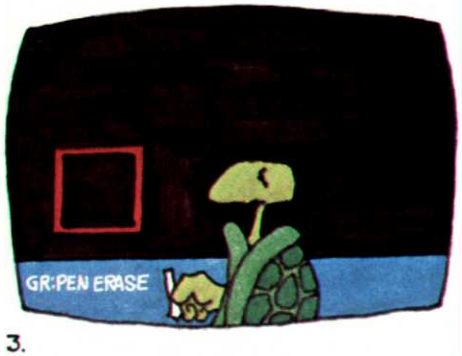

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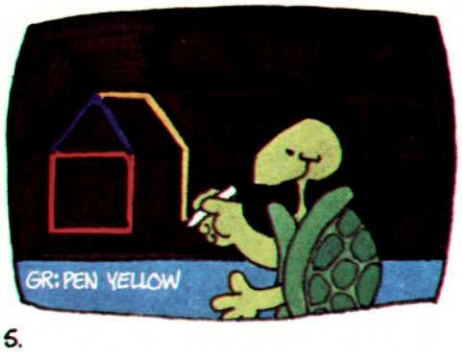

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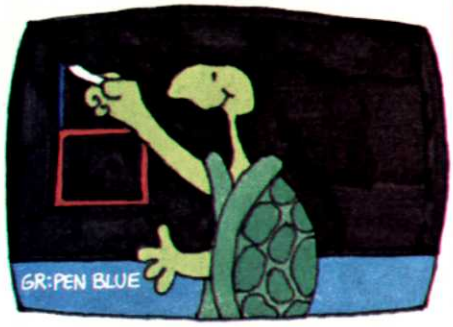
coordinates with the location "0,0" in the center of the screen. That's where our imaginary "Turtle" sits when you start to use the graphic screen. To draw something, you tell the "Turtle" what color of "pen" to use, and then give it directions. Kids enjoy using this method, because the "Turtle" moves on the screen in the same way their own bodies move through space. We have seen kids "walk through" a graphic design then sit down and program it in one try. ATARI PILOT also allows you to use the four musical "voices" built into the ATARI Computer to create music or sound effects.



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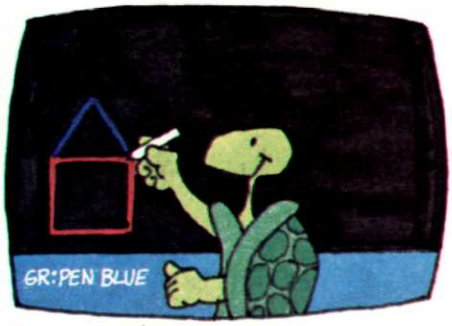

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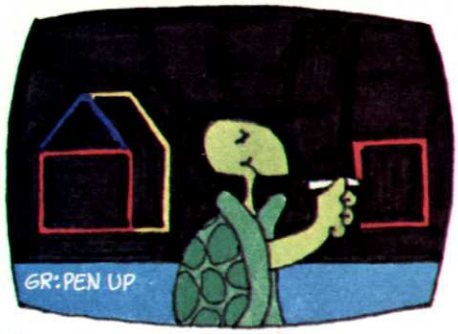

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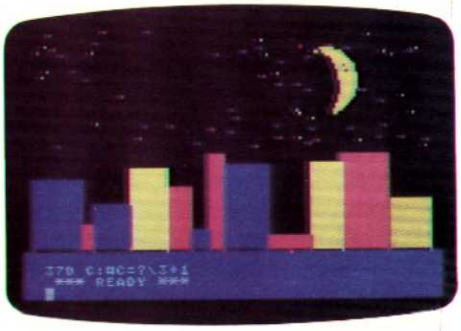
Cartoon Illustrations by Johnny Johnson. Reprinted from *The Student PILOT Reference Guide*, Copyright © 1981 Atari, Inc.

There are at least three important reasons for having ATARI PILOT in your home software library. The first, and most obvious, is the ability to learn about computer programming by *doing* it. Although the commands are simple, the logic of PILOT is fundamentally the same as most other programming languages you might want to learn.

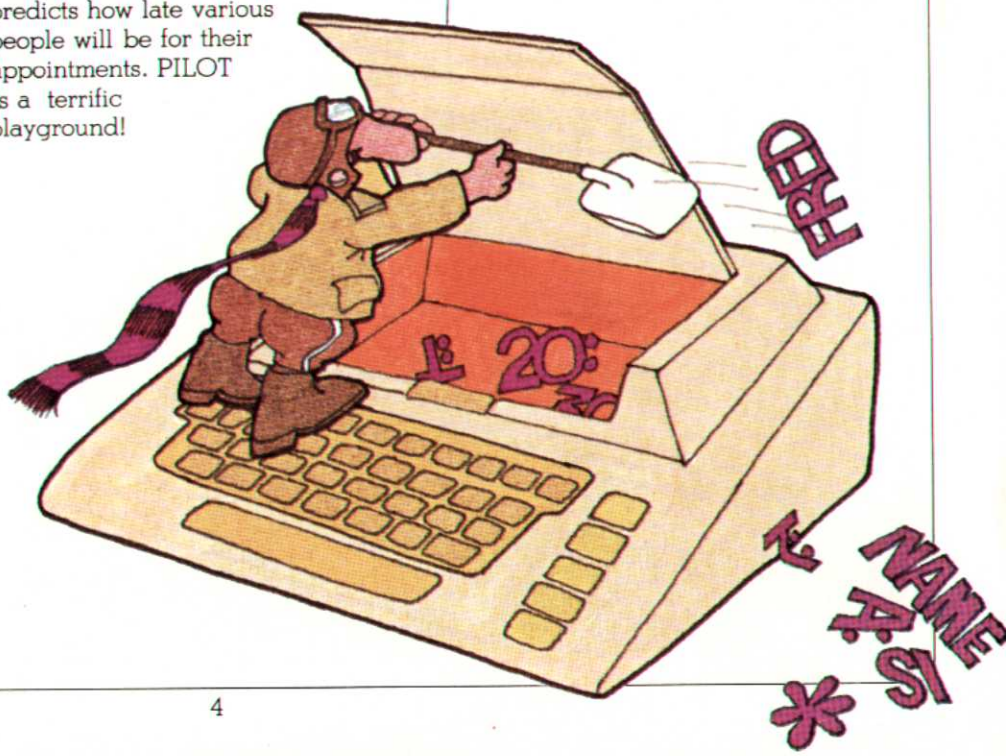
The second good reason to own ATARI PILOT is just to play around. The language is so simple and interesting that most people (kids included) think of it as a way to have fun with the computer. For instance, you could write a program that will create an endless series of full-screen spiral designs in varying colors--in only nine lines of code! One of our users has written a thirty-line program that predicts how late various people will be for their appointments. PILOT is a terrific playground!



The third great thing about ATARI PILOT is really another way of looking at the first two. With no experience and just a little practice, you can start telling your computer what to do. A home computer is, after all, a personal tool. With PILOT, you can use the computer to do things that you can't buy off the shelf. And you can say, "I did it myself!"

Requires 16K RAM. Estimated Availability: December, 1981.

Brenda Laurel is a Consumer Product Manager with the Atari Home Computer Division.



PERSONAL INTEREST

THE ATARI WORD PROCESSOR

A BOON FOR YOUR IMAGINATION

By Jim Inscore

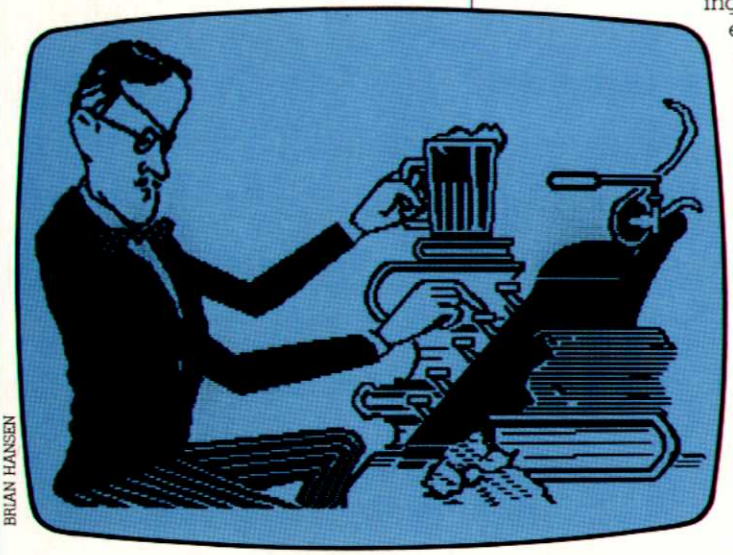
Jack Kerouac sat down, stuck the end of a roll of teletype paper in the typewriter, and began typing. Two weeks and several hundred feet later, he had finished writing *On The Road*.

James Joyce began writing a short story one day in 1908. Thirteen years later, in the winter of 1921, he finally finished what had become the epic novel *Ulysses*.

These two examples show just how widely the style and approach of different writers can vary. But whether you write novels full-time or write a letter occasionally, whether you write advertising for clients or a term paper for a class, you use the same tools: a typewriter, pencils and paper, paragraphs, sentences, and of course punctuation.

Then, you start writing drafts. Unless you're Kerouac, you'll probably throw away your first few starts on each page. You may hand write the first draft or two, erasing and crossing out as you go.

There's really no other way to do a good job of writing, no shortcut to clarity. But in this computer age, there is a simpler, faster way to get through this tedious process. It's called *Word Processing*.



BRIAN HANSEN

ATARI BRINGS WORD PROCESSING HOME

The ATARI Word Processor makes it possible for you to enjoy the same kind of automated writing convenience most offices, businesses and newspapers are employing today. With your ATARI Home Computer, ATARI 810™ Disc Drive and ATARI 825™ 80-Column Printer, you can store 60 or more pages of text on a single diskette. Prepare your outline and first draft, then polish, edit, and refine them with ease. Then, when you're ready, the ATARI Word Processor prints the whole document for you, complete with page numbers, justified margins, elongated headings and indented paragraphs.

If you like to write stories, you'll find using the ATARI Word Processor a boon for your imagination. It's so easy to rearrange words and add important bits of dialogue and extra detail about characters, making them more believable. You can even rewrite that all-important lead sentence a million times without ending up with a waste basket full of crumpled up paper.

Students will find the ATARI Word Processor especially useful for preparing reports. References, quotes, and data can be stored on diskette before you begin writing your first draft. As you write, you can use the Text Memory functions to move them into the proper position in the text.

ATARI WORD PROCESSING TIPS

Save As You Write

The ATARI Word Processor has many built-in controls to prevent you from accidently erasing a page, but it's a good idea to save what you've already entered whenever you have a break in your thought process. It takes just a few seconds and you'll eliminate any chance of accidentally losing a page. Everyone who uses a word processor seems to have a story about a nice juicy page of copy that somehow disappeared before it was stored on diskette.

Be Sure Before Paginating And Formatting

Unless you're absolutely certain that you want to Paginate or Format the entire document, it's a good idea not to select these formatting functions. That's why, before the computer will complete this command, an "ARE YOU SURE?" appears on the screen. Once Format or Paginate Document functions begin, there's no escaping until the process is completed.

It takes time and experience to become totally familiar with the Word Processor, just as it takes time and experience to become a competent writer. But it's easy to get started and the manual gives step-by-step instructions. Once you've mastered the ATARI Word Processor's many wonderful timesaving features, you'll wonder how you ever got along with just a typewriter.

Jim Inscore is a Senior Publications Writer for the Atari Home Computer Division.

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PERSONAL INTEREST

A COMPUTERIZED HOUSEHOLD

By Ann Kelcy

The Marcuse family uses its ATARI 800 Home Computer so much they've recently purchased an ATARI 400 Home Computer to obtain more computer time. The parents, Ronald and Lynn, have written more than 400 of their current collection of 500 programs. Twelve-year-old Brian uses the ATARI 400 Computer primarily to play all the ATARI Computer games, but also to learn BASIC programming. Even five-year-old Jeremy uses his parents' system to keep track of his toys.

The Marcuses came to our attention when Ron and Lynn won two prizes in the first quarterly contest for programs contributed to the ATARI Program Exchange. They won first prize in the combined category of Business & Professional Applications/Personal Finance & Record Keeping for their multipurpose program that organizes many different kinds of records, such as telephone and address lists; records, tapes, and books and home inventories. The program, called DATA MANAGEMENT SYSTEM, stores user-customized records, sorts on any unit of information, and prints a variety of lists of complete or partial records. They also won second prize in the System Software category for their program that catalogs cassette and diskette files, and cartridges, and that even automatically loads and starts some kinds of BASIC programs. The extent of their own program collection makes it obvious why they created the program, DISKETTE LIBRARIAN.

Ron earned his degree in mathematics from Queens College in New York City, and he's currently the data processing manager for the New York City Board of Education. Lynn is in her last year as a computer science student at Brookdale College. Ron and Lynn see so many uses for their ATARI Home Computers that they devote many leisure hours to creating programs to meet their home needs.

With 500 programs on hand, the Marcuses have one for just about any household application. For example, they keep track of their collection of more than 600 records with their catalog program, which prints a vertical spine label containing a record number for each record and prints lists sorted by title, artist, and number. Another example is their valuables program, which records information about their credit cards and serial numbers on equipment and appliances. Other programs prepare all their mailing labels and return addresses for letters and bills, catalog magazine articles from about 20 magazines, and take care of their word processing needs, including printing a graphics letter head on all documents.

Brian uses the family's ATARI 400 Home Computer with 16K of RAM and an ATARI 410™ Program Recorder. Considering the usage the ATARI 800 Computer gets, it's no wonder Brian lobbied for his own computer. Most of his computing consists of playing games. He owns all the ATARI Computer games and countless others obtained from magazine articles and friends.

Even the youngest Marcuse, Jeremy, is comfortable using his parents system. He has catalogued his 60 Star Wars figures and spaceships and his hundreds of matchbox cars using his parent's cataloguing program. His Star Wars file contains categories for the figure name, whether the character is considered "good" or "bad", its type (human, alien, or android), a description of where it is and whether it's broken.

With their extensive and varied usage of their ATARI Computers, the Marcuses are also natural salespeople. Ron said about eight co-workers and neighbors have bought ATARI Home Computers after hearing him describe how useful his system is in the home. What do these new users do with their computers? "They borrow all my programs!" said Ron.

Even five-year-old Jeremy uses an ATARI Computer to keep track of his toys.

Ann Kelcy is the Publications Manager for the ATARI Program Exchange.

EDUCATION

THE MINNESOTA EDUCATIONAL COMPUTING CONSORTIUM

Computers in school classrooms have received quite a bit of publicity lately. One reads or hears almost daily of how some teacher in a school has demonstrated the wonder of the computer to an enthralled group of students. The State of Minnesota, however, recognized the importance long ago of using computers in education. Minnesota is the only state where a single organization, the Minnesota Educational Computing Consortium (MECC), supports computer education from elementary school through the university level.

In 1981, MECC has taken another step forward by introducing a statewide purchase contract for ATARI Computer systems which will feature complete computing stations, including diskette information storage. Although the MECC contract covers all ATARI Computer products, the emphasis will be on the ATARI 400 Computer. Schools will use this computer to teach students the fundamentals of computer programming and applications.

Minnesota educational institutions began experimenting with instructional computing in the 1960's. As the popularity of computing grew in the early seventies, the Minnesota Legislature decided that some type of coordination was necessary to prevent the potential disorganization that might result if every one of the 433 public school districts and 30 public college campuses decided to implement its own computing plan.

Thus, in 1973, the Minnesota Educational Computing Consortium was created through a joint powers agreement which included the state's four public educational systems: The University of Minnesota, State University System, Community College System, and the State Department of Education.

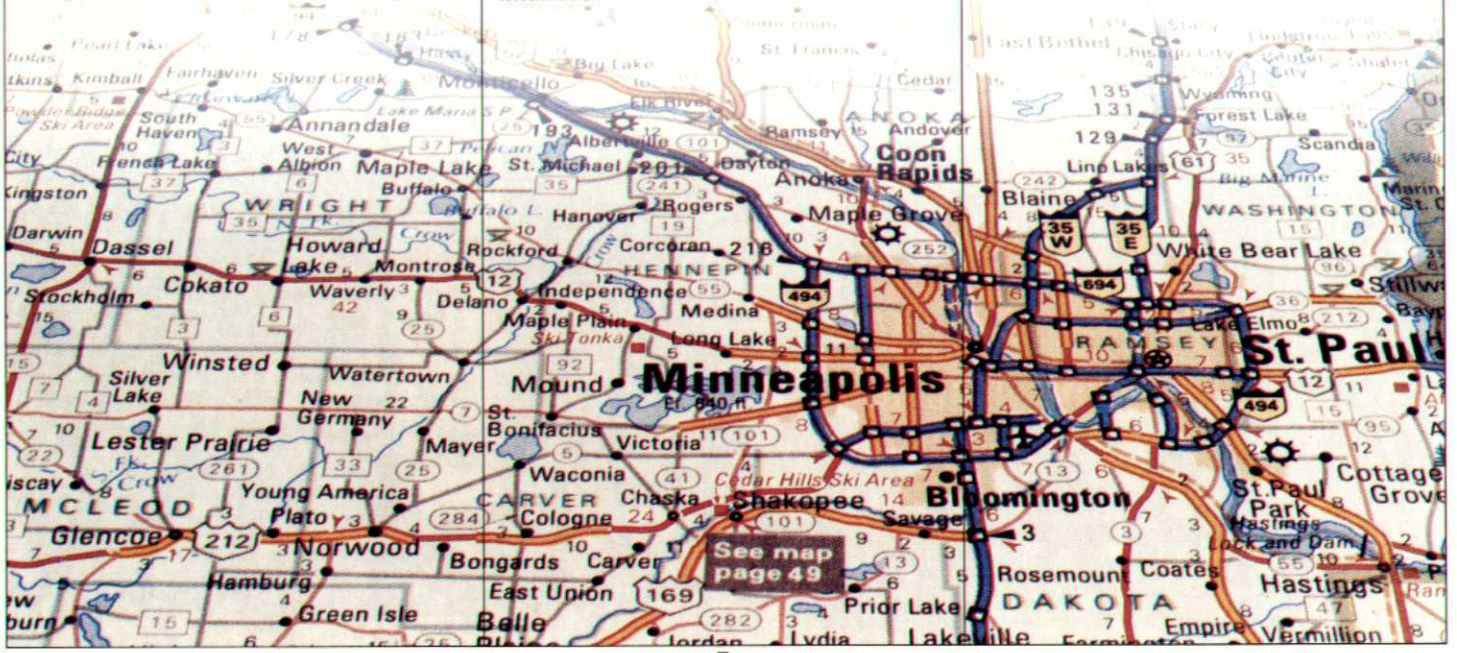
MECC is converting seventy-five of its microcomputing programs to run on ATARI Computers. These programs are grouped into courseware packages which include not only the programs on diskette, but also a teacher support booklet which includes the educational objectives, instructions, lesson plans, and student worksheets. MECC courseware will most likely be available outside of Minnesota but arrangements have not yet been finalized.

Simply placing a microcomputer in a school does not ensure it will be used effectively. Staff training is needed, and MECC's team of Instructional Coordinators spend each school year visiting schools, conducting workshops, teaching classes, organizing computing conferences, publishing newsletters, and responding to phone queries. In a given year, over 300 school districts and 30 college campuses will be visited, and several hundred workshops and classes are conducted. The MECC people network has been every bit as important as the technological network.

At a time when many experts are trumpeting the need for computer literacy in our society, Minnesota is one state which long ago recognized the importance of preparing its future citizens to enter a modern technological society increasingly dependent upon computers.

For further information on MECC support of ATARI Computers contact:

MECC Manager of User Services
c/o THE ATARI CONNECTION
1196 Borregas Avenue
Sunnyvale, CA 94086



EDUCATION

THE ATARI INSTITUTE FOR EDUCATIONAL ACTION RESEARCH™

By Dr. Ted Kahn

How will personal computers be used for education in the future? Sit back for a minute and let your imagination carry you into a world of dreams--a world which may be much closer than you think. What if each child had their own personal computer at school and at home? What if parents and children exchanged computer programs with each other, programs including stories, games and experiments in science?

The Atari Institute for Educational Action Research wants to help develop innovative computer educational projects which may provide a guiding light into our future. The Institute's primary activity is the award of grants: either ATARI Home Computer products or cash stipends to selected individuals and non-profit institutions or organizations interested in developing new educational uses for computers in schools, community programs, or in the home.

More than $250,000 in cash grants and equipment will be awarded during the Institute's first year of operation. Grant requests will be reviewed three times during the year by the Institute's Board of Advisors, a group of outstanding leaders in entertainment, education, scientific research, the arts and humanities.

The Institute has already been quite active in supporting projects which have appeared in THE ATARI CONNECTION. For example, Future Center at the Capital Children's Museum in Washington, D.C. was one of the Institute's first major grants.

Another project sponsored by the Institute is the Atari IEC Mobile Computer Van, co-sponsored by the Industry Education Council (IEC) of Santa Clara County, California. The Van concept was first developed by the Computer and Math Education Project at the University of California's Lawrence Hall of Science in Berkeley and was expanded with the help of the Computer Using Educators of California (C.U.E.). The Van has already introduced "computer literacy" to over 4500 students and teachers in the San Francisco Bay Area.

Some of the other grants awarded during 1981 have included awards for developing applications in using computers for helping the physically or mentally handicapped and children inflicted with the Prader-Willi Syndrome. This last grant awarded ten ATARI 800 Home Computers to winners of the John Hopkins University national search for innovative uses of computer technology for the handicapped.

Two grants have been awarded to community-based programs: one to the Center for the Development of Non-Formal Education for children and parents in the Spanish barrio of Austin, Texas and the other, to ComputerKid, USA with Boys Clubs and scout groups in Menlo Park, California.

The Atari Institute is developing several other programs to encourage innovation in computer education. Next year, the Institute plans to sponsor a major conference on the use of computers in the arts and education. The Institute also plans to support a number of "model schools" from early childhood education centers to graduate programs in major colleges and universities. Periodic reports and information on these projects will be published through the Institute's newsletter, *Atari In Action™* For more information on grant applications and Institute programs, write to:

The Atari Institute
1196 Borregas Avenue
Sunnyvale, CA 94086

Dr. Ted Kahn is the Director of the Atari Institute.

EDUCATION

COMPU-TOT CLASSES AT THE CAPITAL CHILDREN'S MUSEUM

By Peter Hirshberg

The day Future Center opened last April, more than 200 visitors flocked to the computers in "tomorrow's classroom" at the Capital Children's Museum in Washington, D.C. Radio stations and newspapers had been touting Future Center for several days, so the public arrived with all sorts of expectations.

Most Washingtonians came because they were curious; they'd heard about the "computer revolution," but still doubted that they personally would ever use one of the machines. Some were hoping for games to zap aliens from outer space or a big number cruncher trained to play tic-tac-toe. At least one father was looking for an electronic babysitter to relieve him of the kids for a few hours.

What visitors to Future Center actually discovered was a classroom with 20 ATARI 800 Home Computers. The Computers ring the room along a continuous sawtooth table that affords each visitor a personal work space, and allows each student a view of their neighbor's monitor--a reassuring arrangement for first-time programmers who aren't yet sure whether they're typing the right thing!

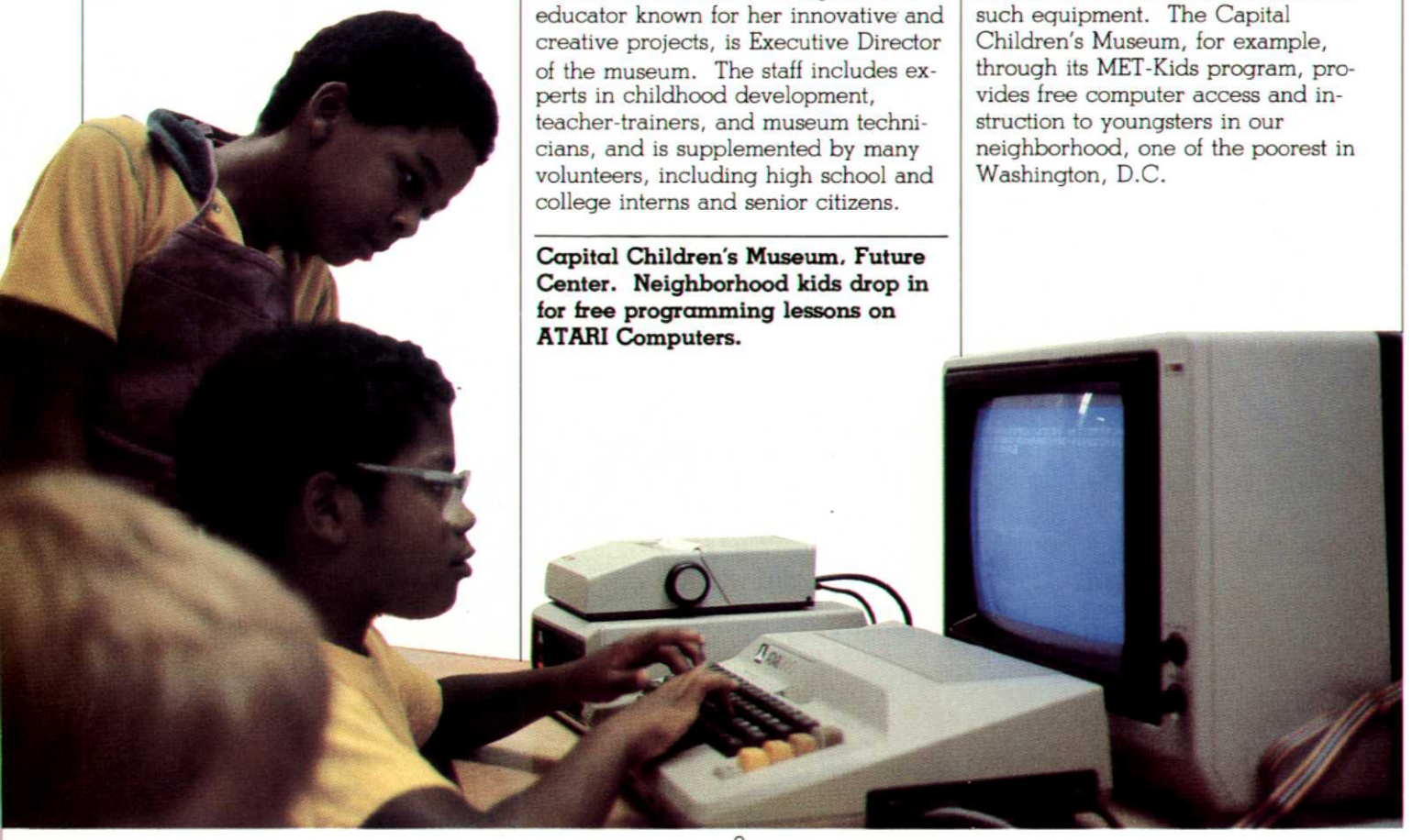
The Capital Children's Museum is an independent, private, non-profit organization. For funding, the museum depends entirely on corporate donations plus government and foundation grants. The public supports the museum with memberships, gifts, participation in fund-raising events, and a small contribution required at the door.

Ann White Lewin, an experienced educator known for her innovative and creative projects, is Executive Director of the museum. The staff includes experts in childhood development, teacher-trainers, and museum technicians, and is supplemented by many volunteers, including high school and college interns and senior citizens.

Future Center provides the experience of working with the computer and controlling it yourself. This kind of experience is simply not possible on a normal exhibit floor, where visitors are bombarded with things to do and each machine has several kids competing for it.

Only when youngsters have an opportunity to explore a computer in depth can they begin to get the feel of thinking with the computer. Using the orderly, logical rules of a computer language, children develop a far more profound and elegant understanding of the computer--not merely as an information tool, but as an aid to thought.

The Future Center also helps bridge the gap between the wealthy school districts that have relatively frequent access to computers and depressed areas that have little or no access to such equipment. The Capital Children's Museum, for example, through its MET-Kids program, provides free computer access and instruction to youngsters in our neighborhood, one of the poorest in Washington, D.C.



Capital Children's Museum, Future Center. Neighborhood kids drop in for free programming lessons on ATARI Computers.

Compu-Tots

With the assistance of the Atari Home Computer Division who donated the computers, the museum designed a model computer classroom and developed a diverse curriculum of nine courses. The courses range from *Compu-Tots* (for pre-schoolers and their parents) to *An Introduction to Programming* (for adults). Compu-Tots, the first course to sell out, introduces four-to seven-year-olds to concepts such as a computer program, computer memory, and how a keyboard works. By their second class, the kids write a graphics program that draws their initials in color.

In the process, they become enchanted with the machine. At a recent session, a seven-year-old who had previously only played arcade games told a visitor how exciting it is to control a computer, something he'd never before thought of doing. His teacher added: The design of an imaginative and interesting curriculum has been the keystone of success for the Future Center.

Curriculum design is under the guidance of our exuberant, energetic, and imaginative head teacher, Judy Muntner, who works with gifted, talented children in Montgomery County, Maryland. Brian McGlaughlin, who has researched the use of computers in early childhood education, also has provided curriculum guidance.

The curriculum emphasizes development of programming skills as rapidly as possible. The youngest students who attend the Compu-Tots class are supported by their parents, who help the children with the small amount of reading and typing skills necessary to use the computer.

The Future

One of the greatest frustrations that we have experienced is the lack of a large variety of innovative educational programs. The advent of small, powerful personal computers has triggered an exciting evolution in the field of computer education. Educators can now design computer programs and classroom curriculums which teach students how to program their own computer. Truly exciting educational programming allows learners to test their own thinking actively. An open-ended programming assignment can facilitate this, as can a computing experience that allows children to develop and refine their assumptions about the world.

This is a critical time for micro-computer education. Will we create educational software that sparks the desire to learn, or will less inspiring programs become the norm? Can we avoid a disparity between computer "haves" and "have nots," or will this technology be a luxury that only well-to-do school systems can afford? At the Capital Children's Museum, just a short walk from the U.S. Capitol, Future Center is a model classroom grappling with these issues.

For more information, write:

Capital Children's Museum
c/o THE ATARI CONNECTION
1196 Borregas Avenue
Sunnyvale, CA 94086

Peter Hirshberg is the manager of the computer center and coordinator of the Communications Project. Capital Children's Museum.

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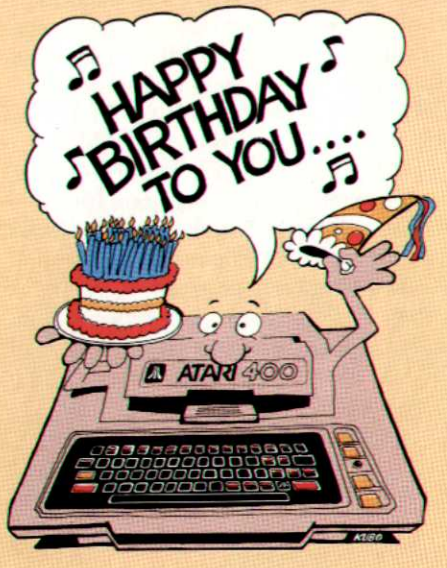
A COMPUTER BIRTHDAY PARTY

One of the most talked-about Future Center offerings is the Computer Birthday Party. For years, parents have been hiring clowns and magicians to entertain at their children's parties. The Future Center alternative includes a chance to write a short program, play several educational games, and listen to a rousing rendition of "Happy Birthday" played by an ATARI 800 Home Computer.

To our amazement, the first request for the Computer Birthday Party came not from the parent of a young child, but from the wife of a prominent architect who wanted to do something different for her husband's birthday. We ended up with an unusual group of 40 architects, lawyers, accountants, and other professionals having a blast with computers. It would not be surprising if this proved to be just the impetus the partygoers needed to start thinking about how they might use small computers in the office or at home.



CHAD KUBO

KIDBITS

CAVERNS OF MARS

Greg Christensen, a 17-year-old Fullerton College Freshman, is the most recent ATARI Program Exchange prizewinner. Greg's computer game, *Caverns of Mars,* creates a stunning graphic panorama of Martian caverns.

You fly your attacking spacecraft right into the bowels of an enemy Martian base, blasting away at fuel dumps and Martian fighters as you twist and veer from sudden, cavern rock ledges. The combination of stark haunting subterranean graphics and the fast-paced continuous battle action makes *Caverns of Mars* one of the most exciting computer games to come down the chute in quite some time.

Discovering the exciting world of an ATARI Home Computer was a natural extension of Greg's lifelong interest in electronics. He has been building his own electronics equipment such as sound generators and amplifiers, radio frequency modulators, and even a computer from a kit, since he was eight years old. While investigating the microcomputer market, he became intrigued with the ATARI Computer's graphics capabilities, and so in late 1980, he bought himself an ATARI 800 Home Computer with 16K RAM, an ATARI 410™ Program Recorder, and the ATARI BASIC Language Cartridge. After toying with some simple programming applications, he wrote his first "serious" program, *Caverns of Mars*, in little more than a month and a half. The game is a showcase for his skill in using the ATARI Computer's graphics features!

Caverns of Mars by Greg Christensen.

Fly your spaceship right into the Martian caverns.

Attack fuel dumps, Martian fighters. Look out! Cavern rock ledges straight ahead.

Greg mastered BASIC programming quickly then tackled Assembly Language using an ATARI Assembler Cartridge. For Greg, computer games seemed an ideal way to practice and learn computer programming. He created and began writing several games which he never really finished before starting *Caverns of Mars*. Occasionally he would test out his efforts on his younger brothers who are seasoned Star Raiders™ and Missile Command™ players.

The most stubborn bug Greg encountered while writing the *Caverns of Mars* was a persistent vertical scrolling of the T.V. screen while the game was in progress. The effect is identical to what happens when the vertical hold on your television is out of whack, and the picture flicks up, or down, over and over. The problem has to do with a computer programming phenomenon called "vertical blank." Greg referred to the ATARI Technical Users' Notes for help. Sure enough the Technical Users' Notes identified the vertical blank problem in detail and Greg was able to construct a solution. *Caverns of Mars* was soon debugged and up and running - all within six weeks! (The last week was a day and night affair!)

Greg says, "Don't give up - it takes a long time to solve some programming problems." Nicely understated--but we agree. Thanks to Greg's persistence, *Caverns of Mars* promises to provide all ATARI Home Computer users with a thrilling new computer game!

For more information about the ATARI Program Exchange call our toll-free number 800-538-1862. In California call: 800-672-1850.

KIDBITS PUZZLE

By Karen Muskat Pitz

Find the hidden ATARI BASIC computer language commands in the letter jumble, then match each up with its definition listed below.

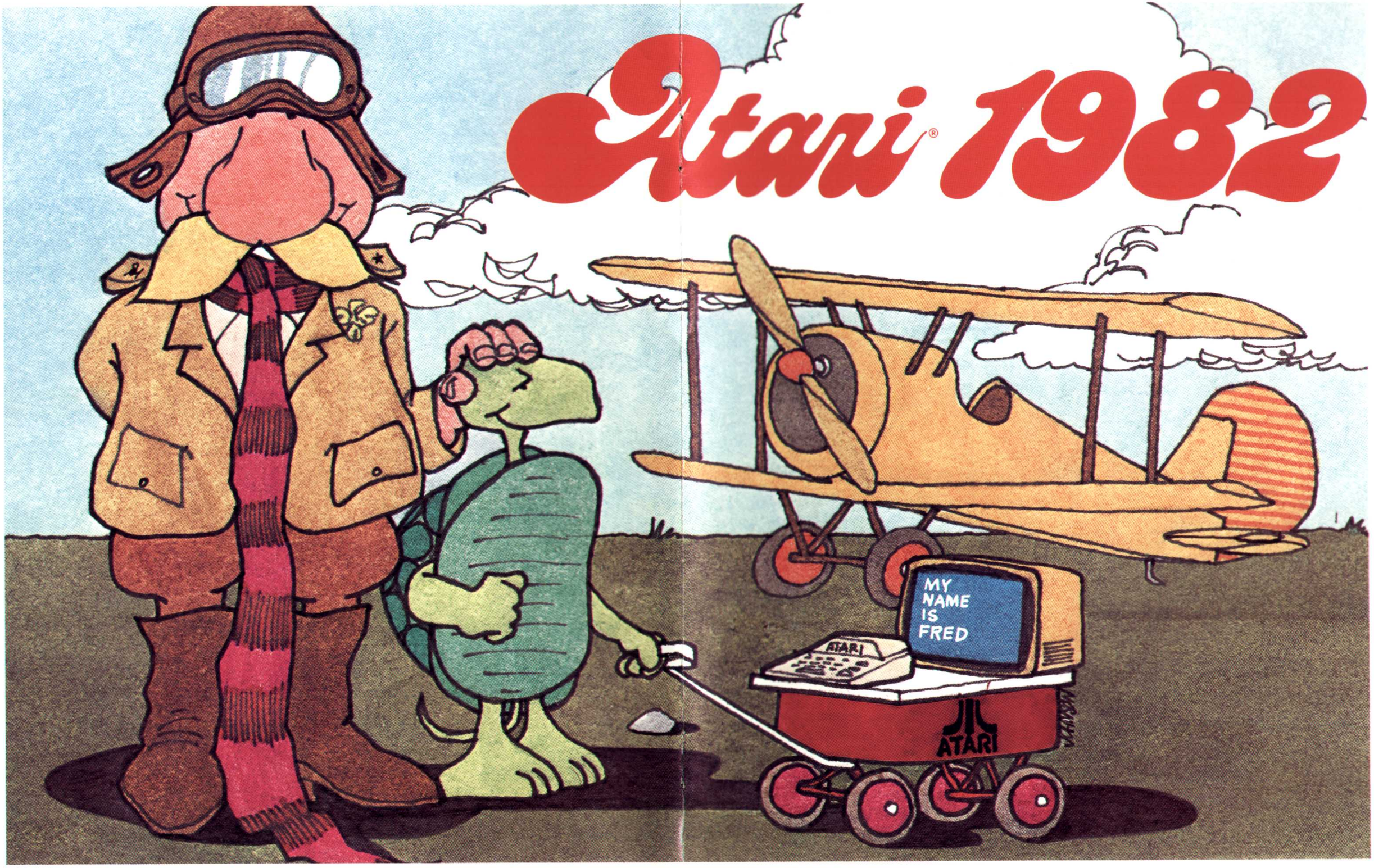
1. Shows the message STOPPED AT LINE.
2. Begins a program.
3. Loads program from cassette tape into computer.
4. Sends information from computer to the program recorder for tape storage.
5. Command used to go from BASIC to Disk Operating System.
6. Command used to store information or programs.
7. Ask the user to type in information.
8. Computer prints on the printer rather than on the screen.
9. Prints information between quotation marks.
10. Useful command for using the RS-232 ports on the ATARI 850™ Interface Module.
11. Makes the program skip to another line.
12. Directs program to a line number if an error is found.
13. Sends "pointer" inside computer to first thing in a program.
14. Exits BASIC and puts computer in Memo Pad set up.
15. Stops a program.
16. Show all lines in a program.
17. Erases the program stored in the computers memory.
18. Command ignored by computer, for writer's information only.

Answers on Page 27.

Clive's Computer

By Ted Richards

Atari® 1982



ATARI PILOT WITH "TURTLE" GRAPHICS

January

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24/31	25	26	27	28	29	30

February

S	M	T	W	T	F	S
	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						

March

S	M	T	W	T	F	S
	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			

April

S	M	T	W	T	F	S
				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	

May

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24/31	25	26	27	28	29

June

S	M	T	W	T	F	S
		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			

July

S	M	T	W	T	F	S
				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

August

S	M	T	W	T	F	S
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				

September

S	M	T	W	T	F	S
			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		

October

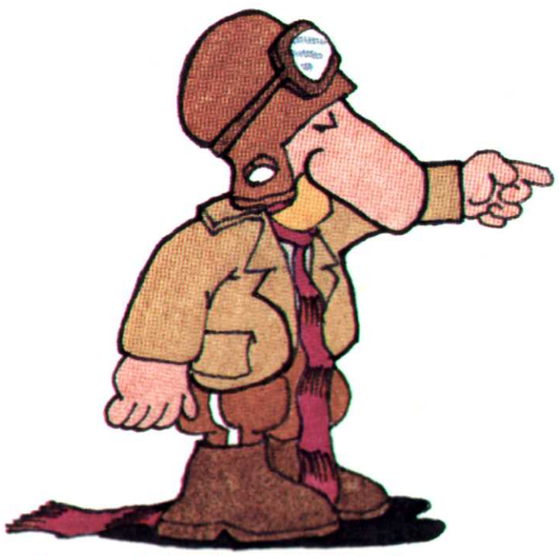
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24/31	25	26	27	28	29	30

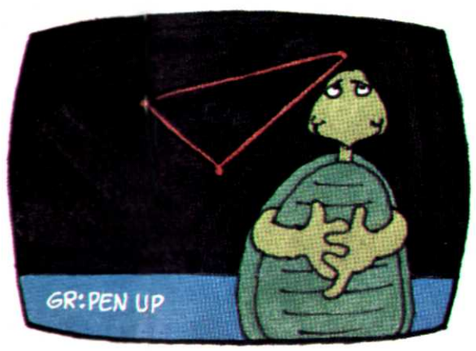
November

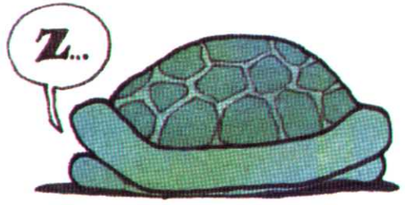
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

December

S	M	T	W	T	F	S
			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	







Illustrations by John Johnson, Teapot Graphics

Home Computer Division ATARI® A Warner Communications Company

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PROGRAM PUZZLE

By Tom Hudson

Below are two programs. What? You say that you can only see one? Well...you are half right. We have combined two programs into one list. The lines are in the proper order from top to bottom, they are just mixed together. You will have to unmix them.

HINTS

Just so that you know what you are looking for, here is what each program does:

Program 1

A sound generating program. You will make a series of random "bounce" sounds.

Program 2

A graphics program. The program draws a series of 35 boxes from the upper-left corner of the screen to the lower-right.

Just to make things interesting, we have included two lines which do not belong to either program. Can you figure out which ones?

Answers on Page 27

```
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 V=1 TO J:SOUND 0,P,12,V:NEXT V
70 PLOT A,A:DRAWTO B,A
80 FOR V=2*J TO 1 STEP -1
90 IF X=0 THEN PRINT "TOO LOW"
100 SOUND 0,P+2,10,V:NEXT V
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
160 RUN
170 RUN
```

JOHN MATTOS

FIND THE BUG

What do you do when your best friend gives you a "really neat" program, but when you type it into your computer it doesn't work? Well, you could get mad and unplug his computer after he's just typed a 200 line program...

But your friendship would be destroyed for sure...a better solution would be to DEBUG the program.

DEBUGGING a program means you check each line for any mistakes. Type the following program into your computer and RUN it. There is a BUG in this program that will cause it to "crash" after a few minutes.

```
10 GRAPHICS 8
20 SETCOLOR 2,0,0:COLOR 3
30 Y=RND(0)*192
40 X=RND(0)*320
50 SOUND 0,Y,10,10
60 PLOT X,Y
70 DRAWTO X+2,Y:DRAWTO X+2,Y+2
80 DRAWTO X,Y+2:DRAWTO X,Y
90 FOR DE=5 TO 50:NEXT DE
100 GOTO 30
```

FIND THE BUG CONTEST!

If you "Find the Bug "write down the ERROR number/message along with a little story or biography about yourself. If you correctly "Find the Bug", your entry will qualify you for a Special "Find the Bug" Prize Drawing for an ATARI Asteroids™ game cartridge! If you're a winner, we'll print your story in THE ATARI CONNECTION.

Good luck, be patient and see if you can "Find the Bug"!

SEND YOUR ENTRY TO:
FIND THE BUG
THE ATARI CONNECTION™
1196 Borregas Avenue
Sunnyvale, CA 94086

ENTERTAINMENT

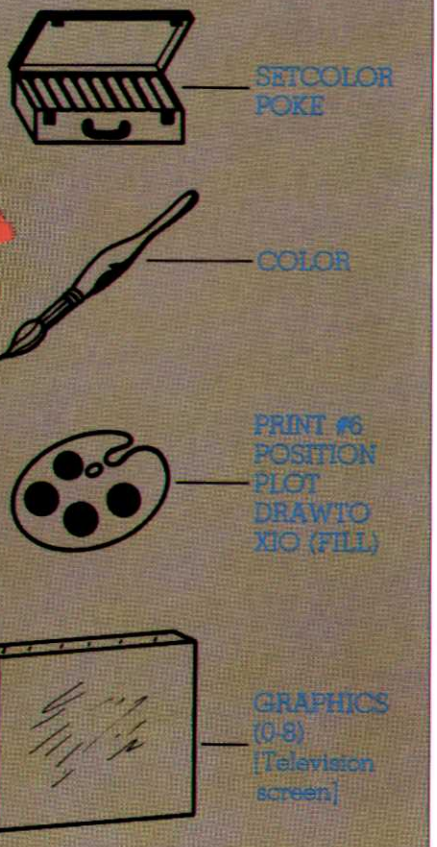
AN ARTIST'S GUIDE TO PAINTING WITH ATARI COMPUTER COLOR

By Embee Humphrey

Tired of seeing the same old colors on your television screen? The default colors are pretty, but do you yearn for another world--a never never land of brilliant colors lurking within your ATARI Home Computer? All you need to know is how the different ATARI BASIC Commands control ATARI Computer color graphics.

Pretend you are an artist with an urge to paint a picture. As an artist, you need a paint box filled with paint tubes, a palette on which to put your paints, a brush, and a canvas. To "paint" you must select the colors you want from your ATARI Computer and paint them onto the television screen.

Selecting Paints From Your Atari Computer Paint Box



SETCOLOR

Although you have 128 colors available in your ATARI Computer paint box, you can't put all of them on the screen at the same time. One way to select a color is to use the SETCOLOR statement. Each SETCOLOR statement is followed by three numbers called *parameters*. Each number (parameter) gives the computer the information it needs to create your colors.

```
SETCOLOR 2,15,6
```

what you want to change — color number — luminance number (brightness)

The first number tells the computer what you're going to change. You can choose a 0, 1, 2, 3, or 4 depending on the *graphics mode*. When the computer "sees" this first number, it matches it with the location in its memory that governs a character, a border, or a background/playfield.

The second number is your "color number." Each color number between 0 and 15 represents one color. You select your colors by picking one of these numbers. For example, 3 equals "red".

The third number in the SETCOLOR statement controls the *luminance* of the color you've selected. As you make the *luminance number* higher, you get brighter shades of color. A luminance number of 14 makes any color so brilliant, it's almost white.

Now plug in your ATARI BASIC Cartridge and "power-up" your ATARI Computer. Type in the following program.

```
10 GRAPHICS 8
20 SETCOLOR 2,2,4
30 SETCOLOR 2,1,0
40 SETCOLOR 2,4,4
50 SETCOLOR 2,9,0
60 GOTO 20
```

Now type RUN and press your [RETURN] button. You have just created a simple color strobe program!

POKING FUN

Instead of SETCOLOR, you can use a POKE statement to select colors from the ATARI Computer paint box. A POKE statement has two numbers (parameters).

```
POKE 710,82
```

color register — color and luminance

You use the POKE statement to put information directly into a special location within the computer's memory. This location is called a *register*. You don't have to know much more about the internal workings of the computer--only the five color registers. The first number in the POKE statement tells the computer what color register you want to "poke." Listed below are the five register numbers for using color.

POKE Register
708
709
710
711
712

The second number in the POKE statement is the *color number* and works much like the color number in the SETCOLOR statement. However, the POKE color numbers between 0 and 255 represent all the different shades of the 128 colors within the ATARI Computer's color spectrum. Keep in mind that the color numbers 0 through 255 represent the entire *color spectrum* within your ATARI Computer. You don't have 255 colors--instead you have different shades of the 128 colors within the spectrum.

The POKE color number not only represents the actual color but the color's luminance as well. To get different shades of color, you simply add or subtract 2 from the color number. You can even convert the SETCOLOR numbers into a POKE color number by multiplying the second number in the SETCOLOR statement by 16, then adding the luminance number. The box below illustrates this formula.

The following Color Table helps illustrate the relationship between the SETCOLOR statement and the POKE statement. To make the illustration easier to understand, only the *color number* is given in the SETCOLOR column--the *luminance number* is zero, and has been omitted.

COLORS	SETCOLOR NUMBER	POKE COLOR NUMBER
BLACK	0	0
RUST	1	16
RED-ORANGE	2	32
DARK ORANGE	3	48
RED	4	64
DARK LAVENDER	5	80
COBALT BLUE	6	96
ULTRAMARINE BLUE	7	112
MEDIUM BLUE	8	128
DARK BLUE	9	144
BLUE-GREY	10	160
OLIVE GREEN	11	176
MEDIUM GREEN	12	192
DARK GREEN	13	208
ORANGE-GREEN	14	224
ORANGE	15	240

Back to your computer. Type POKE 710, 246 and press the [RETURN] key. The background becomes orange while the border remains black. Now type the same POKE statement, except change the color number from 246 to 176 and press [RETURN]. See how simple it is to change a POKE color!

Color Palettes

An artist paints from a palette--not directly from the tubes of paint. So you must use the COLOR command to tell the computer which palette colors to use. If you don't, the computer won't know what color in the register you have selected and nothing will happen.

COLOR #

selects the color location for SETCOLOR or POKE

You only have four numbers in the COLOR statement. These numbers are not the same ones you used with SETCOLOR. This can be confusing. To make matters worse, the relationship between the COLOR number values and the SETCOLOR numbers depends upon the *graphics mode.* The following table on the next page shows how they match up.

continued on Page 17

	SETCOLOR FIRST NUMBER	POKE REGISTER NUMBER	Use COLOR
GRAPHICS 3, 5, 7 (Four color)	0	708	1
	1	709	2
	2	710	3
	4	712	0
GRAPHICS 4, 6 (Two color)	0	708	1
	4	712	0
GRAPHICS 8 (One color, two-luminances)	1	709	1
	4	712	-
	2	710	0

Why do you have three different palettes? Because each graphics mode has different sized *pixels* for its screen. A pixel is one specific point on the screen that you can "paint". To visualize pixels, think of a grid with hundreds of little squares. Each square in the grid represents one pixel.

Brush Strokes

The BASIC Commands, PLOT, DRAWTO, POSITION and XIO are your "brush strokes."

You have a total of six BASIC commands you can use to put words or graphics on your television screen, GRAPHICS 1 through 8. POSITION, PRINT, and PRINT #6 are used in the text modes GRAPHICS 0, 1, and 2. POSITION, PLOT, DRAWTO, and XIO (FILL) are used in the map graphics mode, GRAPHICS 3 through 8.

POSITION places your computer's "paint brush" at the row and column you want to paint but does not draw anything.

```
POSITION 10,10
         column  row
```

PRINT #6 displays text on the screen window of GRAPHICS modes 1 and 2.

```
PRINT #6;"Happy New Year!"
```

PLOT fills a single pixel with a color.

```
PLOT 12,10
     column  row
```

DRAWTO connects the pixel given by the PLOT statement to a row and column.

When you want to display a letter or a point on the television screen at a specific place, you have to tell the computer where it is on the grid. The logical thing to do is assign the point two numbers: One for its row (X), and one for its column (Y). This is how your "brushes" know where you want to color.

```
DRAWTO 12,10
       column  row
```

XIO (FILL) fills a drawing or graphic on the screen with a color. Before you can use this command, you must write a *POKE 765,x* command. The x represents the palette color you want to use in the XIO command. If you don't write a POKE command before the XIO command, the computer won't fill your graphic with color.

```
                          tells which palette
location                  color to put in
                          Location 765
POKE 765,1
XIO 18,#6,0,0,"S:"
Fill                      Filespec
Command
                          Dummy
To Screen                 Variable
```

To draw and fill a box on the screen, you plot the first point (the bottom right), draw the first line from the bottom right to the top right, then draw the second line across the top from right to left. Then, use the POSITION statement to put the cursor (your "paint brush") in the lower left corner. Now you are ready for your POKE 765,x and XIO commands.

If you do not have the right side defined, the XIO command doesn't know where to quit and just keeps on filling. It will even wrap around the television screen with color.

The following short program helps illustrate how the FILL routine works. Type the program into your computer, RUN it, and you'll see a box "filled" with color.

```
1 REM Fill illustration
10 GRAPHICS 8
20 COLOR 1
30 PLOT 135,50
40 DRAWTO 175,50
50 DRAWTO 175,150
60 DRAWTO 135,150
70 POSITION 135,50
80 POKE 765,1
90 XIO 18,#6,0,0,"S:"
```

Embee Humphrey is a Supervisor of Technical Publications for the Atari Home Computer Division.

UNLEASHING YOUR CREATIVE GENIUS

You have now completed BASIC Art 1A. By no means does this article tell you everything about ATARI Computer color graphics, but you should have enough information to get started. The program listing on this page uses all the graphics commands to make an ATARI Computer Christmas card. Use the color table and you can experiment with changing the colors to suite your artistic tastes. Merry Christmas from your ATARI Computer!

`10 GRAPHICS 7`	Sets graphics mode
`20 POKE 708,196`	Sets tree color
`30 POKE 710,65`	Sets trunk and border color
`40 POKE 712,15`	Sets background color
`50 POKE 709,70`	Sets star and ornaments color
`60 POKE 765,1`	Puts color on brush to fill tree
`70 FOR X=2 TO 6`	Sets loop for drawing tree
`80 A=8*X+80:B=11*X:C=80-8*X`	Defines tips of tree branches
`90 COLOR 1`	Puts color in Register 708
`100 PLOT 81,9`	Sets point on top of tree
`110 PLOT A-16,B-13:DRAWTO A,B`	Draw tree
`120 PLOT C-1,B+1`	
`130 POSITION C+16,B-13` `140 XIO 18,#6,12,0,"S:"`	Fills tree with color
`150 COLOR 2`	Puts color in Register 709

`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`
	Draws ornaments

`210 COLOR 0`	Puts color in Register 712
`220 PLOT 81,9`	Sets point for tip of star
`230 COLOR 3`	Puts color in Register 710
`240 POKE 765,3`	Puts color in brush to fill tree trunk

`250 PLOT 90,67:DRAWTO 90,79`
`260 DRAWTO 70,79`
`270 POSITION 70,67`
`280 XIO 18,#6,12,0,"S:"`
	Draw and fill tree trunk

`290 COLOR 2`	Puts color in Register 710
`300 POKE 765,2`	Puts color on brush to fill star and ornaments

`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`
	Draw and fill star and fill ornaments.

`370 GOTO 370`	

Program by Lane Winner, a Software Engineer for the Atari Home Computer Division.

BUSINESS/PROFESSIONAL

THE BAY AREA MARINE INSTITUTE

A RENAISSANCE COMPUTER AND THE SEA

By Ted Richards

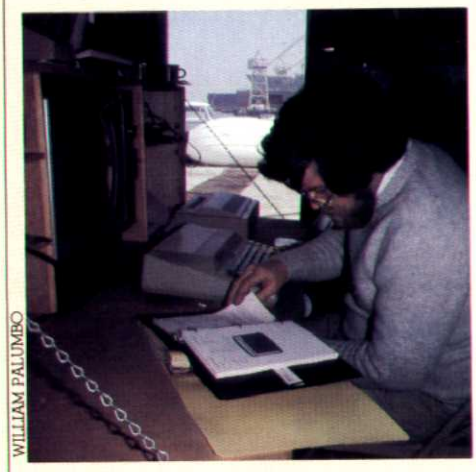
An ATARI Computer may soon be sailing the high seas aboard an ocean-going vessel piloted by Tay Vaughan and students from the Bay Area Marine Institute. Tay Vaughan, founder and President of the Bay Area Marine Institute at Pier 66 in San Francisco, looks forward to the ATARI Computer's maiden voyage. The idea of a personal computer aboard a small ocean-going craft has burned within his imagination for well over a year now. The Institute already uses an ATARI 800 Computer as a teacher of piloting skills, a boatyard maintenance manager and as an assistant for naval architecture design. The next phase is to develop applications for sea-going craft.

"When out to sea, your vessel is much like a spacecraft. You're responsible for every aspect of your existence," says Tay, explaining the Institute's Marine Services Training Program. "You need a multitude of skills to maintain your life support system. Our training program is designed to teach these skills. Marine Services Technicians are versed in woodworking, carpentry, fiberglass, coatings, finishes, electrical systems, plumbing and engine mechanics. When they graduate, they will be identified as Renaissance Men of the Sea."

Tay defines a renaissance person as, "Someone who can draw upon a great variety of skills and apply them with competence and imagination."

The definition is personal and applies to Tay Vaughan himself. The son of a Boston physician, Warren Taylor Vaughan III sailed aboard a Norwegian freighter as an ordinary seaman at the age of 19. He spent a year as an exchange student at the University of Vienna, then returned to the United States to earn a B.A. degree in anthropology and sociology at Oberlin College.

A child of the sixties, a man of the seventies, he dropped out of the Ph.D. program in medical sociology at U.C. Medical Center, San Francisco--the idea of building an ocean-going sailboat seemed more compelling. The boat was built and named "The Great Bear." The Bear and Tay plied the seas for 17,000 miles--the odyssey ended with Tay signing on as Chief Master Carpenter to rebuild the racing yacht, *Intrepid*, for the 1974 America's Cup races. *Intrepid* lost to *Courageous* that year. "I had nothing to do with the race," claims Tay.



WILLIAM PALUMBO

"Leonardo DiVinci was the original renaissance man," concluded Tay. "On one hand he was an artist. On the other, an early developer of aerodynamic principle." Would DiVinci have used a computer?

"He would have painted a fourth Mona Lisa for an ATARI Computer."

Tay Vaughan and the Bay Area Marine Institute have developed and written several major computer programs designed for the small craft boating industry.

The Boatyard Management System provides an inexpensive computerized management tool for boatyard operators, dealers, and marine repair shops. The system keeps track of work orders, employee man-hours and costs for each repair or maintenance job.

McFOP (Microcomputer Floating Object Program) is a naval architecture design tool developed by C.B. Shaver, a naval architect associated with the Institute. The McFOP program calculates hydrostatic properties of ships, boats, barges, docks, etc. *Ships in the Night* is an ATARI Computer player/missile graphic display of ship navigation light patterns as seen on the sea at night. Students can be taught to determine a ship's direction by the patterns its navigation lights form according to its heading.

continued on Page 21

Left: Tay Vaughan, President of the Bay Area Marine Institute.

Aboard the Portuguese Navy's School Ship, Sagres, as it plies the northern seas off the coast of Pugent Sound, Washington. Marine Institute students participated in an exciting international training cruise as guests of the Portuguese Navy.

TAY VAUGHAN

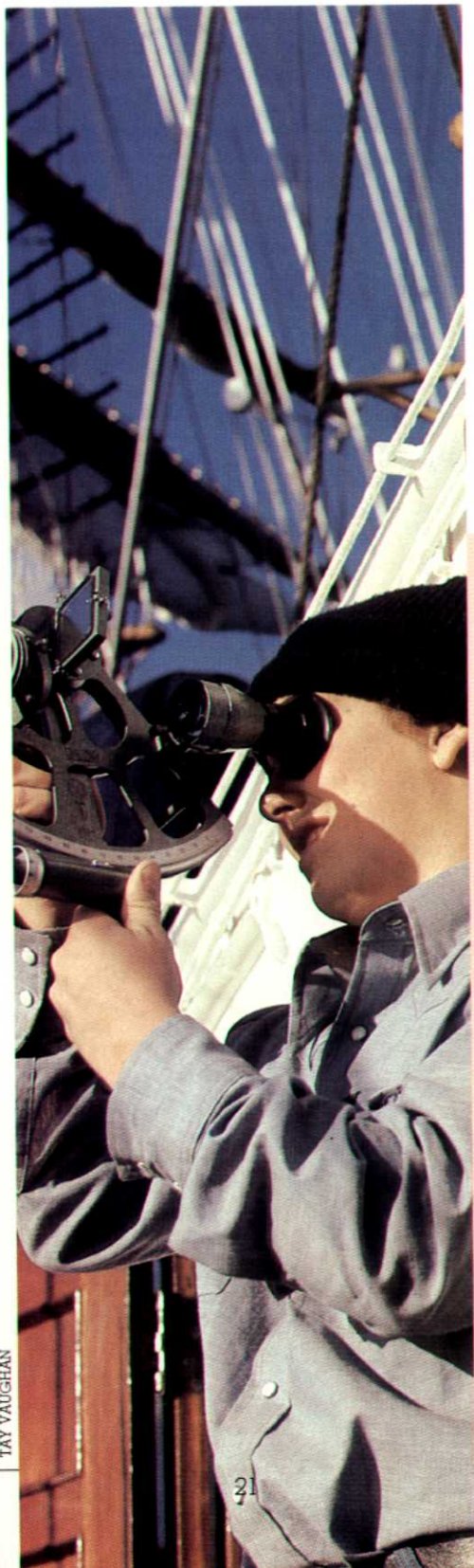
Tay has some interesting ideas and future plans for integrating the ATARI Computer with the Institute's sea going projects.

"One of our people, a well known naval architect, has experience with fishing vessels. For example, we would like to develop a computerized information model for the longline fishing industry. We'd like to take the ATARI Computer to sea and feed it information such as wave and wind conditions, size of catch, fuel consumption rates and hull speeds. Then we would create a complete information picture--maybe adding the prices of fish in Monterey compared to Bodega Bay. You could then ask the computer--Where should I sell my fish for the best price and the least cost to me?"

Beneath the salty exterior there exists a lucid, creative individual who mastered BASIC computer programming within a few weeks. The programs written thus far by The Bay Area Marine Institute reflect a synthesis of imagination and plain hard work. How does one find the motivation to learn BASIC computer programming? Is writing computer programs a tedious and difficult endeavor?

"If you can learn to order dinner in French or Spanish you can learn to program," says Tay.

"Computer programming is an artistic expression. It used to be I'd go out evenings to the woodworking shop and put together a cabinet or a little jewelry box. Since we got the ATARI Computer I've been spending that same creative energy fooling around--seeing what I can make the computer do. When you have your own personal computer and you need something done, you simply write a program. Then the computer works for you, doing exactly what you have told it. It's a satisfying experience."



TAY VAUGHAN

The Bay Area Marine Institute is offering their computer programs to the small craft boating industry. Anyone who purchases these programs becomes a member of a users' group. The Institute also publishes a quarterly newsletter, Floating Point, which features articles, computer programs and news about computers being used for marine services applications.

For more information write:

The Bay Area Marine Institute
c/o THE ATARI CONNECTION
1196 Borregas Ave.
Sunnyvale, CA 94086

Ted Richards is the Editor of THE ATARI CONNECTION™.

A TESTIMONIAL FOR THE ATARI COMPUTER

"Our experience with the ATARI Computer has been a revelation. It is extremely easy to use--we've discovered we have a tremendous amount of power. We treat the ATARI Computer like an appliance or shop tool. It came in a box--we easily hooked up the disk drive, an interface module, and a printer, and it worked.

We've had no mechanical problems with one exception which was our own fault. One of our apprentices was playing Star Raiders and got so excited he fell off his chair onto the ATARI 825 Printer. It dropped to the floor, spilling ribbon and parts all over the place.

We took it to the ATARI Computer Service Center just like you would take your toaster or blender to an appliance center. They had it fixed in about ten minutes and gave it back to us. It doesn't require a fancy maintenance contract or a software support system. It's a tool like the tools we have in our boat repair shop."

...Tay Vaughan, The Bay Area Marine Institute.

ATARI GIFT COLLECTION ORDER BLANK (see Page 28!)

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Sunnyvale, CA 94068

INTER-CONNECTIONS

By Earl Rice

Last issue, we asked if anyone was interested in joining an ATARI Computer Users' Group. Judging from the mail, a lot of you are indeed interested. For those of you who may be in the dark, allow me to answer your question, "What is an ATARI Computer Users' Group?"

An ATARI Computer Users' Group is a group of people who have organized themselves to learn more about how to use their computers. Helpful tips, information and programs are often exchanged. As an added extra benefit, you'll meet people like yourself who share a common interest: home computers.

The Atari Home Computer Division has created a Users' Group Support Program to help groups get started and to provide communication and support to already established groups.

Our Support Program features a Users' Group Start-Up Kit which includes all the essential information to help get your new group off and running. For established groups there is an information kit to help you build your own group library.

Let me know what activities or services you're planning or the latest "good works" your group has successfully carried out and we'll publish it here in THE ATARI CONNECTION.

If there isn't an ATARI Computer Users' Group in your corner of the universe and you want to get one started, let us know by sending your name, address, and phone number to the address listed below.

ATARI COMPUTER USERS' GROUP SUPPORT
1196 Borregas Avenue
Sunnyvale, CA 94086

Earl Rice is the Manager of The Users' Group Support Program, in the Atari Home Computer Division.

ON THE ROAD WITH ATARI
A TRIUMPHANT TOUR IN BOSTON

By Ann Gechman

October 15-18, the microcomputer industry gathered in Boston, Massachusetts for the Northeast Computer Show (NCS) held at the Hynes Auditorium.

Atari, Inc. presented itself with the style and flair you would expect from a company who has become a household name in the home video market. If 1981 sales figures, and the attention given to the ATARI Home Computer display in Boston are any indication, then Atari will soon be a household name in the home computer market.

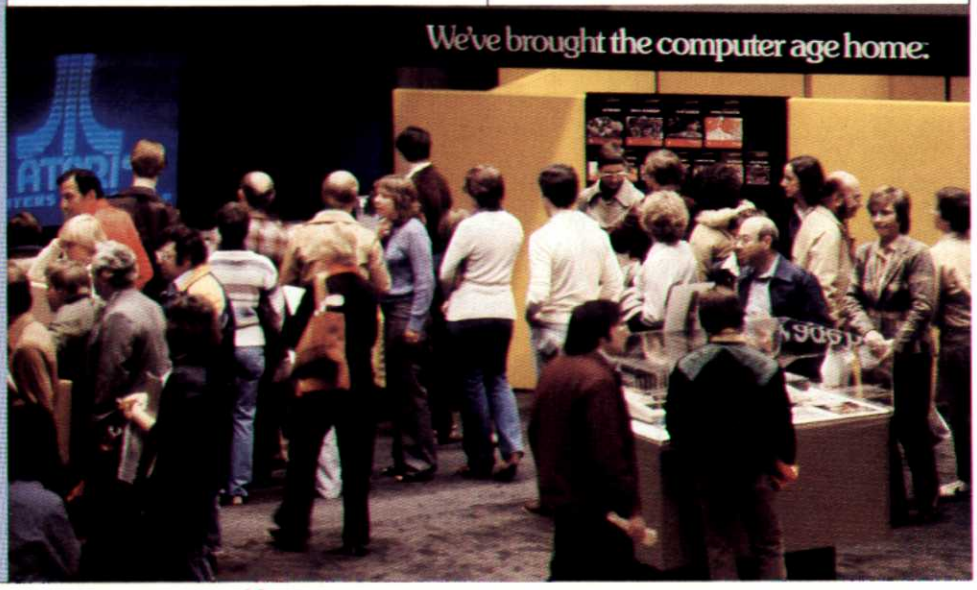
As one approached the ATARI Computer display, they could hear the detonations of missiles protecting cities in Missile Command , or hear rockets blasting their way through asteroid fields in Asteroids™. However, ATARI Computer games were not the only crowd pleasers at NCS-Boston.

Two new entries into the lineup of ATARI Program Applications were also demonstrated - the ATARI Word Processor and the ATARI Personal Financial Management System, both of which reflect Atari's success in "taking something complex and making it simple."

Interest in educational applications was also prevalent as adults and kids patiently, yet eagerly, waited their turns to see how many states they could correctly name in the ATARI States and Capitals game. Others were busy learning quick phrases in Italian, French, or Spanish from the ATARI Talk & Teach™ programs.

One of the most interesting aspects of the show for this writer was having people tell me about the different purposes for which they use their ATARI Home Computers. In the months ahead, we will be writing about these interesting applications. Don't forget to let us know how your ATARI 400 or ATARI 800 Home Computer helps you in your home or work.

In all, we enjoyed meeting the many current ATARI Computer owners in the New England area, and those of you, who as a result of the 1981 Northeast Computer Show, are becoming ATARI Home Computer owners.



GETTING ACQUAINTED

STAR RAIDERS ON GATES PLANETARIUM DOME

Star Raiders projected onto the Gates Planetarium dome by The Atari Computer Club of Denver.

by Steven Ahlstrom

Everyone, Federation and Zylon alike, gathered to battle it out on the dome of Gates Planetarium in Denver, Colorado. Welcome to the First Annual Family Computer Faire sponsored by the Atari Computer Club of Denver. The main attraction featured the popular ATARI Computer game, Star Raiders projected onto the Gates Planetarium dome--the first time anywhere in the world this feat was accomplished.

The Faire was the brainchild of Ed Fason, president of the Atari Computer Club. With the careful planning by Ed, and the much needed cooperation and support of two other Colorado users' groups, Starfleet and the Fort Collins Atari Computer Users' Group, three months of preparation and anticipation were greatly rewarded.

Just what was the Faire all about? Our purpose was to introduce the general public to the incredible world of small home computers. We had games--Star Raiders and Missile Command on the dome of Gates Planetarium. In addition we designed a "Captain's" chair especially wired so you actually felt the impact of the explosions! Local retailers set up booths to show their new products, demonstrate programs, answer questions and show people just how easy using a computer can be.

The Atari Home Computer Division contributed to our Faire's success by sending representatives who helped out with demonstrations and were on hand to answer questions and listen to suggestions and feedback. The humorous but informative new videotape, Video Visits, System Overview, featuring the "antics" of Atari's resident programming wizard, Chris Crawford, was also premiered and proved to be a popular attraction.

Much credit is also due to Kevin Atkins, who arranged the loan of a GE KV500 color projection system for our use. It was no small feat to interface this complex projection system to an ATARI 800 Home Computer.

We were delighted to have full media coverage from four television stations, two daily newspapers and several radio stations. The two day event was a total success, drawing from 3000 to 5000 people, and succeeded in introducing them to the fascinating world of personal computing. Except for a few battle scarred-Zylons, no one went home disappointed.

Steven Ahlstrom is a member of the Atari Computer Club of Denver.

PICTURE THIS!*

PILOT TURTLE GEOMETRY
AN INTRODUCTION TO COMPUTER GRAPHICS FOR KIDS OF ALL AGES

By Dave Thornburg
Addison Wesley Publishing Co.

Early next year, Addison Wesley will publish a unique and entertaining guide for using the ATARI PILOT "Turtle" graphics titled *Picture This!* by Dave Thornburg. Dave played an important role in developing the ATARI PILOT programming language during his creative and colorful stint with the Atari Home Computer Division. The "Turtle" graphics featured in ATARI PILOT are a powerful set of simple graphics commands which allow you to create graphic designs, colorful patterns, figurative pictures and "computer art." The book reflects Dave's creative and sometimes humorous vision of computer graphics not only as a learning tool for education, but for personal entertainment and creative recreation as well.

"Turtle" graphics differs in a fundamental way from conventional "coordinate geometry" utilized in the BASIC programming languages. For example, the BASIC commands for drawing a square may appear like this:

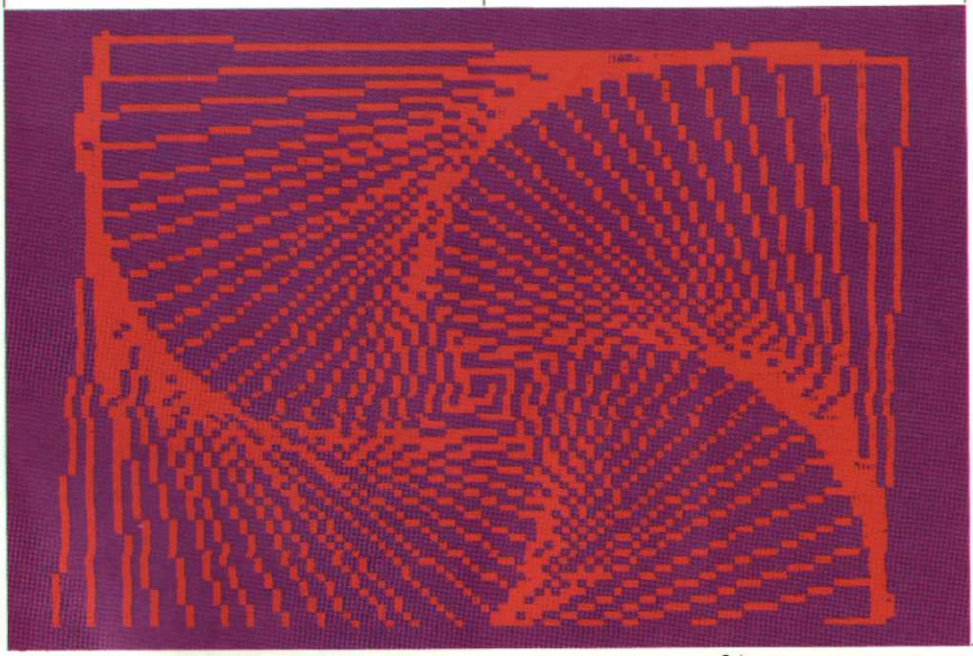
```
10 GRAPHICS 7
20 COLOR 1
30 PLOT 10,10
40 DRAWTO 10,20
50 DRAWTO 20,20
60 DRAWTO 20,10
70 DRAWTO 10,10
```

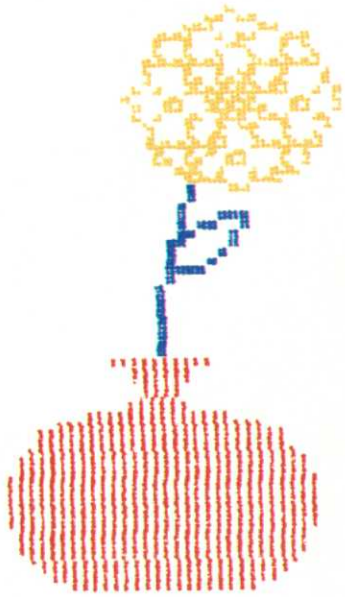
The commands listed draw a spiral square--one which starts at the coordinates 10,10.

In ATARI PILOT the program for the "square commands" may appear like this:

```
10 GR: CLEAR
20 GR: 4(DRAW 10; TURN 90)
```

Much simpler isn't it? In line 20 of the PILOT program, we are sending a message to the graphics (GR:) cursor called a "Turtle." (Hence, "Turtle" graphics.) The "Turtle" is being told to "four times draw a line ten units long and turn right 90 degrees."





Picture This! helps the reader discover how to use the "Turtle" to draw various designs and pictures, rather than serve as a reference manual, or a "how to" book. The reader is led down various paths of exploration, experimenting with many interesting visual graphics concepts along the way. The text has been carefully written for a general audience with a special accent upon children that encourages their natural curiosity and affection for the "Turtle" graphics medium. Yet the book is enjoyable for adult readers as well. The straightforward style informs without being ponderous and entertains without being flippant.

Above all, *Picture This!* is not just a book you read--it's a book you do. It is hard to imagine a user of ATARI PILOT who won't become actively involved with "Turtle" graphics as an educational, recreational and entertaining medium after reading and using *Picture This!*

For more information write:

Addison Wesley Publishing Co.
c/o THE ATARI CONNECTION
1196 Borregas Avenue
Sunnyvale, CA 94086

BOOK REVIEWS

CONVERSATIONAL BASIC*

By Bill Carris
Reston Publishing Co., Inc.

It is altogether possible that Bill Carris has reached new depths with his soon to be published *Conversational BASIC*. This long-promised extended version of his original BASIC Class Notes is rumored to "unfold the stark truth about COLOR and SETCOLOR, and POKE into unchartered memory locations."

"The original intent," said Bill in a recent interview, "was to write a few programming tips for people who couldn't solve quadratic equations in their heads. Before I knew it, I had three full pages of notes. So I figured, if I added pictures and typed triple space, I could turn this into a book!"

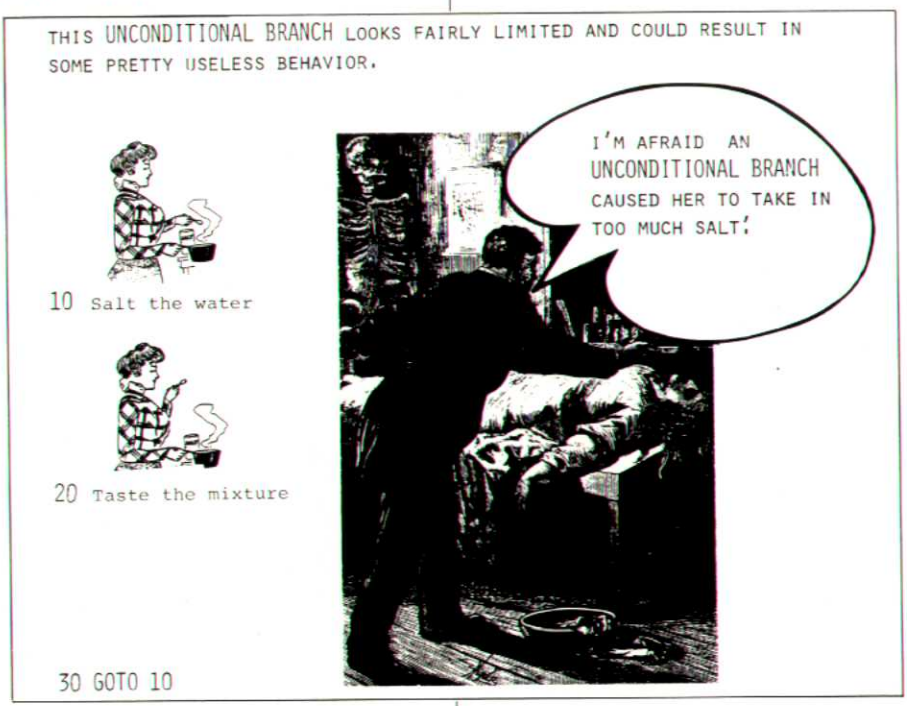
Conversational BASIC serves as a general learning guide designed to help you acquire an intimate understanding of ATARI BASIC's special features. The informal and sometimes humorous style also helps demystify "computer programming" for the first-time ATARI Computer user. Examples such as the sample illustrated page have contributed to the popularity of a preliminary version of the book.

Bill Carris works for the Atari Home Computer Division as the Training Manager. He teaches ATARI BASIC programming to Sales Training classes and his lectures and demonstrations are both humorous and enlightening.

"I started out studying psychology," said Bill, "but soon realized I would never understand people. So I became involved in something much simpler... computers."

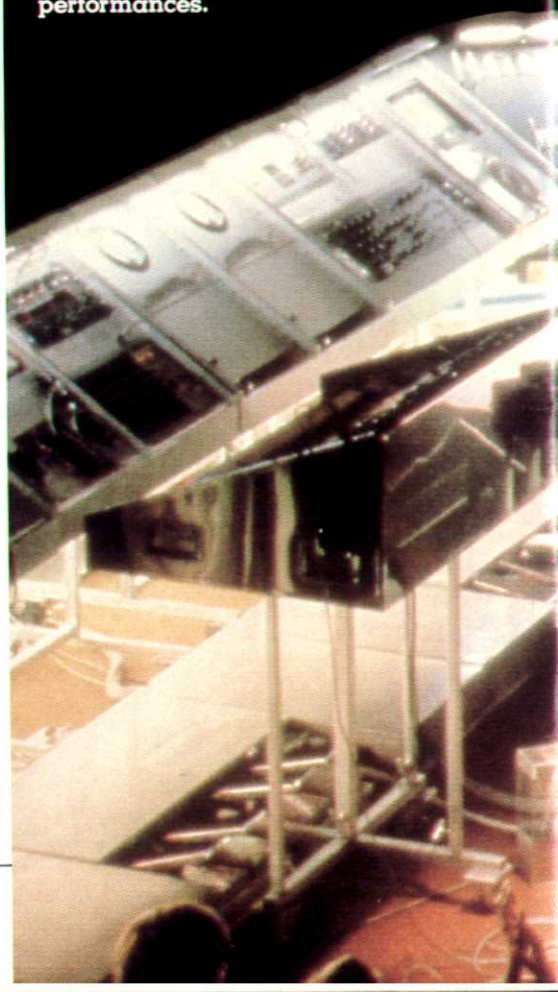
Conversational BASIC will be published by Reston Publishing Company, Inc., a Prentice-Hall Company. For more information, write:

Reston Publishing Co., Inc.
c/o THE ATARI CONNECTION
1196 Borregas Ave.
Sunnyvale, CA 94086



GETTING ACQUAINTED RECORD REVIEW
KRAFTWERK

On tour in the U.S. The Kraftwerk menschmachine (man-machine) portable music laboratory. An ATARI 800 Computer projected computer graphics during program performances.



Computer World* by Kraftwerk
Warner Bros. Records

Computer World, Kraftwerk's debut album for Warner Bros. Records represents one of the most challenging and inventive musical assemblages of our time. Hyperbole aside, Kraftwerk has truly created something significant for a quartet of musicians who don't use guitars, bass, organ, or drums. Instead, all the sounds on their *Computer World* album come from machines--driven by little black boxes--computers. In one stroke, with seven compelling, melodic compositions, Kraftwerk establishes a rythmic interface between man and machine.

"We call ourselves the *menschmachine*, the man-machine, since we are not musicians. We are acoustic scientists." states Ralf Hutter, one of the group's co-founders. "In our laboratory we set up sound machinery and connect ourselves so we have a personal relationship with the machines."

The quartet--Ralf Hutter, Wolfgang Flur, Karl Bartos and Florian Schneider--offers an album full of wry humor, accomplished craftsmanship and intense musicality. *Computer World* is, in short, Kraftwerk's tour-de-force.

The seven tracks, *Computer World, Numbers, Computer Love, It's More Fun To Compute,* and the group's latest single, *Pocket Calculator,* are paeans to a compassionate co-existence between man and his creations.

"We want to become friends with machines--to resolve the alienation. We are musical technicians trying to start a healing process," adds Kraftwerk's Hutter.

The "healing process," as well as a whole new era in accessible electronic sound, began over a decade ago. In 1968, Ralf 'Der Doktor' Hutter and Florian 'V-2' Schneider met at a classical music conservatory near their hometown of Dusseldorf, West Germany. Taking the name Kraftwerk (meaning 'electrical power plant') the duo began their techno-odyssey with a single tape recorder. Hutter and Schneider, who had both studied classical music at Dusseldorf Conservatory, began adding every imaginable electronic music device to their arsenal as finances would allow: amplified feedback machines, amps, oscillators, sequencers, rhythm machines, computer-storage synthesizer, preprogrammed tapes, an instrument that sang in its own voice, anything and everything that could be suited to their vision.

Eventually, the two formed Kling Klang (Ringing Tone) Studios in the heart of industrial Dusseldorf. It was there the "Klangchemiker" ("sound-chemists" as they refer to themselves) began their research; experimenting, inventing, composing and recording. The work, meanwhile, continued at Kling Klang--work shrouded in secrecy and resulting in some remarkable new instruments. They were the first ever to use a voice synthesizer in popular music. They invented and patented an automatic electronic sequencer drum and a photocell device that made music from body movements.

"Our music is more connected to us than traditional music," Ralf Hutter points out, "because we have no traditional instruments to hide behind. The machines respond directly to us, and we to the machines."

continued on Page 27

continued from Page 26

In 1974 their first U.S. release, *Autobahn* was a Top 5 album, remaining on the charts for 22 weeks and yielding a smash single, a shortened version of the 22 minute-plus title track. *Autobahn* was followed in 1976 by *Radio-Activity* which held a Number One chart position for two months in France.

In 1977, with the release of *Trans-Europe Express,* Kraftwerk found support from a new and unexpected quarter--disco. Two singles, the title track and *Show-Room Dummies* became disco hits. Hutter has an interesting explanation for Kraftwerk's disco appeal. "One problem in America is your need to label everything. To us it's all just music, and everything should be thrown into one big bag. You pick something out and listen to it. It's just sound."

Hutter recalls the early days of Kraftwerk, when "...at a certain time the music came to a climatic point ...and we left the stage. Everyone else was dancing, so we went to dance too--to Kraftwerk."

Man Machine was their last album (1978) before Kraftwerk submerged themselves at Kling Klang to develop a raft of new instruments and record *Computer World*. Three years later they have emerged with a whole new generation of musical machines, highly portable and generating an entire spectrum of never-before-heard sounds.

During their recent American tour, an ATARI 800 Computer was programmed to project computer graphics upon screens above Kraftwerk's portable, computerized menschmachine laboratory. The effect was eerie and stunning--the ATARI Computer graphics adding another dimension to the mesmerizing, futuristic concert of menschmachines.

The next time you're using your ATARI Computer, turn on your stereo and play Kraftwerk's *Computer World*--it's music to compute by.

MORE NEWS AND INFORMATION ABOUT YOUR ATARI COMPUTER

THE ATARI CONNECTION isn't the only magazine dedicated to the ATARI Home Computer. Two independent magazines, *A.N.A.L.O.G. 400/800 Magazine* (Atari Newsletter and Lots Of Games) and *Purser's Atari Magazine* also dedicate themselves to covering all the exciting news and products for the ATARI Computers.

A.N.A.L.O.G. publishes six issues per year and it's chock full of news and reviews, plus programs and games for your ATARI Computer.

Purser's Atari Magazine features in-depth reviews and reader surveys on a wide variety of programs and products created for your Atari Computer.

For more information write:

A.N.A.L.O.G. 400/800 Magazine
P.O. Box 23
Worcestor, MA 01603

Purser's Atari Magazine
Box 466
El Dorado, CA 95623

Several major computer magazines also have special columns and sections dedicated to your ATARI Computer. We've listed the magazines along with the title of their special ATARI Computer columns below:

Compute—"ATARI Gazette"

Micro—"ATARI Notes"

Creative Computing—"Outpost ATARI"

BYTE Magazine, the most comprehensive computer magazine, will be running a series of five special articles by Chris Crawford titled *The ATARI Tutorial.* The first article appeared in the September issue of BYTE and will be running consecutively through January.

Answers to KIDBITS Puzzle Page 10

X	V	U	L	P	O	T	S	E	R	N	E	M
T	O	E	V	A	S	I	S	O	D	I	V	U
W	T	S	M	R	U	H	F	L	G	R	O	R
N	R	P	E	D	T	E	I	T	U	P	N	I
Y	B	T	C	O	A	S	P	N	U	R	E	D
U	N	Y	P	L	T	M	A	I	C	S	F	A
E	Z	O	R	E	S	T	O	R	E	F	R	R
S	I	E	I	W	N	R	O	P	U	T	T	L
D	M	F	N	E	U	A	O	L	N	N	O	D
N	E	W	T	O	V	P	F	O	P	I	A	O
E	O	E	Z	S	P	A	C	T	G	O	T	O
R	Y	Y	N	F	V	A	S	E	L	P	T	E
B	O	N	G	O	S	U	B	C	T	O	V	R

1. STOP
2. RUN
3. CLOAD
4. CSAVE
5. DOS
6. SAVE
7. INPUT
8. LPRINT
9. PRINT
10. STATUS
11. GOTO
12. TRAP
13. RESTORE
14. BYE
15. END
16. LIST
17. NEW
18. REM

Answers to Program Puzzles Page 11

Program 1	Program 2
30	10
50	20
60	40
80	70
100	90
130	120
160	140
	170

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8a. The Computers for people™ book by J. Willis & M. Miller. Computers aren't scary anymore because now there's a book that helps you learn how to use a computer and how to buy one. Major sections in this book deal with computers in the home, telecommunications, computers in education, computers in business. Find out what software programs you'll need and how to use them. Complete with a glossary of common computer terms, color photos, product selection charts, bibliographic sources, 200 pages. $7.95 Order No. 8a

To order see Page 23.

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