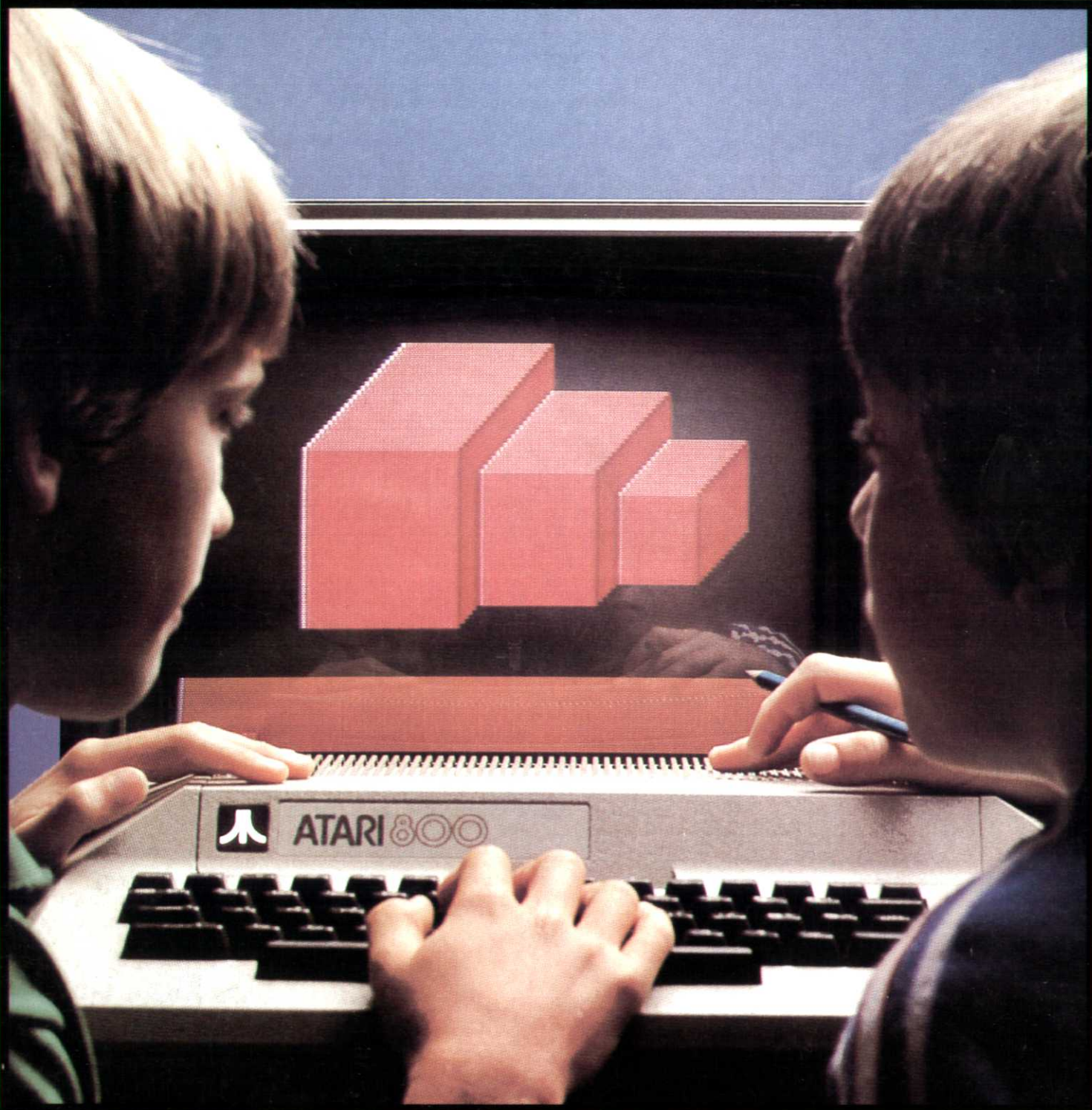


FALL 1981

VOLUME 1, NUMBER 3

THE ATARI[®] CONNECTION[™]

\$3.00



INTRODUCING ATARI PILOT
(WITH "TURTLE" GRAPHICS)

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NEW PRODUCTS

THE ATARI® 400™ COMPUTER SYSTEM

EXPANDING YOUR COMPUTER MADE EASIER

We've created a new look in the packaging of our computer products. You don't have to be a computer expert to use ATARI Computers, and now it's even easier to expand your ATARI Computer System to do new and different things for you.

You can start with The Basic Computer™, an ATARI 400 Home Computer, then add any one of four starter kits and immediately put your computer to work. All you need to know is what you want your ATARI Computer to do for you. We've packaged all the materials you need to get started in any one of four fields of interest:

- Entertainment.
- Education.
- Communications.
- BASIC Programming.

You can continue to expand the capabilities of your ATARI Home Computer by adding different starter kits or more programs or accessories.

The kits make wonderful gifts for yourself or your family. Visit your ATARI Computer dealer soon and begin your Christmas holiday shopping early. See how easily you can expand your ATARI Computer. These kits will work with either an ATARI 400 Computer or an ATARI 800™ Computer. Introduce your friends to how easy an ATARI Home Computer can be to use.

The Programmer™

Learn how to write your own programs to meet your own special needs. You can even learn how to write your own games. Use your ATARI Computer to solve various business and science problems, to meet your home information needs or draw pictures or even compose music.

The Programmer kit includes an ATARI BASIC Computing Language



cartridge, the ATARI BASIC Reference Manual and the ATARI BASIC Self-Teaching Guide which teaches you how to write programs, step-by-step, at your own pace. ATARI BASIC is an easy to learn and easy to use computer language.

The Educator™

With The Educator, learning can be fun! This kit includes all the materials you need to get started teaching your-

self or your children new subjects. The Educator includes: The ATARI 410™ Program Recorder, an ATARI BASIC Computing Language cartridge and one of our most popular learning programs, States & Capitals.

Just plug in the program recorder, snap in the BASIC cartridge, load the cassette tape and learn at your own pace! Many other new learning and personal improvement programs are available and more are being developed all the time.

The Entertainer™

With The Entertainer kit, just snap in a cartridge, plug in a joystick controller, hit the START key and play the ultimate in ATARI Computer games. The Entertainer includes a pair of joystick controllers and two exciting and challenging ATARI game cartridges.

The Communicator™

Bring the rest of the world into your living room using your ATARI Computer, your telephone and The Communicator. This kit includes everything you will need to access vast files of information available through major computer information networks, such as the Dow Jones Information Service, CompuServe Information Service and THE SOURCE, AMERICA'S INFORMATION UTILITY*. Just hook up an ATARI 850™ Interface Module and an ATARI 830™ Acoustic Modem, snap in an ATARI TeleLink™ 1 cartridge, dial the correct phone number for the network you want, put your phone receiver in the modem and watch the information from distant databanks come across your screen!

Included in this kit is one free hour access to the three major computer services mentioned above. Join the information revolution! Access games, stock reports, newspapers and magazines, airline schedules and much, much more without ever leaving your living room.

*A servicemark of Source Telecomputing Corp., a subsidiary of Reader's Digest Association, Inc.

NEW PRODUCTS

PERSONAL INTEREST & DEVELOPMENT CONVERSATIONAL ITALIAN



TIM LEWIS

Buon giorno. Good day! Conversational Italian now joins the ATARI® family of home computer language courses. Based upon the latest research in language learning, this language course takes into account what you want to do with a foreign language, not just what you need to know. Your ATARI Computer becomes your tutor and guide, with descriptive color graphics, illustrations, and audio instructions. You can even stop the lesson and practice if you want. When finished, you should have no trouble asking for directions to the Colosseum when you finally take that vacation trip to Rome!

The Conversational Italian course includes 5 cassettes and a fully illustrated course book. (Requires an ATARI BASIC cartridge, an ATARI 410™ Program Recorder and a minimum of 16K RAM. Suggested Retail Price-\$59.95. Estimated Date of Availability: November 1, 1981.)

INFORMATION & COMMUNICATION THE DOW JONES INVESTMENT EVALUATOR™

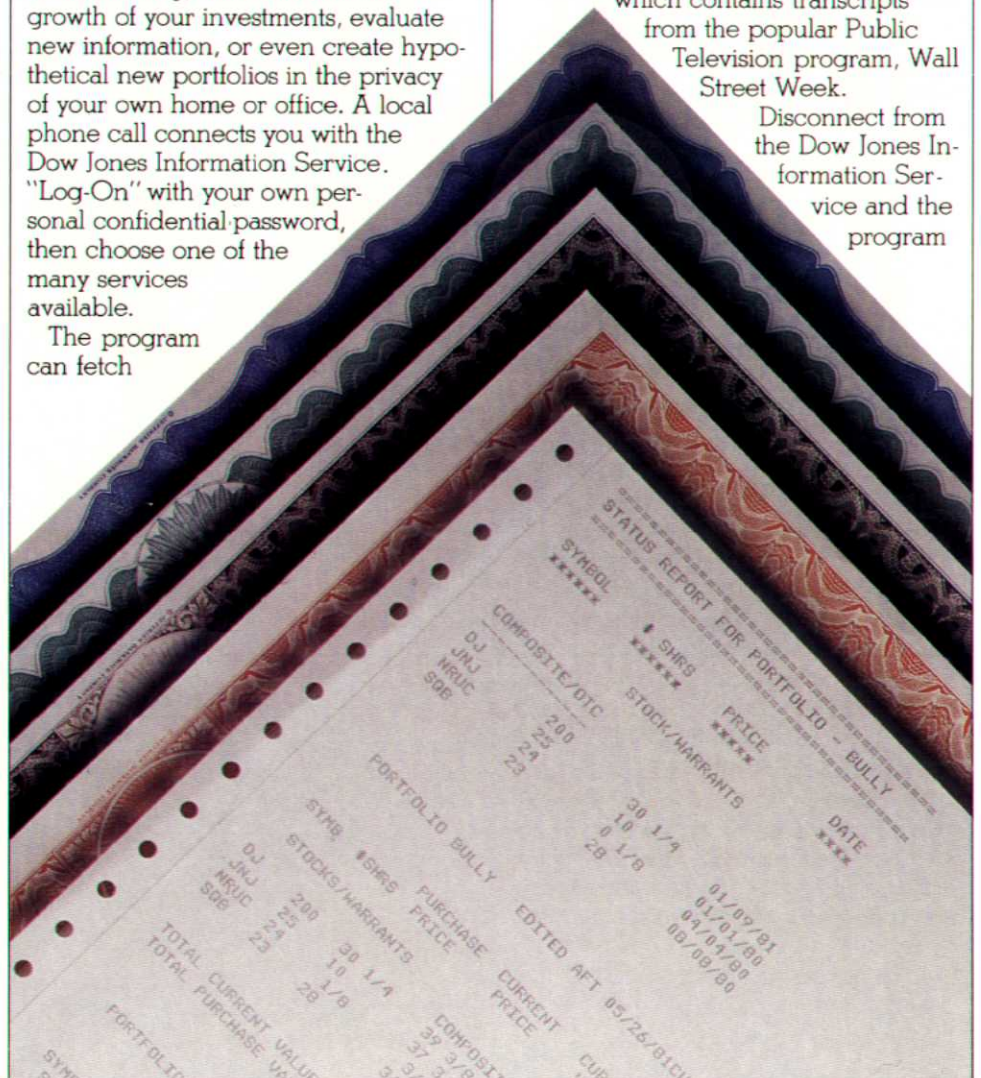
The ATARI Computer and the Dow Jones Information Service have teamed up to offer you an exciting financial services package. The *Dow Jones Investment Evaluator* can update your investment portfolio almost as fast as the ticker tape (Minimum 15 minutes delay). Plus monitor the growth of your investments, evaluate new information, or even create hypothetical new portfolios in the privacy of your own home or office. A local phone call connects you with the Dow Jones Information Service. "Log-On" with your own personal confidential password, then choose one of the many services available.

The program can fetch

your portfolio from your file disk and update it with the latest quotes for stocks, mutual funds, foreign and domestic bonds and warrants. Or you may want to read the latest business news stories as recent as 90 seconds or as far back as 90 days from the *Wall Street Journal*, *Barron's* or the Dow Jones News Service. The database also includes historical stock quotes as far back as two years.

Two more information libraries are also available: *Media General* contains detailed financial statistics for about 3500 companies, and *Wall Street Week*, which contains transcripts from the popular Public Television program, *Wall Street Week*.

Disconnect from the Dow Jones Information Service and the program



NEW PRODUCTS

can evaluate your portfolio and print reports showing current value, gains and losses and status of your investments. And you're only charged for the time you're actually connected to the Information Service. The package also includes a free password and one free hour on the Dow Jones News Service (A \$50.00 value!).

The Dow Jones Investment Evaluator™ requires an ATARI® 800™ Home Computer with 48K RAM, an ATARI 810™ Disk Drive, an ATARI 850™ Interface Module, and an ATARI 830™ Acoustic Modem. You can even print copies of your reports and evaluations with an optional ATARI 825™ 80-Column Printer. (Suggested Retail Price: \$99.95. Estimated Availability: November, 1981)

MORE FREE TIME NOW AVAILABLE FOR ORIGINAL TELELINK™ I OWNERS

If you purchased the original TeleLink 1 cartridge, you can now receive additional hours of free-time on two more information networks: The Dow Jones Information Service and THE SOURCE, AMERICA'S INFORMATION UTILITY* (In addition to the free hour on CompuServe you received with your original TeleLink 1 cartridge).

All TeleLink 1 owners can now link up with a powerhouse combination of three national information services. Each service provides a unique library of information you can personally use with your ATARI Home Computer in hundreds of different ways.

□ The CompuServe Information Service delivers a world of information to your home or business: The latest news from national wire services and major newspapers, home banking, computer games and entertainment, electronic mail, financial information and current

commodity prices, even information from The College Board on financial aid, and adult education. Not to mention The ATARI Newsletter for ATARI Computer Users' Groups!

□ The Dow Jones Information Service provides current quotes on stocks, options, bonds, mutual funds, warrants and U.S. Treasury issues. You can also review historical stock performance as far back as two years and exclusive



Link up your ATARI Home Computer with the modern CompuServe Computer Center in Columbus, Ohio.

articles from *Barron's*, *The Wall Street Journal* and the Dow Jones News Service.

□ THE SOURCE, AMERICA'S INFORMATION UTILITY includes the UPI news information service, lists of job opportunities and resumes, consumer buying tips, electronic mail service, airline schedules and reservation services, and much more.

Don't let this special offer get away! You can receive your free hours of time on these two additional information services now. Simply call the following toll-free numbers and the operators will take care of everything.

Dow Jones Information Service
800-257-5114

THE SOURCE, AMERICA'S
INFORMATION UTILITY
800-336-3366

*A servicemark of Source Telecomputing Corp., a subsidiary of Reader's Digest Association, Inc.

PERSONAL FINANCE & RECORD KEEPING PERSONAL FINANCIAL MANAGEMENT SYSTEM™

Many people today must live on a budget to plan for vacations, college expenses or just to make ends meet. The new ATARI Personal Financial Management System can make planning and managing your budget easier. In addition, you can quickly and easily record income received from different sources and all purchases whether made by cash, credit card, or check. You can even keep track of automatic deposits or withdrawals with your checking and savings accounts.

This program allows you to establish whatever budget categories you need. You can even group items within the same general category by using subcategories. For example, "House: Insurance, House: Mortgage", etc., for a total of 128 categories and subcategories.

Once you record your transactions, the computer goes to work to match your expenditures against your budget goals and automatically analyzes your current state of financial affairs for the month or across several months.

You can also forecast future expenditures and income based on your own financial history, so you can begin planning now. Projections can be presented both numerically and with visually attractive bar charts.

The Personal Financial Management System also reduces your checkbook balancing task to a minimum of effort. All you do is tell the computer which checks, deposits and automatic transactions have cleared and presto, you have your bank statement balance and checkbook balance, as well as a listing of all your transactions that remain outstanding.

Totally self-prompting and easy to



Blue Cross
ACCOUNT NAME
TAYLOR, J. W.
Sears
CREDIT CARD
SEARS, ROEBUCK & CO.
48 80943
SAFE F 81

76
GOOD THRU
0182

Wells Fargo Bank

MasterCard
bloomingdale's

Aetna
LIFE & CASUALTY

SECURITY PACIFIC NATIONAL BANK

ReadyTeller
USA 18c
USA 18c
USA 18c
USA 18c



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SYSTEM RESET
OPTION
SELECT
START
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CAPS LOWR
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SAN FRANCISCO CALIFORNIA
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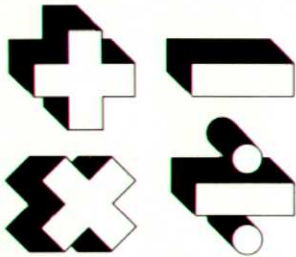


NEW PRODUCTS

use, the Personal Financial Management System™ can help you to organize and manage your finances.

(Two program diskettes and one diskette for your data. Requires an ATARI® 800™ Computer with a minimum of 32K RAM and an ATARI 810™ Disk Drive. Suggested Retail Price: \$74.95. Estimated date of availability: November 1, 1981)

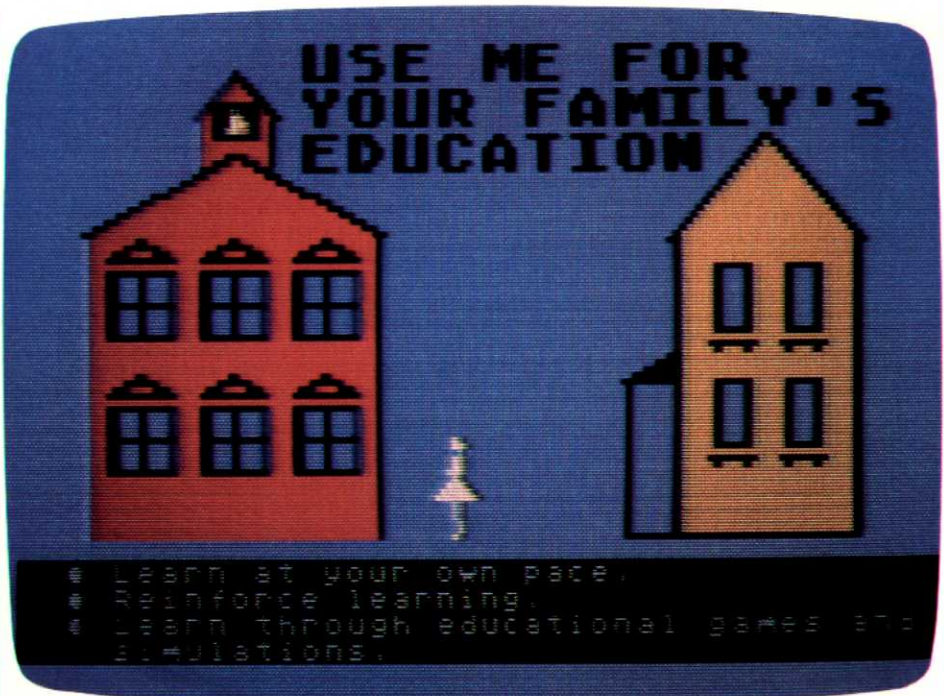
BUSINESS/ PROFESSIONAL APPLICATIONS THE ATARI CALCULATOR



The ATARI Calculator can turn your ATARI Home Computer into a powerful calculator with 145 functions. More than a simple hand held calculator, the ATARI Calculator combines features found on scientific, business and statistical calculators.

You can compute everything from common interest to complex hyperbolic mathematical equations, or simply convert gallons to liters. And you can store valuable information for later use.

If that's not enough, you can program your own functions. Add any of the ATARI Printers and your Calculator program prints out your calculations for business reports, or the projected operating expenses for the family car! (Requires an ATARI 800 Computer and an ATARI 810 Disk Drive. Package includes a manual, one program diskette, and one blank diskette. Suggested Retail Price: \$29.95. Estimated Availability: November 1, 1981)



EDUCATION ATARI PILOT (WITH "TURTLE" GRAPHICS) FOR EDUCATION

ATARI PILOT is an exciting new programming language that promises to revolutionize the Computer Aided Instruction (CAI) field of education. Designed as a valuable new learning tool for teachers and educators, PILOT (Programmed Inquiry Learning or Teaching) allows students to program a computer with simple commands in everyday common English. Teachers can now have their classes become actively involved in using the computer for their own ideas and purposes; not just passively responding to yes or no questions.

One of PILOT's most popular educational features is a powerful set of graphic commands called Turtle Graphics for drawing color designs and pictures on the television screen. Children as young as eight years old

can use Turtle Graphics as a fun way to learn programming, math, and elementary geometric design. ATARI PILOT also features simple commands for musical sounds with up to four simultaneous voices, plus the standard commands for loading and saving information.

The complete ATARI PILOT package includes the PILOT Cartridge, a cartoon illustrated PILOT student reference guide, a PILOT Primer, and two learning cassettes with programs for kids, sample graphics, and ideas for teachers, educators and business people.

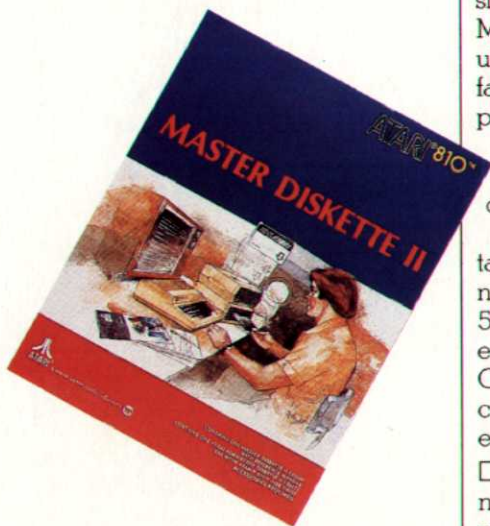
Just plug ATARI PILOT into your own ATARI 800 or ATARI 400™ Home Computer and you can experience the exciting new possibilities of ATARI PILOT at home as well as at school. (The learning programs require a minimum of 16K RAM. Suggested Retail Price: \$89.95)

(More information is available on ATARI PILOT in the Education Section on page 12.)

NEW PRODUCTS

PROGRAMMING LANGUAGES & AIDS

ATARI® 810™ MASTER DISKETTE II



The New ATARI CX8104 Master Diskette II offers an improved Disk Operating System (DOS II) for the ATARI 810 Disk Drive. The new system provides additional memory for the programmer, as well as improved reading speed.

The new Master Diskette II system features:

- Selectable write with a choice of a *read verify command* which helps make your diskette copying time faster and easier.
- The use of "Wildcards" which allows you to copy more than one file at a time when copying or duplicating your files. (The package includes an ATARI CX8100 formatted Blank Diskette and a reference manual. Requires a minimum of 16K RAM and an ATARI 810 Disk Drive. Suggested Retail Price: \$25.00)

ATARI MICROSOFT BASIC

The new ATARI Microsoft BASIC programming language promises to open up a whole new world of uses and possibilities for your ATARI Computer. Microsoft BASIC has long been a popular member of the BASIC language family, especially among personal computer software developers and manufacturers. The thousands of computer programs and games written in Microsoft BASIC testify to this fact!

The ATARI Microsoft BASIC contains many of the popular and convenient features of the standard Release 5.0 Microsoft BASIC, plus special added features that utilize the ATARI Computer's unique sound and graphic capabilities. Consider the following examples:

- Automatic line numbering, plus renumbering which allows you to completely renumber a program, automatically.
- PRINT USING allows you to assign special symbols to numbers such as dollar signs, asterisks or scientific notations.
- Faster information processing facilitated by four variable types: Integer, String, Single and Double Precision Floating Point.
- Special timed sound capability makes it possible for you to synchronize the ATARI Computer player missile graphics with the sound generator—a plus for game designers. Your animated graphics can dance to the music!

But the most revolutionary feature is the universal appeal of Microsoft BASIC itself. Software developers and manufacturers can now more easily convert their programs and games for use on your ATARI Computer. Even more interesting are the special instructions included in the reference manual showing you how to convert

existing Microsoft BASIC software to work on your ATARI 800™ or ATARI 400™ Computer! Need we say more?

(Package includes a program diskette and reference manual. Requires an ATARI 800 Computer, minimum of 32K RAM and an ATARI 810 Disk Drive. Estimated Availability: November, 1981.)

SPECIAL PROMOTIONS

FREE ATARI® WORD PROCESSOR

From September 1 thru October 31, 1981, we'll give you a Free ATARI Word Processor with the purchase of an ATARI 800 Computer, an ATARI 810 Disk Drive and two additional ATARI 16K RAM Memory Modules™ (A \$149.95 value!). Simply fill out the ATARI 800 and ATARI 810 Warranty Cards, give them to your dealer at the time of purchase and you'll receive your Free Word Processor! Hurry - offer expires October 31, 1981.

The ATARI Word Processor is designed for anyone who does a lot of typing or writing. Writers, college students, editors and managers can now get personalized computer word processing. Edit text. Change. Delete. Move text. Insert, Paginate, and Format. All with just the touch of a key.

And the ATARI Word Processor is just the beginning. Add optional programs and accessories a piece at a time as you decide to let your computer take over more work. The same ATARI 800 Computer becomes a business forecaster, a programmable calculator, or even a video game that will entertain you for hours!

PERSONAL INTEREST

HOW TO PHOTOGRAPH YOUR ATARI® COMPUTER GRAPHICS

By Richard Szumski

Photographing computer images directly off your T.V. screen is quite simple if you have the right equipment and follow a few simple rules. I use a 35mm single lens reflex camera. A single lens reflex not only allows me to see exactly what the camera sees but also provides the opportunity for "creative focusing." That is, by controlling the focus, I can soften the Video Easel™ design into even more beautiful and exciting colors. The resulting slide is then combined with other slides to create spectacular new backgrounds. This method is particularly useful when a variety of colorful backgrounds is needed for title slides. In fact, because I use so many title slides in my work, this one use of my ATARI Computer made its purchase worthwhile!

The choice of film depends on what end results you desire. For black and white prints any of the black and white films can be used. Kodak Tri-X* gives me the results I want but you might want to try a slower fine grained film such as Kodak Plus-X*. If a color print is required, Kodacolor* print film works very well. When I need a color print immediately, I use my Polaroid but I have to admit the results are only fair and the print size is too small.

If you want to record your graphics on 35mm color slide film your choices are many. You may be already shooting color slides of vacation trips, family, etc. and are happy with the film you're using. If so that's the film to try.

It is important to note that "daylight" color film is used when photographing T.V. images. The color temperature of daylight film will match the color temperature of the television tube more closely than will tungsten film (sometimes called "indoor film").

Since a T.V. screen is a reasonably flat surface, focusing shouldn't be a problem. Just be sure the camera isn't aimed *up* or *down* at the screen or at an angle *left* or *right*. If the camera is





not square you may have difficulty getting the entire screen image in focus. Depending on the camera, you could have a problem getting close enough to fill the camera frame with the screen image and also be in sharp focus. This is often the case if the screen is small. The only way around this problem is to use a close-up lens or use a larger size monitor.

Obtaining the correct exposure presents no special problem. If your camera has an automatic exposure setting let the camera set the exposure for the image on the screen. For manual exposure settings, you can try 1/15th of a second shutter speed set at f stop 8 on any film rated at ASA 200. I sometimes vary the exposure to produce lighter or darker colors on my slides.

Although a tripod isn't absolutely necessary I always use one. Not only does a tripod hold the camera steady during the long exposure required for T.V. images, it also leaves my hands free to type in new commands and manipulate the colors and designs with the joystick.

Don't try to photograph any T.V. image using a flash. It's the same as shooting directly into a mirror. Also watch for reflections from room lights and windows. You can pick up a reflection from the camera itself if it has chrome on the front. I hide my camera behind a sheet of black cardboard that has a hole for the lens cut in it. The less extraneous light you allow to hit the surface of the screen, whether it's from room lights, windows or the camera itself, the crisper the screen image and more professional and attractive your photographs will be!

Dick Szumski is a Media Production Specialist at the Instructional Resources Center, San Jose State University.

PERSONAL INTEREST

THE ATARI® COMPUTER IN MY HOUSE

by James Caldwell

Like a lot of "Home Computer Families", we started out with a T.V. computer game system. Our three sons were teenagers and between them and all their school friends, the system saw a lot of action! Meanwhile, I'd been programming computers at my job as an engineering technician with the county public works department. My interest in home computers increased further when I assisted our department in buying our present computer system. In the process, I finally broke down and bought an ATARI 800™ Computer and an ATARI 810™ Disk Drive.

The ATARI Computer has since become a permanent fixture in our family room. We even bought a desk and a little

black and white portable T.V. for it. My oldest son who is majoring in music at Oregon State University uses the ATARI Music Composer™ cartridge for entertainment and musical studies. Our most popular game cartridge is Super Breakout® at the present, but the golf and baseball games we received from the Eugene, Oregon ATARI Computer Users' Group are quickly gaining ground! Also

popular, especially with the college crowd, is the Adventure program from the Seattle Computer Users' Group.

My wife and I plan on keeping our ATARI Computer busy helping us with our small jewelry manufacturing business. I'm developing software programs to keep track of inventory, sales and purchases. The other big project I'm working on is a Surveyor Software Package which will include coordinate geometry and earthwork formulas. We are also saving to purchase an ATARI Assembly Language cartridge so we can improve our programming.

We can truly say our ATARI Computer has become a family member, enjoyed and appreciated by us all.

*James Caldwell and
family reside in
Grants Pass,
Oregon.*



EDUCATION

JOEL GLUCK – PROFILE OF A SIXTEEN YEAR OLD PROGRAMMER

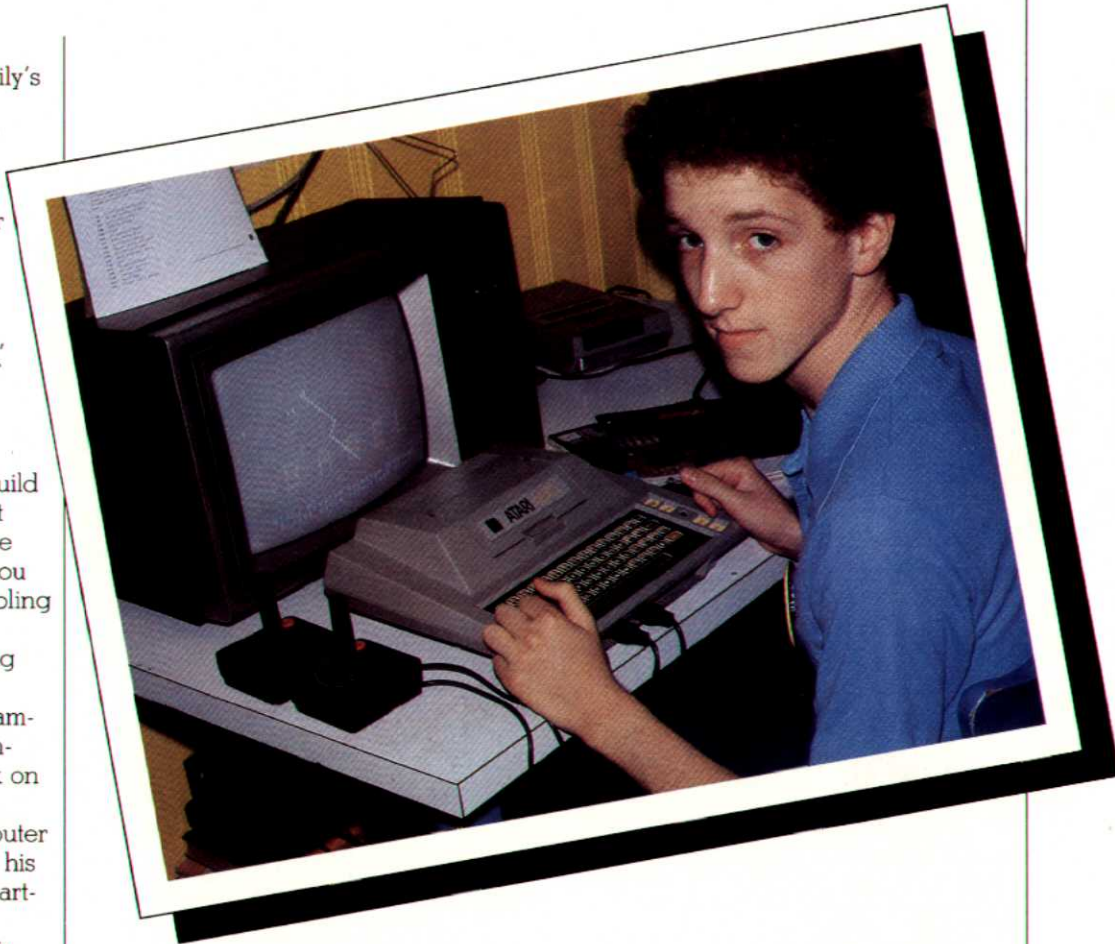
by Ann Kelcy

The primary user of the Gluck family's ATARI® Home Computer is Joel, a sixteen-year-old high school senior from Merrick, New York. A veteran programmer of four years, Joel recently became a prizewinner in the quarterly contest for user-written software submitted to the ATARI Program Exchange (APX). Joel's action-packed game, BABEL, won second prize in the Consumer category, which includes personal development, home, hobby, and game programs.

In BABEL, two players rapidly build towers upwards towards the stars at the top of the computer screen. The winner touches the stars first. But you can delay your opponent by crumbling his tower or locking him up. Even then, there's the danger of lightning striking you down!

Joel became interested in programming when his seventh-grade mathematics teacher loaned him a book on elementary BASIC programming. Soon he started visiting local computer stores and before long he invested his savings in his own computer. He started out writing simple games and mathematics programs based on his school studies. Joel took his computer to his junior high school and to an elementary school to demonstrate some of his games. The following year, the school district purchased micro-computers for its junior high schools.

Always on the lookout for better ways to write games and improve his graphics techniques, Joel became interested in an ATARI Computer after he'd read an article in *Creative Computing* describing the graphics techniques used in the ATARI Star Raiders™ game. He was particularly impressed with the ATARI Computer graphics and sound features available in ATARI BASIC, and he was interested in using these in his games.



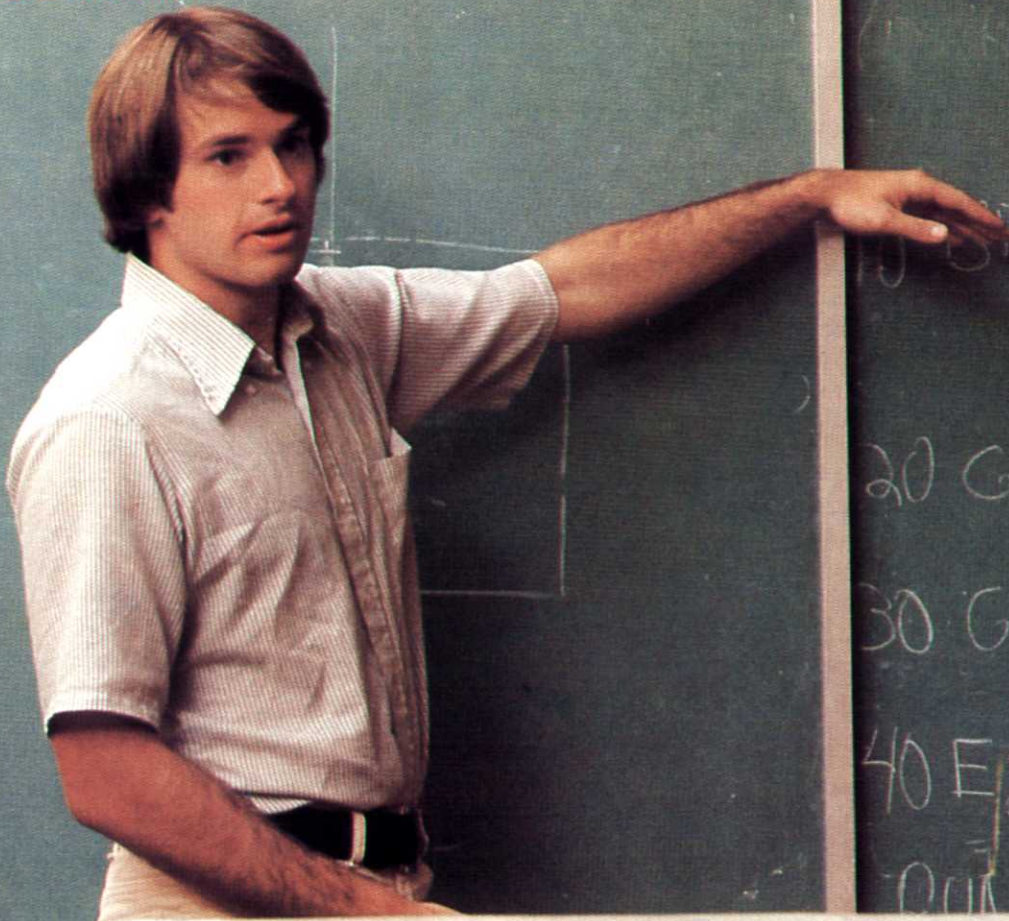
As a result, Joel sold his first computer and bought an ATARI 400™ Computer with 16K of RAM and an ATARI 410™ Program Recorder. He continued to design simple games to gain an understanding of using controllers and sound effects and to increase his understanding of graphics. He then contemplated selling some of his programs and with that thought was born the idea of creating a two-player, competitive action game in which the players build structures with joysticks. He discussed his game design with his father and tried many approaches before settling on the final version submitted to APX.

In addition to designing games, Joel is now turning to other programming

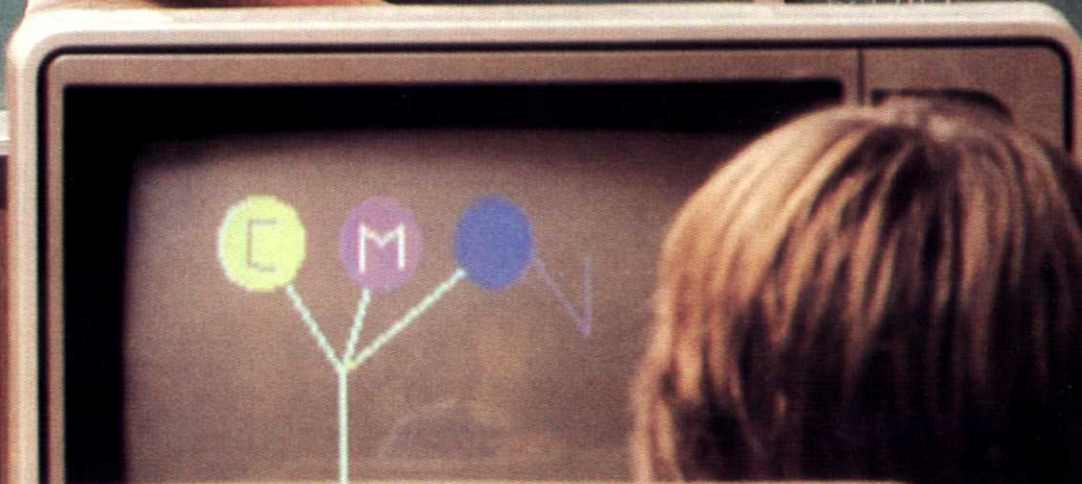
challenges, such as designing a simple information retrieval program. He also recently wrote a colorful graphics simulation of a titration experiment for a high school chemistry project that was very well received. As he expands his understanding of what his computer can do, Joel will undoubtedly develop even more creative applications that will benefit both himself and other ATARI Home Computer owners.

You too could be a winner in the next ATARI Program Exchange Contest. For more information call our toll-free number, 800-538-1862 or if you're in California, 800-538-1858.

EDUCATION



10 GR:6 (GOTO 00;D
TURN: 360/6
20 GR:GOTO 0,10
30 GR: DRAW 10←
40 E:
DUN



KIDS, COMPUTERS AND THE LAWRENCE HALL OF SCIENCE

by Carol Donahue

The kids at the Lawrence Hall of Science are in computer heaven.

High in the clouds of Berkeley, California, at the Lawrence Hall of Science, you can find lots of computers, educators and children. Classes abound for children and adults alike to learn about computers . . . personal computers.

In one of the classrooms, the kids are learning the secrets of the ATARI® Computer.

"Today we are going to learn how to draw things on the television screen," says the teacher.

An eager face responds, "When do we learn how to move spaceships and shoot things?"

His teacher capitalizes on his enthusiasm. "OK, today we'll learn how to draw rockets."

And draw rockets they did. After brief instructions of a few simple commands, the kids were drawing every imaginable type of rocket in all sizes, shapes and colors. The enthusiasm was there. The only limit was their imagination.

This class on ATARI Computers is but a part of the available activities at the Lawrence Hall of Science. Numerous exhibits, games, classrooms and interactive displays fill the Hall to challenge our minds about science. Clearly, the Lawrence Hall of Science believes in learning about science through discovery and interactive learning.

After an invigorating journey through the exhibits, Twila Schlesnick, Director of the Math and Computer Project, discussed the Hall's active involvement in promoting science education. The Lawrence Hall of Science offers the public a variety of computer classes, ranging from Art and the

Instructor, Hoby Hetherington, shows students how to write a computer graphic program in ATARI® PILOT.



EDUCATION

Computer to BASIC Programming and including children, adults, teachers and the deaf.

While the Hall tries to offer the public a variety of personal computers for the classes, Schlesnick noted, "we have more classes dedicated to the ATARI Computer now than any other system because of the graphics capabilities of the ATARI Computer."

Most of the children taking computer classes at the Lawrence Hall of Science were first introduced to computers at school or in their home. For many children, however, their first "computer experience" is in the Exploration and Exhibit Hall. In this area on the top floor, anyone may play educational games on several different types of computers and terminals.

The Lawrence Hall of Science has been using computers in education for quite some time. They believe computers are an extremely useful tool for learning mathematics and developing logical thinking as well as for just plain having fun. Before microcomputers became really popular, the Hall used a timesharing computer system in its classrooms. As the personal computer was developed and its use

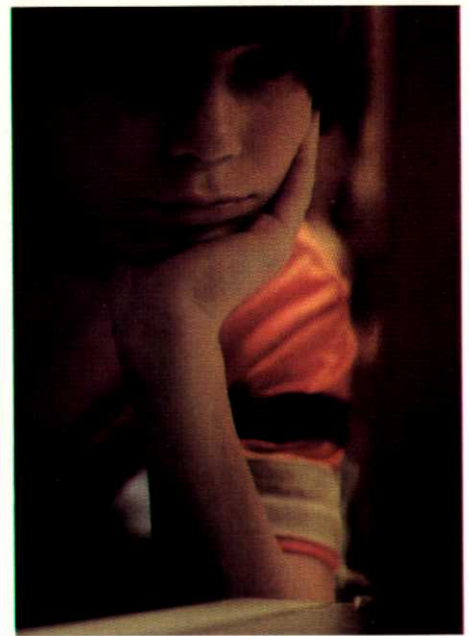
spread to homes and schools, the administrators of the Hall saw a need to provide the public with an opportunity to experiment with and learn about a variety of computers.

In the summer of 1980, The ATARI® Computer Division donated 18 ATARI 800™ Computers and ATARI 810™ Disk Drives to the Math and Computer Project. The donation was arranged through the efforts of Twila Schlesnick and Ted Kahn, now the Director of the ATARI Institute For Educational Action Research.

During the same summer, the Hall used ATARI Computers to kick off their Deaf Project, introducing deaf children to the exciting art of computer programming.

By the fall of 1980, the Hall offered several courses dedicated to the ATARI Computer. Extremely well-received from the beginning, classes with the ATARI computer have always been full. The classes are small, so each student receives individual attention and has an ATARI Computer to use.

Most of the classes offered are geared toward children, however, the Hall also offers other services such as



teacher training for computer instruction, open houses, workshops for special interest groups and clubs and some classes for adults, for example, beginning and intermediate BASIC Programming.

Currently, six different types of classes are being offered using the ATARI Computer, including Art and the Computer, Color and Sound, beginning and intermediate BASIC Programming, Ms. Math and PILOT Your Own Computer.

Ms. Math is for girls only. Currently, only 20% of the students at the Lawrence Hall of Science are girls. This class encourages girls to learn about computers and math, by helping them experience how much fun they can be. Each day, the girls in this class solve Puzzle Woman's mathematical puzzles and play games on ATARI Computers.

The new ATARI PILOT is the focal point of the other classes. In Color and Sound taught by Deborah Harned, the most inexperienced student learns to make squiggles and meaningful geometric designs on the television screen with the help of ATARI PILOT's Turtle Graphics. Children and adults alike learn to create colorful two-dimensional objects, designs and animated pictures while learning to program an ATARI Computer to do other things for them. Color and Sound also teaches the children how to use the ATARI Computer as a medi-

Lawrence Hall of Science, Berkeley, California.



um for both art and music—creating geometrical patterns, flashing colors and music.

PILOT Your Own Computer focuses on writing activities. Children learn to write their own stories, riddles and question-and-answer games with the help of the ATARI Computer and ATARI PILOT. Once the children have learned PILOT, they have a base from which to learn more advanced programming languages.

The PILOT language is not new to the Lawrence Hall of Science. They have been using it for quite awhile. Originally, they taught classes on two versions of PILOT available on their timeshare computer system. PILOT was so popular with the children that the Hall wanted to continue offering PILOT classes when they introduced personal computers. PILOT is so easy to learn and

use that it allows children to become comfortable and interact with computers before getting bogged down in the sometimes frustrating technicalities of other languages. ATARI PILOT with its added graphic capabilities was quickly added to the Hall's classes.

Fantastic designs, colors and almost any shape can be drawn in ATARI PILOT. And animation is very simple to create. In one class at Lawrence Hall of Science, a boy is busy drawing a beautiful red star in ATARI PILOT. When asked how he drew such a pretty star, his response was full of enthusiasm. "Here, look at this. It took me only one line!" Indeed, it took him one line . . . GR:5(DRAW 25, TURN 144) and a red star appeared on the

screen. When asked if he liked to draw stars, he responded, "Actually, I'm going to draw a spaceship next because I want to learn how to zap things!"

Regardless of this youngster's motivation, this youngster is learning to use the power of the ATARI Computer through ATARI PILOT and the Lawrence Hall of Science. He is learning to think logically, to create, to enjoy artistic creation and to recognize the capabilities of computers. He isn't afraid. He's having fun and learning, too. Kids like the total involvement of sounds and the flashy colors that a personal computer and an easy language to learn and use like

ATARI PILOT make possible.



ENTERTAINMENT TWENTY QUESTIONS FOR ATARI® PILOT

by Dave Thornberg

In the science fiction story, *XX's* by Brian McCue*, a computer science teacher is invited to play a computer game called Twenty Questions. The game is played by trying to guess the name of an object the computer has on its mind by asking questions it can answer with a simple "yes" or "no".

Of course, as in many science fiction stories, the computer demonstrates an uncanny ability to understand the English language—witness the following question and answer session:

Teacher: Is it human?

Computer: No.

T: Is it a vegetable?

C: Yes.

T: Is it a root?

C: No.

T: Is it larger than a pumpkin?

C: No.

T: Is it a cabbage?

C: Yes.

You don't have to be a computer expert to see that any program which handles English in the above manner is an extraordinary program indeed! It answers questions on any topic for the purpose of guiding you to the correct answer! How much space does this program take? This is the question the science teacher in the story found intriguing. Imagine his surprise when he discovered that the program took almost no space at all!

Believe it or not, you too can have this program running on your ATARI Computer. The whole program is only 25 lines long when written in ATARI PILOT.

How does it work? First, when you play twenty questions, you usually start with general questions, then get more specific. If you ask if the object is human, and the computer says no, then you wouldn't ask if it is a boy. In reality the computer has no word chosen at

all! Instead, our program works by looking at the *last letter* at the end of each question. If the last letter of the last word is a vowel (a,e,i,o,u,y) then the computer answers YES, otherwise it answers NO.

If you don't believe this works, go back and re-read the dialogue at the beginning of this article. You'll notice every question which ends in a vowel gets a YES answer!

When trying out this program on your friends, they'll be amazed at the ability of the computer to "understand" their questions. Encourage them to ask as complex a question as they

want. Nothing will stump the ATARI Computer!

Below is the Twenty Questions program with special Pilot instructions:

When you enter this program, on your computer you should type:

NEW
and
AUTO

It is important to remember that PILOT itself doesn't use line numbers. These numbers are there to make it easy for you to use the screen editor.

*Tales of the Marvelous Machine, ©1980 Creative Computing Press

TWENTY QUESTIONS PROGRAM

```
10 *20QUESTIONS
20 T:WELCOME TO THE GAME OF TWENTY QUESTIONS. BY ASKING QUESTIONS WHICH HAVE\
30 T: YES OR NO ANSWERS, TRY TO GUESS THE OBJECT THAT HAS BEEN SELECTED,
40 T:
50 T:BE SURE TO END EACH QUESTION WITH A QUESTION MARK.
60 T:
70 T:
80 C:#C=0
90 *ROUND
100 C:#C=#C+1
110 *QUESTION
120 T:ENTER QUESTION NUMBER #C
130 A:
140 M:??
150 TN:THAT ISN'T A QUESTION. PLEASE ASK A QUESTION.
160 JN:*QUESTION
170 M:A?,E?,I?,O?,Y?
180 PA:?\150
190 TY:YES
200 TN:NO
210 T:
220 J(#C<20):*ROUND
230 T:END OF TWENTY QUESTIONS. PRESS RETURN TO START AGAIN.
240 A:
250 J:*20QUESTIONS
```


KIDBITS PUZZLE

by Karen Pitz

Unjumble the following titles of ATARI programs. Then, using the letters in the red boxes, unjumble them to guess the name of the program shown on the screen below.

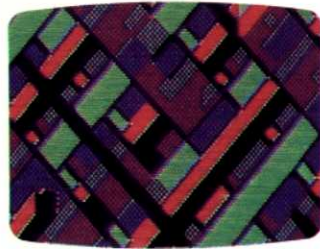
P E S A C V N I A E D S R

N A A M H G N

T T S A S E N D A A A T C I P S L

I M G K N D O

G N E E R Y R Z A C



CLIVE'S COMPUTER by Ted Richards



PROGRAMS

Type the KIDBITS programs into your computer. Make sure you have your BASIC cartridge installed in your computer before you start. Some KIDBITS programs are just fun to use and show you some of the things you can make your ATARI® Computer do for you. Make sure you type the programs in exactly as they are below or your program won't work. Computers have to be told exactly what to do. They can't think like you do, although they do things very quickly. After you type in your program, type "RUN" and the computer will show you your program.

COLOR AND SOUND ALERT!

Turn the lights out when you run this program and pretend you're being attacked by invaders from outer space.

```
1 PRINT "3"  
5 FOR M=1 TO 5  
10 FOR Z=1 TO 255  
15 POKE 710,Z:SOUND 0,Z,10,6  
18 FOR X=1 TO 3:NEXT X  
20 NEXT Z  
25 NEXT M  
30 RUN "D:HYPNO"
```

GUESS MY NUMBER

The computer is thinking of a number between 1 and 99. Can you guess it? How many guesses did it take you before you guessed the right number?

```
10 N=INT(99*RND(1)+1)  
20 PRINT "I'M THINKING OF A NUMBER BETWEEN 1 AND 99"  
30 PRINT "WHAT IS YOUR GUESS"  
40 INPUT X  
50 IF X<N THEN PRINT "NO...MY NUMBER IS HIGHER, TRY AGAIN":GOTO 40  
60 IF X>N THEN PRINT "NO...MY NUMBER IS LOWER, TRY AGAIN":GOTO 40  
70 IF X=N THEN PRINT "VERY GOOD, MY NUMBER WAS ";X
```


CREEPY MUSIC

This program turns the number keys of your computer into ten weird and creepy notes. You can only play one note at a time, but it doesn't matter what notes you play. They all sound creepy!

```
10 DIM CHORD(37),TUNE(12)
20 GRAPHICS 0:?:?:? "
30 ? :? "PRESS KEYS 1-0, <,> TO PRODUCE NOTES."
40 ? " RELEASE KEY BEFORE PRESSING ANOTHER "
50 FOR X=1 TO 37:READ A:CHORD(X)=A:NEXT X
55 FOR X=1 TO 12:READ A:TUNE(X)=A:NEXT X
60 OPEN #1,4,0,"K:"
65 OLDCHR=-1
70 A=PEEK(764):IF A=255 THEN 70
75 IF A=OLDCHR THEN 100
80 OLDCHR=A
85 FOR X=1 TO 12:IF TUNE(X)=A THEN SOUND 0,CHORD(X),10,10:GOTO 100
90 NEXT X
100 I=INT(PEEK(53775)/4):IF (I/2)=INT(I/2) THEN 70
110 POKE 764,255:SOUND 0,0,0,0:OLDCHR=-1:GOTO 70
120 DATA 243,230,217,204,193,182,172,162,153,144,136,128,121,114,
108,102,96,91,85,81,76,72,68,64,60
130 DATA 57,53,50,47,45,42,40,37,35,33,31,29
140 DATA 31,30,26,24,29,27,51,53,48,50,54,55
```

COMPUTER DICE

Make your computer roll the dice the next time you play your favorite board game. Your chances are about the same as real dice, but the computer makes sure nobody cheats!

```
10 DIM A$(1)
20 A=INT(6*RND(1)+1)
30 B=INT(6*RND(1)+1)
40 PRINT "PRESS RETURN";
50 INPUT A$
60 PRINT A,;
70 PRINT B
80 PRINT :PRINT :GOTO 20
```

JUST FOR KIDS

If you send us an article about how you use your ATARI Computer or write a program or game you think other kids would enjoy and we include it in the magazine, we'll send you a free ATARI T-shirt. Send your articles and programs to Kidbits Special, THE ATARI CONNECTION, 1196 Borregas Avenue, Sunnyvale, CA 94086. Include a photograph (slides are even better) and a short paragraph telling us about yourself. Also be sure to include your age and grade in school, your address, and of course, your T-shirt size!

THE VISICALC* PROGRAM

If you manage a business, you deal with numbers—lots of them. These numbers become figures representing the essential facts of your business and it doesn't matter if these figures reflect stock prices, your inventory, or the price of soybeans. You still have to compute them, evaluate the totals and make decisions based upon this information. The VisiCalc Program* available for your ATARI® 800™ Computer makes this tedious job not only easier and faster, but provides you with a revolutionary new tool for personally evaluating the nuts and bolts figures of your business.

How does The VisiCalc Program work? A powerful calculating program transforms your ATARI Computer into a large "electronic worksheet" organized into rows and columns. You simply label your rows and columns as you would any accounting sheet. But The VisiCalc Program adds a whole new dimension.

For example, let's say you already

have the figures on the gross total sales for each salesperson on your staff. They're each owed a 15% commission plus you would like to reward them all with \$100.00 bonuses for a job well done. You want to know how much more this will cost you. First you label each row with a salesperson's name. Then you label a column, "commission/bonus" and assign the formula, $A \times .15 + 100$. The VisiCalc Program will automatically calculate the commission owed plus the bonus as you enter each salesperson's total sales figure. If you like the figures and feel even more generous, then just change the formula and The VisiCalc Program automatically recalculates the entire column!

As you can see, The VisiCalc Program makes it possible to eliminate the middleman in today's complex information chain. All you need to know is your business. (Requires an ATARI 800 Computer, a minimum of 32K RAM, an ATARI 810™ Disk Drive. Add an optional ATARI 825™ 80-Column Printer and print your own reports!)

*Registered Trademark of Personal Software, Inc.

ATARI COMPUTER MAXIMIZES B-SCHOOL PROPHETS

by Ken Wirt

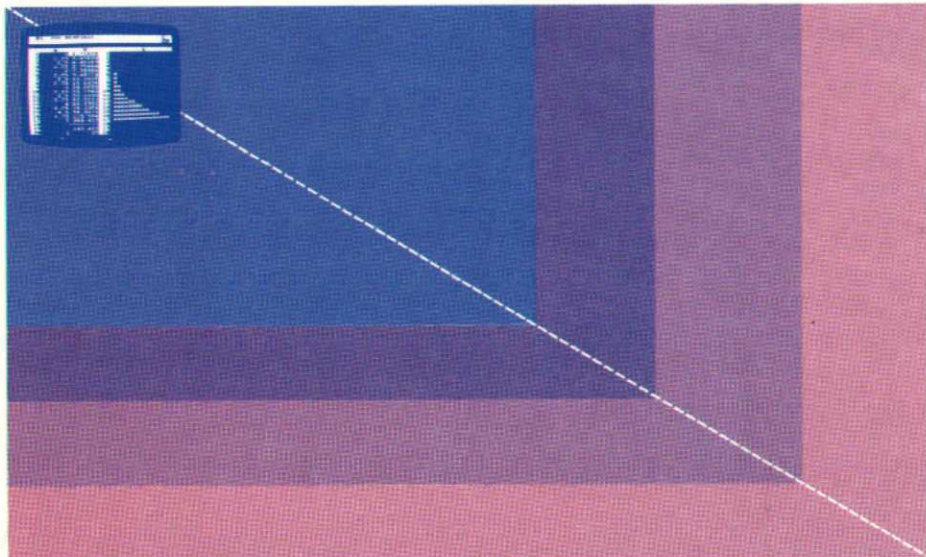
During the spring quarter of 1981, I became a personal computer owner. The acquisition of my ATARI 800 Computer made me realize I had been studying in the B.C. (Before Computer) age.

As a student in the MBA program at Stanford University, I had access to the school's computer—when I could fight my way through the waiting list to get on a terminal. But the fight was often not worth the wait as the computer room closed at the crack of 11:00 P.M. when most students just get rolling. Having my own computer freed me from the tyranny of computer room hours!

I found myself using two programs almost every day: The VisiCalc Program and a word processor. The VisiCalc Program made it possible for me to try out different economic scenarios. What if U.S. housing grew to 3 million units? What if auto sales dropped to 4 million units? What if inflation averaged 10%, 12%, 6%? Why the tables alone probably carried my papers.

The word processor greatly improved the quality of my writing. I didn't have to waste time going to the typist for those embarrassing little errors like the misspelling of the professor's name and I was able to print out drafts and even edit for meaning and grammar! I even edited out the stream of consciousness style which predominates most papers composed between 4 and 6 A.M.

Now I'm looking forward to starting the next school year. No long nights in the computer room, no trips to the typist, and no number crunching. Now if I could only keep the other people in my study group from playing Star Raiders™ all night long . . .



The VisiCalc Program creates a large electronic worksheet organized into columns and rows. Your computer screen acts as a window that scrolls over the sheet. The more memory your computer has, the larger the worksheet.

THE ATARI® COMPUTER TRAINING ROOM

by Bill Carris

As more and more ATARI Computers find their way into homes, shops and businesses all across the nation, there's a growing need for well-trained people who can provide the excellent sales and service demanded by you, the ATARI Computer owner. This is why we recognize the importance of a good training program for



our sales representatives. Selling computers is a demanding business because many of our customers have very little or no experience in home computing. Our sales people not only must demonstrate our product, they also must be able to help you learn how to use your ATARI Computer, plus answer your questions after you've taken it home.

Our ATARI Computer Training Room was designed so we could train the best sales representatives and computer specialists in the country. We spared no expense. The room is equipped with twenty-five ATARI 800™ Home Computer Systems built into custom made training tables, a large video screen projector, a stereo sound system, three video tape decks and remote controls that allow the instructor to control the room's lighting and computer displays.

The ATARI Home Computer Training Course is a comprehensive

two-day program. Sales representatives, computer specialists, computer dealers and distributors are taught everything they'll need to know to effectively serve our computer customers. The course is intense but fun. Students learn how to demonstrate and use the ATARI 800 Computer System. Programming is taught by actually writing and demonstrating programs in class.

The training room is also being used to train secretaries and clerks on the ATARI Word Processor, new employees on the computer product line, and outside software developers on how to get the most out of the ATARI Computer. There also are plans to use the room to teach ATARI BASIC programming language through the sponsorship of local colleges (No waiting for terminal time!). (We've also noticed a growing number of employees sneaking in to play Star Raiders™ on the large video screen.)

If you never have the opportunity to take the Computer Training Course, don't worry. The way the home computer revolution is growing, in a few years we could all be receiving the course over our telephone with an ATARI 830™ Acoustic Modem!

ATARI CUSTOMER SERVICE/TOLL-FREE PROBLEM SOLVING

Learning to operate and use a home computer can sometimes be frustrating or confusing. Don't despair if it seems you've just destroyed your program recorder or can't make a new program package work. You can call the ATARI Customer Service Hotline, toll-free, and have one of our Support Specialists go to work on your problem immediately.

You'll be interested to know some of our responsibilities include:

Responding to all ATARI Computer owner questions concerning the ATARI

ATARI CUSTOMER SUPPORT

If something should ever go wrong with your ATARI Computer System, you'll be relieved to know ATARI Customer Service has a national Authorized Servicing Dealers program.

Each authorized ATARI Service Center has the expertise, the parts and Atari trained service technicians to maintain and repair any ATARI Computer part, component, or product.

For the ATARI Service Center nearest you, just phone the toll-free Customer Service Hotline, 800-538-8547 or if you're in California, 800-672-1430.

Computer's hardware and accessories.

Answering customer questions about ATARI Software or programming problems.

Talking to prospective customers about the ATARI Computer's uses and capabilities.

Referring customers to their nearest ATARI Computer dealer and providing information on how to order manuals and literature.

One of our operators will answer the Hotline and help you with the most common questions. Technical questions are referred to one of our Technical Support Specialists who can help you with either a hardware or software problem. In the majority of cases, the specialist will be able to solve your problem and return your call the same day.

ATARI Customer Support
Hotline:

800-538-8547

If in California call:
800-672-1430

In Hawaii and Alaska call:
800-538-1682

COMPUTER TALK

INTERFACING

by Earl Rice

When you decide to connect a printer to your ATARI® 400™ or ATARI 800™ Computer, you need to know a little about the subject of INTERFACING. Interfacing is the art of connecting different devices together so they can pass information back and forth.

The ATARI Computer can be interfaced to many kinds of printers. The

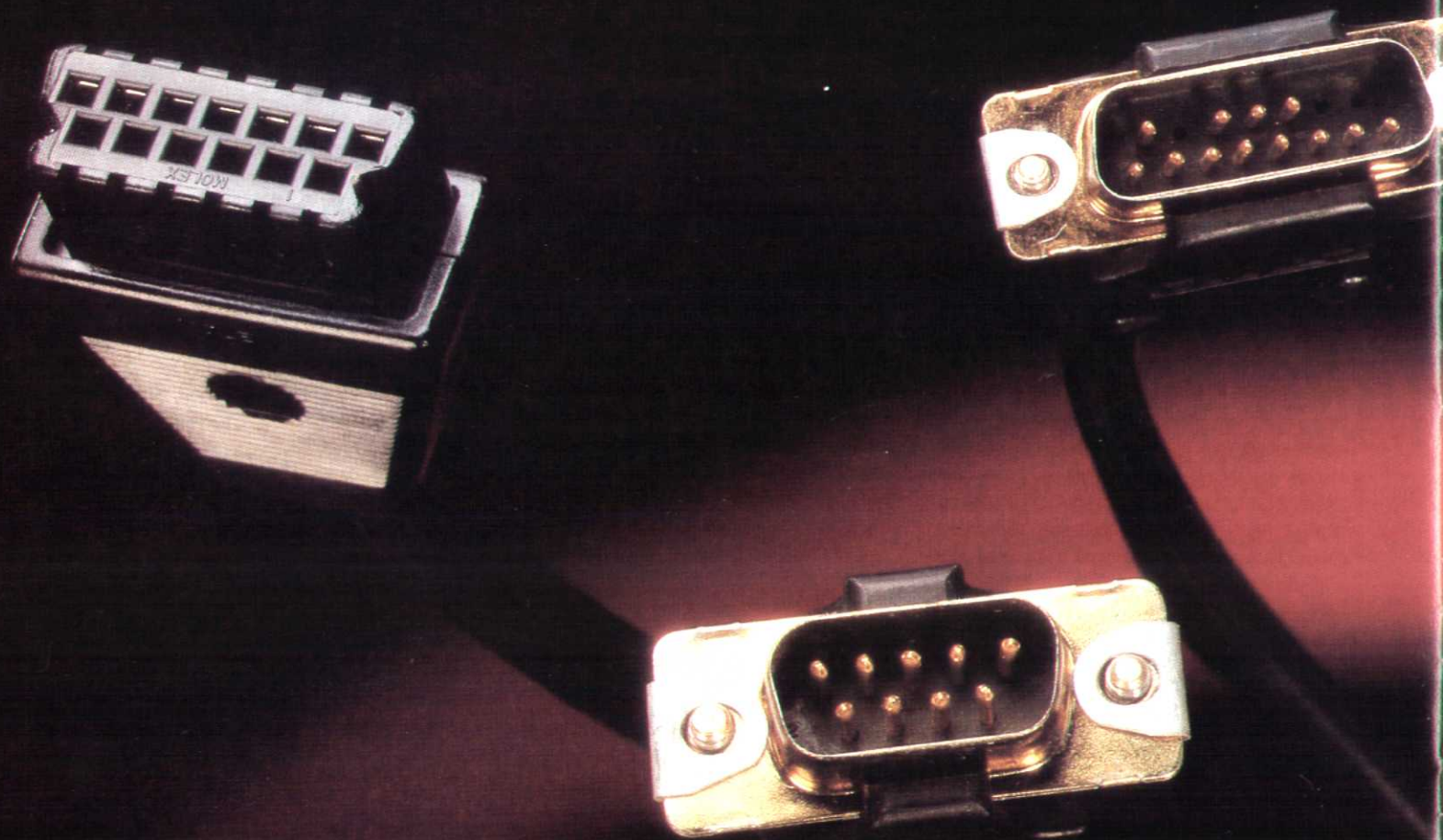
simplest thing to do is to connect an ATARI Computer to an ATARI Printer. The ATARI 820™ and ATARI 822™ Printers connect directly to the Serial I/O port labeled *Peripheral* on the right hand side of your computer.

This connection to the computer is called intelligent because it is designed to allow a number of different devices to be connected to it, provided that

each of them can recognize commands that tell them when to operate. This interface is a kind of 'party line'. It works well only if the devices connected to it can wait their turn.

Serial means that the information sent to the attached device is sent out one bit at a time, something like a telegraph. A series of bits is required to form a complete message.

The ATARI 825™ 80-Column Printer won't wait for a letter to be sent one bit at a time; it wants to see the whole letter at once. It needs an ATARI 850™ Interface Module in order to work. A parallel interface sends an en-



tire eight-bit character at once. Instead of sending the eight bits to the printer one at a time over one wire, it sends all eight at the same time over eight wires.

The advantage of the serial interface is that the connection between devices needs fewer wires and so is simpler to hook up. The advantage of intelligent devices is that they can be connected to the interface in any order.

The parallel interface is built into the ATARI® 850™ Interface Module. This unit connects to your computer through the intelligent serial interface and can accept commands from

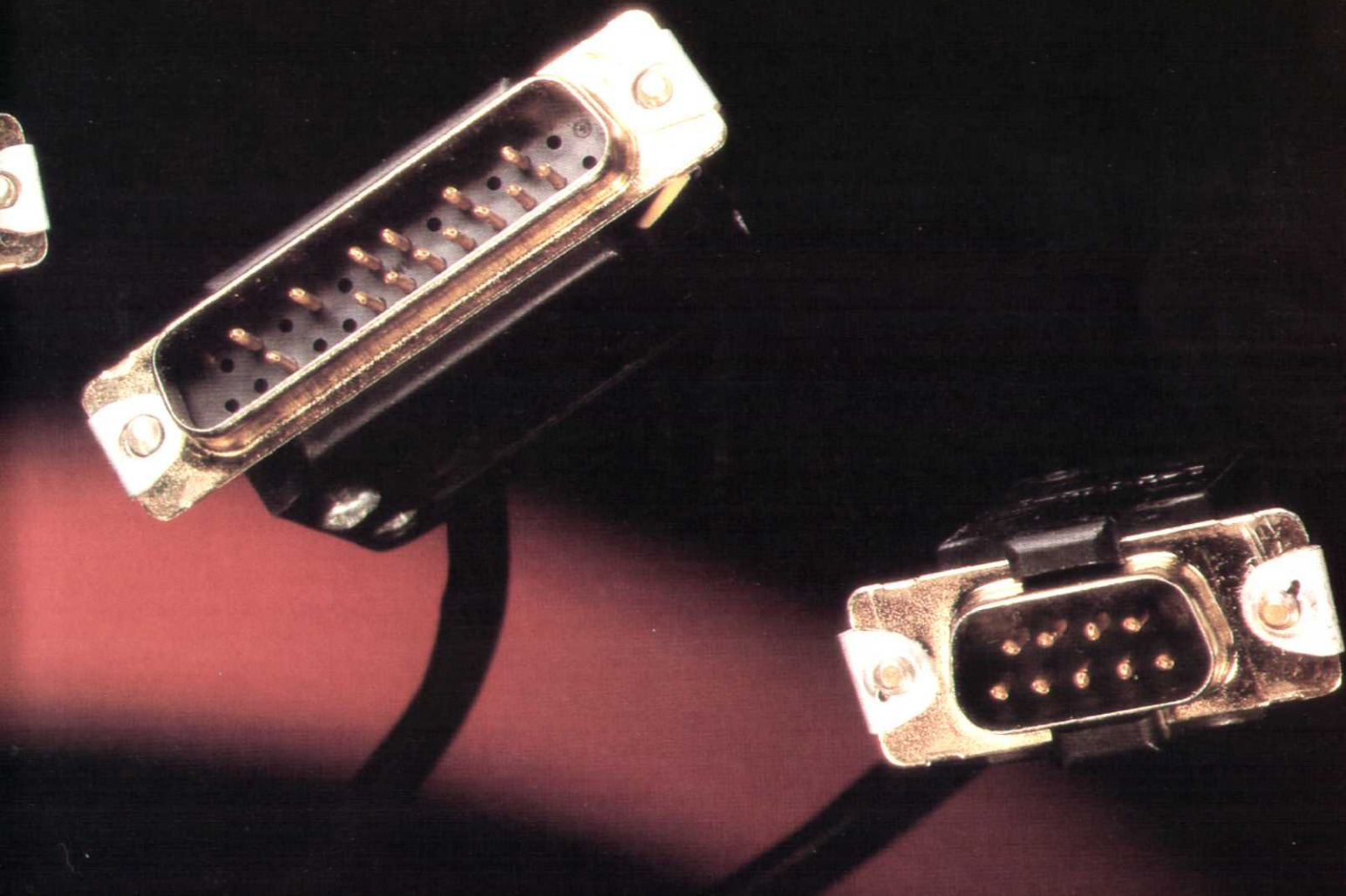
the computer and translate them into a parallel format. Since the Interface Module is an intelligent device itself, it can connect the computer to devices which couldn't otherwise talk to the computer, such as the ATARI 825™ Printer.

The Interface Module actually translates information from the intelligent serial interface into two other formats. The parallel format just mentioned is called the Centronics standard. There is another standard for serial devices which is called RS-232. This standard is used by devices that connect to telephone lines, called

modems, as well as some printers. The Interface Module has four RS-232 connectors in addition to the connector for the Centronics standard parallel interface.

Each of these standards must conform to a particular connector pin arrangement if you plan to connect any device to your computer. When you connect any ATARI device to your ATARI Computer, using the correct cable will assure that the proper standard is observed.

If you plan to connect another manufacturer's printer or any other device to your ATARI Computer, be aware



that many devices, such as printers, have special software requirements. For example, while the popular Epson printer can easily be interfaced to the parallel connector on the ATARI® 850™ Interface Module, it will not work correctly with the ATARI Word Processor because many of its control characters differ from those used by the ATARI 825™ Printer.



If you are writing your own software for another printer, be sure to consult the printer manual to find out what software requirements must be met for satisfactory printer operation.

The task of interfacing different manufacturers' products is not simple. In fact, it can be extremely complex and frustrating. When at all possible, it is best to use the hardware combination recommended with any software package. Atari, Inc. provides complete systems of matched hardware and software that perform most common business or personal computing tasks. Using integrated packages such as these is the simplest way to satisfaction with your ATARI Home Computer.

The pin connection diagrams and signal definitions for the parallel and RS-232 interfaces are listed in the ATARI 850 Interface Module Operator's Manual which is included with the unit. The ATARI 400/800™ Technical Users Notes (part number CO16555) contains the diagrams and definitions for the ATARI Intelligent Serial I/O System. This manual is available from ATARI, Inc. Customer Service.

TRAPPING A CLOAD

Dear Editor:

I recently discovered something which might be of interest to ATARI CONNECTION™ readers. A favorite game cassette tape developed a "bad spot" from long use and perhaps a little abuse. Every time a CLOAD loading command was attempted, an error would occur and prevent the loading. The following two-line program instruction allowed the tape to be read and re-recorded on new tape:

```
10 TRAP 20:CLOAD
20 TRAP 4000:GO TO 10
```

The first line sets the "trap" so the read error does not stop the CLOAD loading instruction. The second line resets the trap and continues the program.

So far, I haven't found an error in the program as a result of the bad spot, but I suspect that some day it will show up. C.L. Hosick, Placentia, CA

You discovered a problem that can occasionally occur when using cassette recorded computer programs. Sometimes through "abuse", as you suggested, or manufacturing error, the tape leader at the beginning of the program becomes stretched or is just too long. The computer grows impatient waiting for this extra long leader to deliver the program information and shuts down. Your solution to this problem is clever and works by making the computer wait a bit longer for the information. This problem can also be fixed by winding the cassette's take-up reel a few turns forward, but not too far or you'll miss the beginning of the program. However, you can't fix a "bad spot" on a cassette tape or diskette for that matter. A bad spot is an electro-mechanical problem on the recording surface itself and unfortunately the information has been destroyed or is inaccessible.

Editor, THE ATARI CONNECTION

COMPUTERESE DICTIONARY

Interface — A device designed to pass information between the separate parts of a computer system.

Serial — A method of sending data one bit at a time. Imagine the eight bits of a computer word travelling single file.

Parallel — A method of sending all eight bits of a computer word at once. Imagine them marching eight abreast.

Intelligent Serial Interface — The serial interface used by the ATARI Computer to connect your personal computer to the ATARI 810™ Disk Drive, ATARI 410™ Program Recorder or other "Intelligent" devices. This interface requires that a device be capable of recognizing an identification code to let it know when to operate.

Modem — A MODulator/DEMulator device capable of sending data over telephone lines by converting the bits to sound or converting sound to bits.

Hardware — The electronic circuitry or machinery of a computer system.

Software — The programs required to make the physical machinery of a computer operate.

Pokey — The PORT KEYboard control integrated circuit in your ATARI Home Computer.

CTIA — The Computer Television Interface Adapted integrated circuit in your ATARI Home Computer.

Operating System (OS) — The program in your ATARI Home Computer that makes it possible for you to load and run program cartridges and tapes.

Disk Operating System (DOS) — The operating system recorded on a diskette that makes it possible to load and run programs from an ATARI 810 Disk Drive.

GETTING ACQUAINTED

MEET ATARI® COMPUTER OWNERS AND JOIN AN ATARI® COMPUTER USERS' GROUP

An ATARI Users' Group is a great way to meet fellow owners of ATARI Home Computers. The following list is divided into four national regions. Find the Users' Group closest to you, call or write them and you'll soon be sharing information and helpful suggestions for using your ATARI Computer. (All listings as of August 1, 1981)

NORTHEAST REGION

CONNECTICUT

Atari Computer Users' of Southern Connecticut
Bryan Lockwood, President
112 Hawthorne Dr.
Fairfield, CT
(203) 372-8932

MARYLAND

Arinc Atari Computer Club
Bruce Morgenstern,
President
2551 Riva Road
Annapolis, MD 21401
(301) 266-4735

Atari Baltimore Area Computer Users' Society

Cam Whetstone, President
c/o Program Store
6634 Security Blvd.
Baltimore, MD 21207
(301) 298-3733 (W)
(301) 486-2609 (H)
(301) 944-0200 (Store)

Atari Subsig

Raymond Tillman,
President
1323 Hallock Dr.
Odenton, MD 21113
(301) 621-7391



MASSACHUSETTS

Boston Atari Computer Users' Group
Sheldon Buck, Coordinator
Three Center Plaza
Boston, MA 02108
(617) 367-8080

Atari Computer Users' Club

Mike Deschenes, President
565 Main Street
Cherry Valley, MA 01611

NEW JERSEY

Micro of Monmouth and Middlesex Computer Club, Atari Computer Group
Barry S. Joseph, Librarian
10 Sherwood Rd.
Englishton, NJ 07726

Jersey ATARI Computer Group

Dick Kushner, President
58 Dewey Avenue
High Bridge, NJ 08829
(201) 582-4794

Bergan County Atari Computer Users' Group

David Geller, President
761 Wendel Pl.
Teaneck, NJ 07666
(201) 692-1669

NEW YORK

A.C.E. of Syracuse

Tom Karkowski, President
5728 Paisley Place
E. Syracuse, NY 13057
(315) 656-2228

Computer Club of the Islips

Gregg Beasley, President
15 Cardinal Lane
East Islip, NY 11730

Nassau/Suffolk Atari Computer Users' Group

Lee Jacknow, President
33 Old East Neck Rd.
Melville, NY 11749
(516) 549-9141

Microage Atari Computer Users' Group

Neal Eckhart
56 High Manor Drive
Henriette, NY 14467
(716) 454-1700 (W)
(716) 359-2672 (H)

Greater New York Atari Computer Users' Group

Louis Plaut, President
c/o Discount Computer
Systems
Div. of Decorators Alley, LTD.
20 Lumber Road
Roslyn, NY 11576
(516) 484-9548

PENNSYLVANIA

John Nolan
#1 Mercer St.
War Minister, PA 18974
(215) 441-5239

Pittsburgh Atari Computer Enthusiasts

Ronald J. Quinlan,
President
466 Rosewood Drive
Pittsburgh, PA 15236
(412) 655-3046

Burkes/Reading Area Computer Enthusiasts

Leo Hood, President
Contact: Paul Adams
Box 210A, RD 4
Reading, PA 19606
(215) 929-2637 After 4:00
EST

VIRGINIA

Tom Bartelt, President
c/o Warner Amex Cable of
Reston
P.O. Box 2400
Reston, VA 22090
(703) 471-1924

WASHINGTON D.C.

**Federal Employees Atari
Computer Users' Group**
Frank Hubbard, President
Rm. 1240
National Science Foundation
Washington, D.C. 20550
(202) 357-7829

SOUTHEAST REGION

FLORIDA

Gainesville Independent Micro Users' Group

Bill Wagner
1510 NW 35th Terrace
Gainesville, FL 32601
(904) 378-0192 Bill
Brachhold
Randal Gibson
812 West River Drive
Tampa, FL 33617
(813) 988-4503

GETTING ACQUAINTED

LOUISIANA

The New Orleans Atari Computer Users' Group

Paul Strauss, President
8223 Plum St.
New Orleans, LA 70118
(504) 861-4167

Baton Rouge Atari Computer Users' Group

Stanley Brohn, President
Computer Electronics
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Jim Simpson
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GETTING ACQUAINTED

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sections every month! We've provided the following list of articles to help you locate additional information about your ATARI Computer.

Byte—July 1981

"The Atari Assembler/Editor", Mark Pelcarski, p. 174

Compute—April 1981

"Super Cube", Steve Steinberg, p. 92

"Printing Characters In Mixed Atari Graphics Modes", Craig Patchett, p. 95

"Invaders From Outer Space", David H. Markley, p. 97

"Unleash The Power of Your Atari CPU", Ed Stewart, p. 102

"String Arrays in Atari BASIC", Charles Brannon, p. 103

"Atari Super Breakout", Robert Baker, p. 105

"Speeding Up The Player-Missile Demo", Larry Isaacs, p. 107

Compute—June 1981

"Plotting In Atari BASIC", N.L. Wheeler, p. 68

"Mixing Atari Graphics Modes 0 and 8", Douglas Crockford, p. 72

"An Atari Disassembler and Memory Lister", Charles Fortner, p. 78

"Computerized Greeting Cards For the Atari Computer", John Victor, p. 82

"Color Burst for Atari", Robert Blacka, p. 86

"Binary/Decimal Conversions For Atari", Jerry White, p. 88

Creative Computing—May 1981

"Atari in Stereo", p. 210

"Disk Menus", p. 211

"Cheap and Simple Word Processing Program", p. 211

Creative Computing - July 1981

"Atari Graphics Unveiled", David and Sandy Small, p. 172

"What Makes Atari Computers Special?", George Blank, p. 204

Interface Age - April 1981

"Personal Computers - Take Your Pick", Tom Fox, p. 46

"Sounds of the Atari . . . in BASIC Part II Color Graphics", Herb Moore, p. 50

Interface Age - August 1981

"Sound of Atari . . . in BASIC," Herb Moore, p. 54

Micro - April 1981

"Atari Error Messages", David Allen, p. 69

Micro - May 1981

"The Atari Dulcimer", Mike Dougherty, p. 59

Microcomputing - July 1981

"Atari's Assembler Editor", Robert Baker, p. 75

Personal Computer World - October 1980

"Atari 400 & 800 Benchmark", David Tebbutt, p. 63

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"Atari Model 800 Personal Computer", Carl Warren, p. 48

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