APX

M'GUINNESS

First Anniversary Edition

User-Written Programs for ATARI Home Computers

Contents

*Indicates trademark of Atari, Inc.
**Indicates trademark of The Soft Warehouse.

What is APX? Atari, Inc., created the ATARI Program Exchange (APX) to distribute user-written software for ATARI Home Computers. Our goal is to increase the usefulness of ATARI Computers by building a library of high-quality, imaginative software appealing to users of various ages and with differing needs and interests.

We offer these products quickly and inexpensively by using simple packaging, relying on user instructions written by the program author to APX standards, and foregoing follow-up support. In many cases, the author provides follow-up support; the descriptions indicate when an author supports a program. The program descriptions include both a program's strengths and its limitations, so you know what to expect. APX also carries publications and a small amount of hard-to-find hardware for advanced hobbyists.

The APX catalog. Our quarterly catalog lists the products currently available through APX. You'll automatically receive future issues of this catalog if you've sent in your warranty card for your ATARI Home Computer. All the items in the catalog are available by mail or by toll-free phone order. In addition, many ATARI Computer retailers carry APX software. Before ordering, please read all the ordering information elsewhere in this catalog.

Program descriptions. The descriptions and review comments reflect the programs as of the date the catalog went to press. In some cases, authors have improved their programs so that the product shipped differs from that described. However, the computer memory requirement never increases (although it may decrease) and any changes will enhance the products.

Symbols used in program descriptions. A "NEW" symbol appears next to the title of programs new to this issue. Prize-winning programs display a ribbon showing the prize won and the contest quarter. The "Premium — ATARI Staff" ribbon identifies exceptional programs written by ATARI staff members, who aren't eligible for the contests.

How to submit programs to APX. We'd like the opportunity to look at well-written programs you've created for ATARI Home Computers. You'll receive a quarterly payment for sales of your programs through APX. For details, call our toll-free number, 800/538-1862 (or 800/672-1850 for calls within California) and request an APX Program Submission Packet.
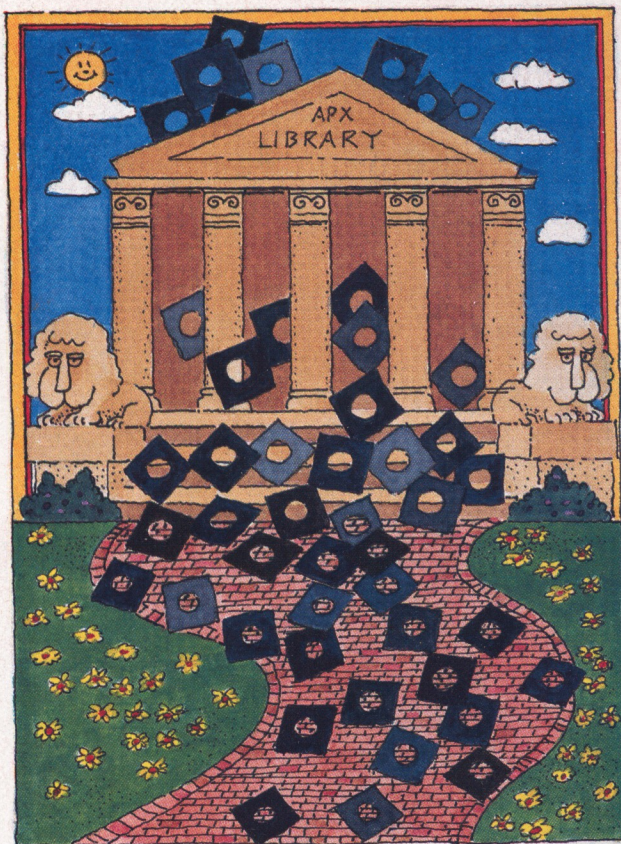
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ATARI 400™ Home Computer
ATARI 800™ Home Computer
ATARI 410™ Program Recorder
ATARI 810™ Disk Drive
ATARI 820™ 40-Column Printer
ATARI 822™ Thermal Printer
ATARI 825™ 80-Column Printer
ATARI 830™ Acoustic Modem
ATARI 850™ Interface Module

a s we started working on our first anniversary issue, we thought back on our accomplishments to date. We hope you're as impressed and excited as we are about the quantity and quality of new programs we've made available for ATARI Home Computer System owners. We've discovered more than 80 talented program authors, and this edition of the catalog contains 133 programs!

APX sales are booming. To keep up with demand, we've added a second order processing shift. A major reason for the increase in sales is the many ATARI Home Computer retailers who are now carrying a wide selection of APX programs, and they're having to replenish their supplies to meet the needs of their customers. We're now also filling retailer orders internationally, so ATARI Home Computer owners everywhere can obtain APX programs. All this activity tells us we're successfully meeting the need for programs of all kinds for ATARI Home Computers.

We're also pleased to have attracted some excellent programs that we've made available through APX, but that, with some enhancements, have been or are now in the process of being added to the main ATARI product line. CAVERNS OF MARS is our first example; look for others later this year. We're delighted to be able to offer ATARI Home Computer owners exceptional programs, and also to reward our users with payments and awards for their outstanding programming efforts.

Our spring contest winners

We use the quarterly contest not only to select our winners but also to show off some of our outstanding new contributions to other Atari staff members. We're starting to attract quite a crowd at these events because of the quality of programs coming into APX.

The *Consumer* category, which includes Entertainment and Personal Interest & Development, was an especially close contest this quarter. Douglas Crockford of Irvine, California, captured first place for Galahad and the Holy Grail. Appealing to both children and adults, this 96-room, graphic Adventure game is wonderfully imaginative. It'll keep you entertained for hours at a time. Second place goes to Monty Webb of Richardson, Texas, for Seven Card Stud, a game having some of the best card graphics we've seen. And third prize goes to Bill Williams of Clarkston, Michigan for Salmon Run, an enchanting arcade-style game about Sam the Salmon's struggle upstream to spawn.
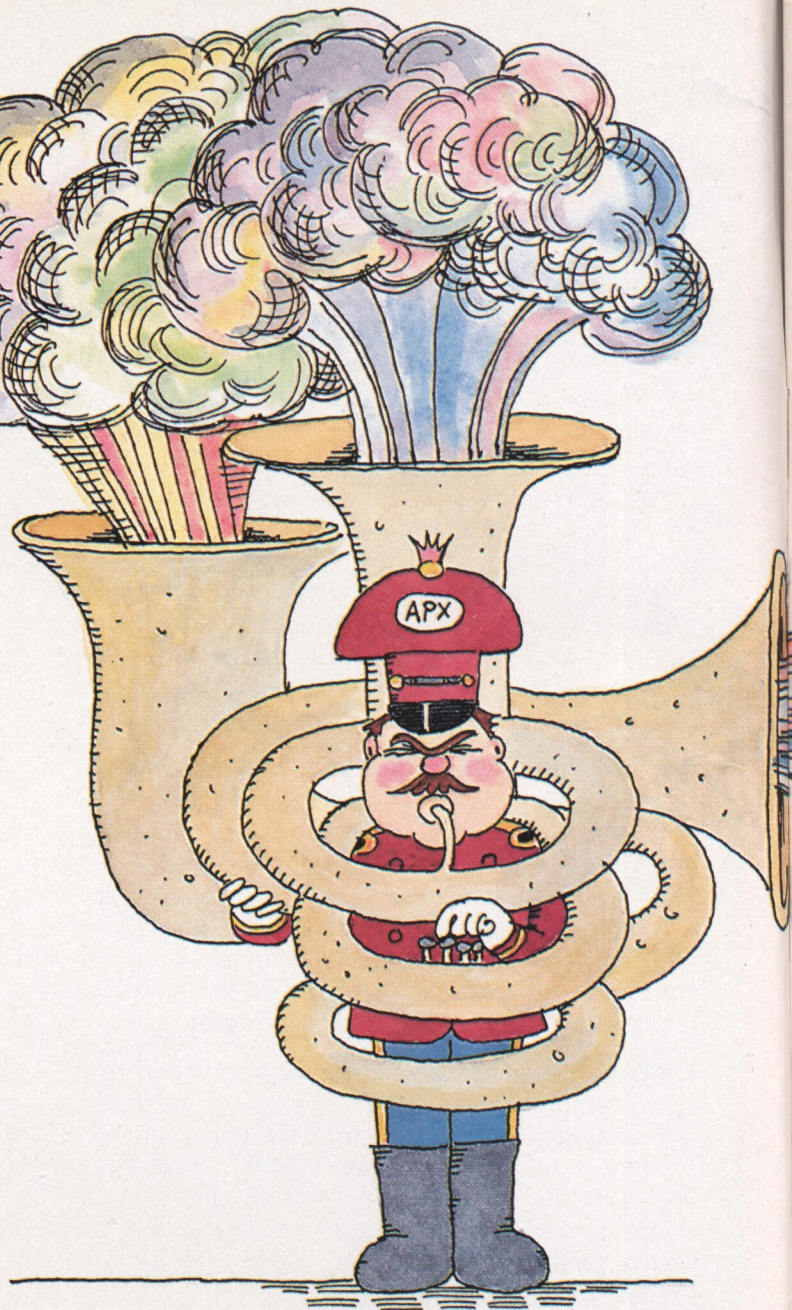
In the *Education* category, Michael Crick, a professional programmer consultant who studied neurophysiology at Harvard Medical School, won first prize for Frogmaster. We were hard pressed to decide in which category to place Frogmaster, for it's fascinating to play and yet quite educational. Using principles of animal learning known as operant conditioning, Frogmaster is a fast-moving, high-concentration, competitive game. Michael has been developing the concept over the last fif-

prizes only. Paul Abell of Lexington, Kentucky, won first place for Player Generator, an interesting and easy-to-use program for designing the ATARI Computer's system of players that move in the foreground without disturbing elements in the background. Second place goes to RLM Microsystems of Freehold, New Jersey, for Utility Diskette II, a useful set of five housekeeping and programming routines.

teen years. Second place goes to Dan Rohr of Los Olivos, California, for Three R Math System, a comprehensive math drill package that teachers will welcome wholeheartedly because it's so fast and easy to use. The Soft Warehouse, located in Honolulu, captured third place for Algicalc™, a handy tool for doing symbolic algebra and calculus useful for students and professionals alike.

In the *Business & Professional Applications/ Personal Finance & Record Keeping* category, James Burley of Stamford, Connecticut, won first place for Data Base/Report System, a record keeping system that experienced data base users will appreciate because of its many features. Second and third prizes went to programs *everyone* can use — one for car record keeping and one for maintaining recipes. Jerry Falkenhan, a repeat APX winner from San Jose, California, won second prize for Family Vehicle Expense, a program that can track as many as six vehicles in many useful ways. Edward Lehmann of Washington, D.C., won third prize for Recipe Search 'n Save, which not only stores and prints out recipes as needed but even prints an itemized shopping list!

Only two entries qualified in the *System Software* category, and so we awarded first and second

APX products have a new look

As we grow, we're trying to improve APX products in every way. Besides continually working with our authors to improve their program contributions, we also consider our appearance, and we decided recently it was time for more improvement. APX products now come in a sturdy box, offering better protection during shipment and display on retailers' shelves. The boxes clearly indicate whether the program is on diskette or cassette. You can easily identify an APX box by our logo and bright color spectrum, the same elements that appear on our redesigned user instruction covers.

APX programs available through ATARI Home Computer retailers

Orders from ATARI Home Computer retailers continue to pour in, which means you can purchase many APX programs more quickly by visiting your local ATARI Home Computer retailer. If you're an ATARI Computer retailer who hasn't yet ordered APX software, call one of our toll-free numbers for information about retailer discounts.
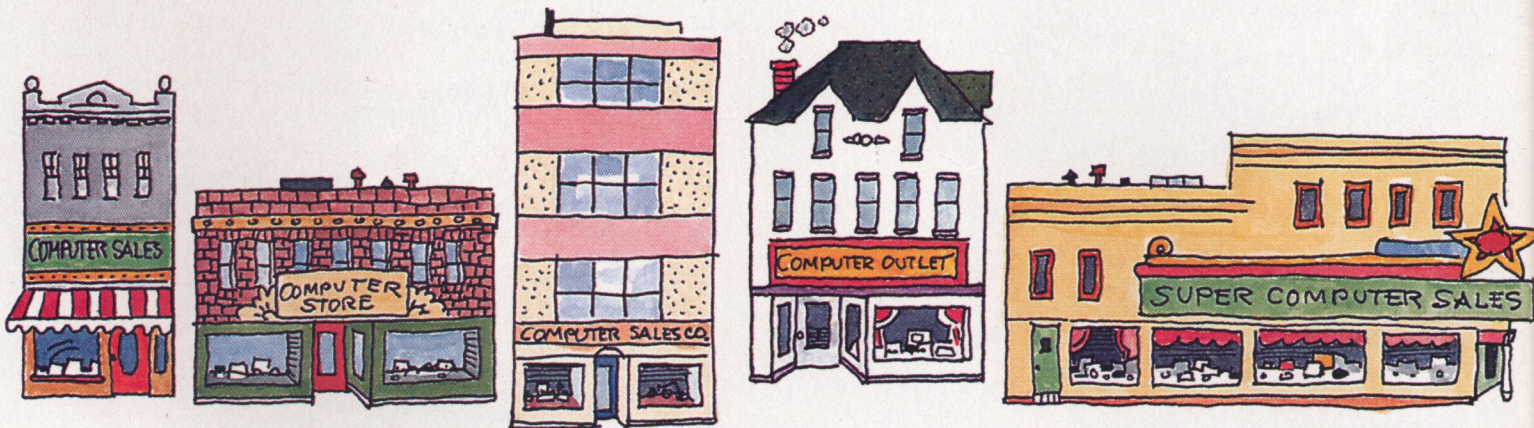
MECC programs now available through APX

Educators will be pleased to learn that the Minnesota Educational Computing Consortium (MECC) has arranged to distribute much of its large collection of outstanding educational software through APX. As we go to press, four diskettes are available. The complete collection will comprise many more diskettes.

Each diskette contains a variety of curriculum materials focusing on a particular subject and appropriate for a range of grade levels. For example, our first four diskettes contain programs covering elementary biology for upper elementary through junior high school levels; instructional computing demonstration programs to show the many uses to which computers can be put in education; metric and problem solving programs for grades two through six; and the first of a set of three diskettes covering music theory drills and practices. The individual program descriptions in the Education section describe the contents of each diskette more fully.
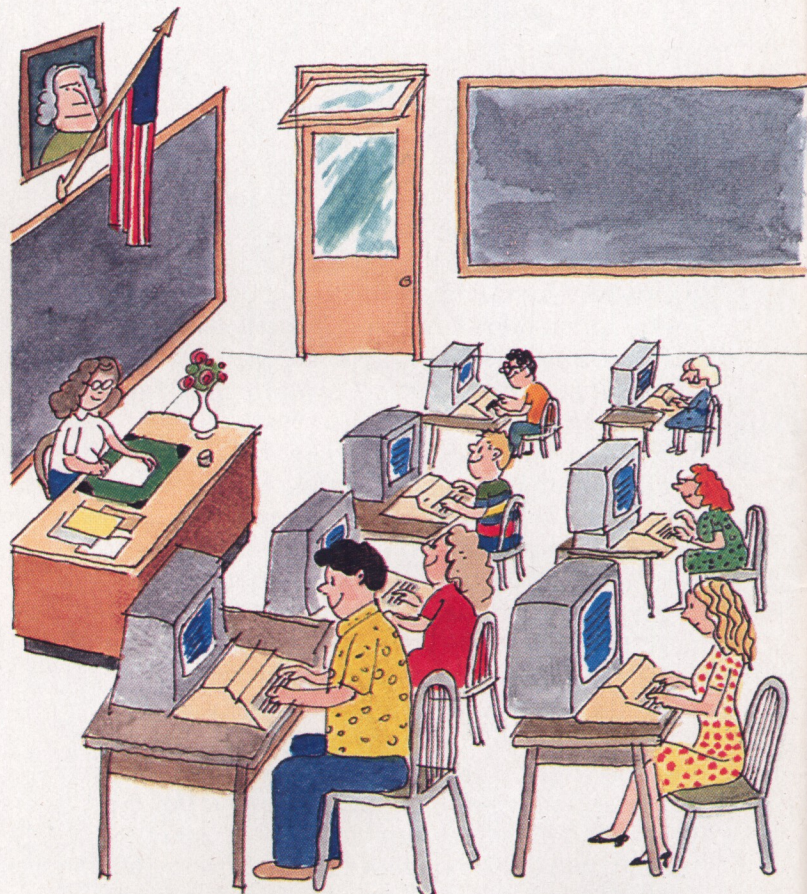
Next contest deadline is July 1

All programs accepted by APX between April 16 and July 1, 1982, automatically become contestants in our autumn judging. First, second, and third prize winners in each of four categories receive ATARI products. The first category, *Consumer*, has larger prize values, reflecting our commitment to the home computer user:

1 Consumer (Entertainment and Personal Interest and Development) prize values*

1st prize	$3,000
2nd prize	$2,000
3rd prize	$1,000

The other three categories:

2 Education

3 Business & Professional Applications/Personal Finance & Record Keeping

4 System Software

each have prize values* of

1st prize	$2,000
2nd prize	$1,500
3rd prize	$750

The closing date for eligibility for the 1982 grand prize — $25,000 in cash — is October 1, 1982. To request an APX Program Submission Packet, containing complete instructions for submitting programs, call our toll-free order numbers. This contest is void where prohibited by law. Programs submitted by ATARI employees or their families aren't eligible for these contests.

*Based on manufacturer's suggested retail prices.

Contest Rules
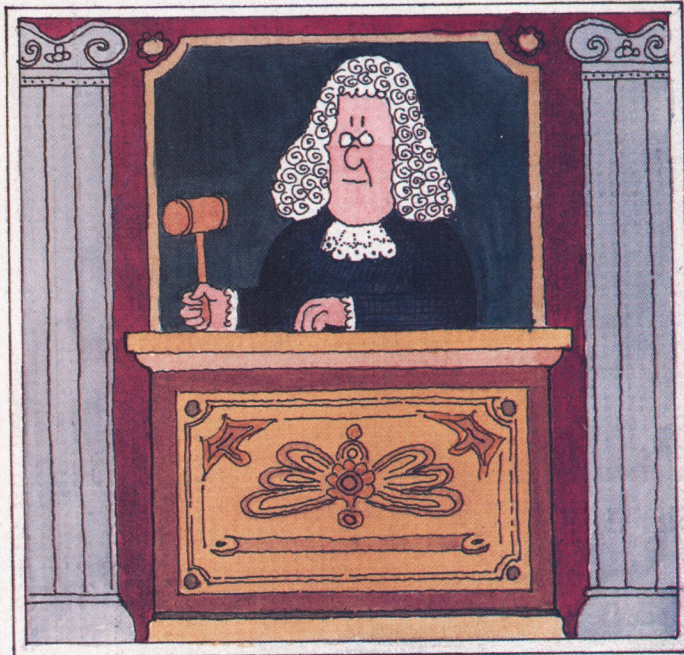
1. Only programs accepted by the ATARI Program Exchange are eligible for the contest.

2. A program is eligible for the prizes in the category in which it is accepted. ATARI determines this category.

3. A program is eligible for the quarterly prizes awarded in the quarter in which it is first accepted and for the grand prize of the contest year in which the quarter falls.

4. A program qualifies only once for a quarterly prize and once for a grand prize. Revisions and improvements do not qualify a program for another prize in this contest.

5. A program is judged on a variety of factors by a panel of judges selected by ATARI. The judges consider a program's:
   a. Human engineering
   b. Originality
   c. Ease of use
   d. Implementation
   e. Documentation
   f. Interest level

6. ATARI employees and their families are not eligible for the contest.

7. ATARI pays for shipping prizes anywhere within the United States. Foreign winners are responsible for any additional shipping charges.

8. The decisions of the judges are final.

PLEASE BEAR WITH US...

It has come to our attention that several APX programs are being copied and distributed or sold in violation of federal copyright laws. Where we can, we are taking steps to prevent this activity so that our program authors will receive the royalty payments to which they're entitled. One step we've initiated is to start copy protecting APX programs. Because we must study each program individually to apply the most appropriate protection method, we're experiencing some temporary delays in preparing our new programs for distribution. Once we establish the best copy protection method for each kind of program we carry, we anticipate returning to our usual pattern of having all programs listed in the catalog available upon the catalog's publication. Meanwhile, we apologize for this temporary inconvenience and ask for your patience and understanding. If we can protect our authors' efforts, then we can continue to attract and offer imaginative, high-quality programs for your enjoyment!

What's available. All the following programs, listed by the last three digits of their APX order number, are available for purchase at the time we went to press:

001-077	102	113
079-083	104	117
086-095	106-107	124-125
099-100	109-110	

For the latest information on the availability of any programs not included on this list, call us on one of our toll-free APX numbers:

800/538-1862 for calls outside California
800/672-1850 for calls within California

How we'll handle your mail orders. If you want us to hold your order until we can fill it completely, please write on your order form "SEND IN ONE SHIPMENT." Otherwise, we'll send what is currently available at the time we receive your order and issue a refund for programs ordered that are not yet available.

Price changes in this catalog. This edition of the APX Product Catalog also contains some price changes. These prices are effective **June 7, 1982**. All orders received after that date will be returned if payment is insufficient.

Personal Finance & Record Keeping
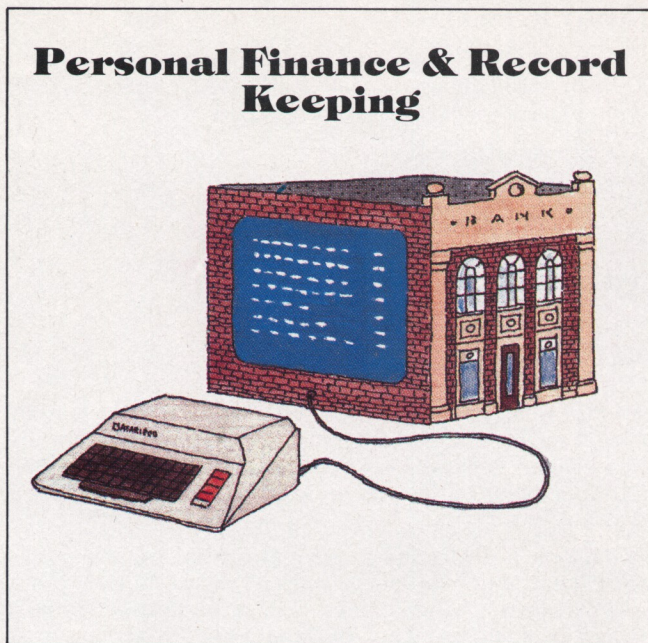
FAMILY VEHICLE EXPENSE
by Jerry Falkenhan

Recommended for ages 18 and up/Written in BASIC

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FAMILY VEHICLES COST

A - MONTHLY DATA
B - ATARI DOS
C - SETUP PROGRAM
D - LEAVE PROGRAM

WHICH ONE ( A-D )?

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JERRY FALKENHAN
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NEW

2nd Summer 1982

Today the rising cost of owning an automobile affects every family. You need to budget your fuel, insurance, repairs, and general maintenance. With FAMILY VEHICLE EXPENSE, you can keep track of six vehicles in nine expense categories over the course of twelve months. You can also calculate and store the depreciation, loan or lease status, and license fees on your vehicles.

You use your own blank diskettes to store your data. The program uses a series of menus to review, enter, change, or delete information on one or all of your cars in any month. This automatically loading program lets you keep records on payments with ten credit cards. It converts liters to gallons automatically and lets you record twelve fuel entries per vehicle per month. If you enter your odometer readings for at least two fill-ups, FAMILY VEHICLE EXPENSE automatically calculates your cost per mile and mile per gallon for each vehicle for each month. You can use the print option at any time to create copies of your entries or to obtain summary reports. You can even watch to see when your cars need a tune-up.

The author invites written questions and comments.

REVIEW COMMENTS
Everyone will find this very user-friendly program helpful.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
DOS 2-formatted diskette(s) for storing data

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	48K	$22.95	APX-20128

FAMILY CASH FLOW, REV. 2
by Jerry Falkenhan

Recommended for ages 18 and up/Written in BASIC
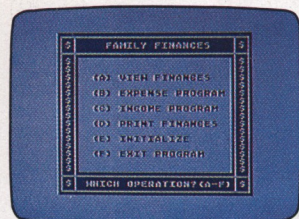
Have you ever wondered where your money is going? How about the time you could have written off more on your taxes, if only you'd had records from January to see what you had purchased? Can you remember your gas and electricity expenses for February? Perhaps you're wondering whether you're making enough each month to afford payments on a new car. With FAMILY CASH FLOW, you can answer all these questions and many more. This friendly, easy-to-use program can track as many as 125 expense entries in 13 categories and 25 income entries in 5 categories each month. It accommodates households with annual incomes and expenses up to $999,999.99.

You select and perform activities in this automatically loaded program through a series of menus and prompts. You use one option to display an overview of monthly income, expenses, and variance between the two items, along with totals for the year. You use other options to add, modify, or delete expense and income entries (entries can be up to 15 characters long) in any budget category for any month. The program comes with suggested budget categories for both income and expenses. However, you can change these categories to meet your own needs. Categories can be up to 15 characters long.

You can display on your TV screen or print two kinds of reports. Yearly and monthly summary reports show total income or expense by budget category. Monthly detail reports list the individual entries for each budget category under either income or expense. Revision 2 adds two new screens for viewing accumulated totals for income and expenses.

The author invites written questions and comments.

REVIEW COMMENTS
This program is easy to understand. The error checking and human engineering are very good. The program has many printing options, making it especially useful.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$22.95	APX-20080

Personal Finance & Record Keeping

FAMILY BUDGET
by Jerry Falkenhan

Recommended for ages 17 and up/Written in BASIC
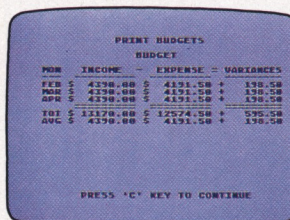
Did this winter's utility bills send your finances into a tailspin? If so, it might be time for FAMILY BUDGET, a program that uses income and expense information from FAMILY CASH FLOW to help you set up a design for practical financial planning.

This automatically loaded program uses a series of menus as a guide. From the main menu, you can review already established budgets, change entries, print a budget, or set up a budget for future use. Each of these options leads you to an in-depth analysis of your month-by-month income and expenditures. For example, if you select the Review Budgets option, you may see yearly or monthly displays of one or all of your entries. You review, among others, budgeted expense vs. actual expense in any or all months. You can make changes in budgeted amounts and record them on your diskette. As in FAMILY CASH FLOW, FAMILY BUDGET lets you enter income and expense budget amounts totaling $999,999.99. FAMILY BUDGET uses your category names already established by FAMILY CASH FLOW.

After you enter at least two months of information, you're ready to set up a budget. You fill in budget data using your actual expenses as a guide. A built-in averaging function provides information for months with no available data. FAMILY BUDGET then displays a month-by-month and category-by-category projection with a prompt asking if the information is correct. You check your figures and correct them if necessary.

FAMILY BUDGET provides a practical means for arranging your finances. You may review and revise your set of budgets at any time. Maybe your income tripled last year, requiring a change in investments!

The author invites written questions and comments.

REVIEW COMMENTS
FAMILY BUDGET is an excellent complement to FAMILY CASH FLOW. The screen displays seen during program loading are outstanding examples of "user friendliness" in a consumer-oriented program.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
FAMILY CASH FLOW (APX-20080)

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$22.95	APX-20108

DATA MANAGEMENT SYSTEM
by Ronald & Lynn Marcuse

Recommended for ages 15 and up/Written in BASIC and machine language
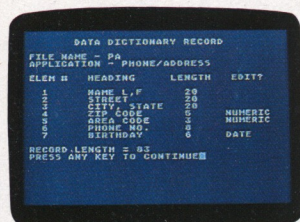
Here's a data management system ideally suited for short records, such as record, tape, and book catalogs; telephone and address directories; and inventories. Menus and prompts guide you through all input activity. First, you define the characteristics of your file. You enter the file name, the number of fields (up to 8), the field headings (up to 11 characters), maximum field value (up to 30 characters), and the editing desired on a field's value (none, numeric, date, or dollar edits). You can store records as large as 140 characters. From then on, you can add, update, and remove records. You can search your file on any field using whole or partial search keys. Valid search terms are less than or equal to, equal to, greater than or equal to, and range. You can display your search results on the video screen or print them on your printer (up to 130 characters), specifying either complete or partial records. Finally, you can sort your file on any field, specifying either ascending or descending ASCII values for characters in that field.

The authors invite questions and comments by telephone.

REVIEW COMMENTS
For a small data management system, this program is well designed and easy to use. Files remain on disk (except during sorts), making possible a fairly large base. The assembly language sort is fast. You can search on only one key at a time.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI 825 80-Column Printer or Epson MX-80 Printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$22.95	APX-20059

WEEKLY PLANNER
by Ronald and Lynn Marcuse

Recommended for teenagers-adults/Written in BASIC and machine language
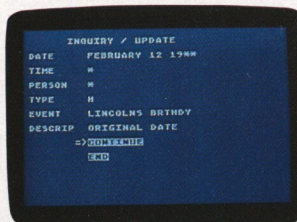
Your accountant wasn't too thrilled when you showed up at 2 p.m. for your 1 p.m. conference yesterday (at least you got the day right). You need help! With WEEKLY PLANNER you can store important dates, appointments, and other time-related events for any period between 1981 and 1999.

For each event, you create a record containing information such as the year, month, time, person, and event. Many people can store their records in one file, yet print calendars and appointment listings specific to one person. For recurring events, such as monthly mortgage payments and holidays, you can use the "wild card" feature to enter your information once and have the system automatically record the event for the appropriate days, months, person, and so on. You can locate records by year, month, day, time, or person. For example, you can find all the records for December for your son. You can then display abbreviated versions of as many as 20 records at a time or complete records, one at a time. You can also print your results as appointment listings (three days per page) or as a monthly calendar. You can enter as many events per day as you wish and display them on your TV screen; however, the program prints only the first four events per day on the formatted calendar. You can revise, add, and remove records as needed. How many records you can store depends on how much free memory your system has. A system with 32K of RAM can store 420 records; one with 48K of RAM can handle 575 records.

The authors invite questions and comments by mail and telephone.

REVIEW COMMENTS
The human engineering in this program is excellent. The wild card for searches is very powerful.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

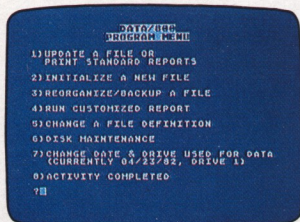### OPTIONAL
ATARI 825 80-Column Printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$22.95	APX-20079

DATA BASE/REPORT SYSTEM
by James W. Burley

Recommended for experienced data base users/Written in BASIC and machine language

If you've ever used a data base manager on a large computer system, you'll appreciate the many features of DATA BASE/REPORT SYSTEM. This general-purpose system for ATARI 800 Home Computers creates and maintains records having up to ten units of information ("fields"), with a maximum field length of 100 characters and a maximum record length of 255 characters. The total number of records you can store varies with record key size (a key being the unique identifier for each record) and available computer memory. Generally, you can store about 1300 records having a five-character key on a system with 40K of memory.

You use the main program to create a new file; add, update, and remove records; sort the file; and print reports. Auxiliary programs reorganize the data files to free unused diskette space; redefine the file by adding fields, modifying field sizes, or changing field headings; delete old files; and print special reports.

Search criteria for locating records include "equal to," "equal to or less than," "equal to or greater than," "between . . . and . . .," and "all." You can apply your specified search criterion to one or more fields, and you can search on partial field values. The system produces two standard reports. Vertical reports use no field headings, and each field in a record prints on a separate line. Horizontal reports use headings, and fields print across the page for each record. The report writer lets you modify the order in which fields print, sum up numeric fields, and find your records using other than normal keys. These and other features make DATA BASE/REPORT SYSTEM a really versatile data base management system for your ATARI 800 Home Computer.

REVIEW COMMENTS
You need some data base knowledge to use the program; it's a bit complex, but all the features are worthwhile. The print formatting and file reorganization features are very useful. The sort and search routines, written in assembly language, work quickly.

The user manual is VERY GOOD for experienced data base users.

REQUIRES
ATARI BASIC Language Cartridge
DOS 2-formatted diskette(s) for data

OPTIONAL
ATARI 825 80-Column Printer or Epson printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$22.95	APX-20134

Personal Finance & Record Keeping

RECIPE SEARCH 'N SAVE
by Edward Lehmann

Recommended for ages 14 and up/Written in BASIC
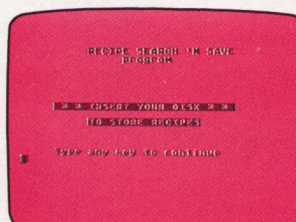
How can you come home from work, clean the house, feed the kids, dog, bird, and cat, and still have time to plan an elegant meal for guests? We can't provide the total solution, but here's a program that will get you started. With RECIPE SEARCH 'N SAVE, you can quickly find a recipe that uses the ingredients on hand in your refrigerator. You won't have a cleaner house or a well-fed cat, but you will have your meal planning under control.

With RECIPE SEARCH 'N SAVE, you can:
- store up to 84 recipes per diskette (Use your own blank diskettes for storage.)
- search for recipes using up to two ingredient names and two recipe classifications
- store up to 26 recipe classifications and 8 cookbook titles
- print recipes
- print an alphabetized list of your recipes
- edit recipes
- print an alphabetized shopping list for up to ten selected recipes

A series of program menus guides you through the activities. For each new recipe, you can enter a new recipe name, cookbook title and page number, up to ten ingredients, recipe instructions, and up to four recipe classifications. What a simple way to organize your kitchen and plan your food budget!

The author invites questions by telephone and mail.

REVIEW COMMENTS
The shopping list feature is a great idea. The search capabilities are comprehensive. The program could be easier to use. Program menus are redundant and the prompts sometimes are inconsistent.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
DOS 2-formatted diskette(s) for storing records

OPTIONAL
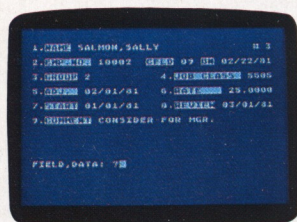ATARI 825 80-Column Printer or Epson MX-80 Printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$22.95	APX-20114

THE COMPUTERIZED CARD FILE
by John R. Powers, III

Recommended for teenagers-adults/Written in BASIC

This is a very basic system for storing, updating, and retrieving information organized like index cards. You customize the program by modifying BASIC statements that define the data fields in your cards and create a display format and headings for these cards. The program can handle any card size, number of fields, and field arrangement. It's also flexible as to the size and location of a card's access key and you can search with partial keys. The binary search used to store and retrieve cards results in very fast response time. You use a menu to select these functions:

FETCH DATA (to load stored data file into RAM)

SAVE DATA (to store data file on diskette)

CREATE RECORDS (to enter new cards)

DELETE RECORDS (to remove stored cards)

EDIT RECORDS (to update fields in stored cards)

SCAN RECORDS (to page through the data file)

FILE DESCRIPTION (to see the file's properties)

REVIEW COMMENTS
You must know enough BASIC to lay out a card's fields, a display format, and display labels via string and numeric variables, constants, and DATA statements, using the formats and formulae in the program's listing. A sample card file helps illustrate how to go about this task.

This is a very primitive card filing system. For example, you can search only on the record's key, which you must define before entering any data, and you can update only one card at a time.

This program requires all cards to be in RAM at once.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$15.95	APX-20014

FINANCIAL ASSET MANAGEMENT SYSTEM
by Robert A. Waldman

Recommended for ages 16 and up/Written in BASIC
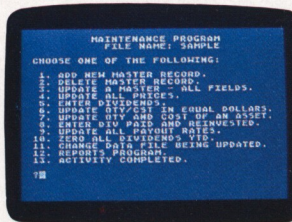
Are you looking for a systematic way to organize all the niggling details involved in keeping track of your financial assets? No sooner said than done! The FINANCIAL ASSET MANAGEMENT SYSTEM helps you evaluate the status of all your holdings by creating records for each asset and producing printed financial reports. Your assets can be of any type, such as stocks, bonds, real estate, collectibles, bank accounts, funds, and certificates. Using a series of menus, you can track as many as 99 different assets per file, and you can create as many files as you need. Each asset can be as large as $10 million. The system values your portfolio and prints three kinds of reports. One kind orders all your assets in a file alphabetically and lists each asset's yield, profit, and annual payout, among other information. This report also prints subtotals by asset type. The second kind sorts all your assets in a file into five different lists: by value, profit, payout, yield, and percent profit. The third report tabulates all your dividends and interest paid on a year-to-date (YTD) basis. And for your convenience, you can also print data input forms to record information manually until you're ready to update your computer files.

The author invites written questions and comments.

REVIEW COMMENTS
This is a comprehensive financial record keeper. However, you must do your own analysis. The printed reports are very well designed. Clearly, a lot of work went into this program, and the results are very professional.

You need to use the manual along with the program, especially the first few times. The user manual is EXCELLENT.

REQUIRES
ATARI BASIC Language Cartridge
ATARI 825 80-Column Printer only

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$29.95	APX-20042

BOWLER'S DATABASE, REV. 2
by Jerry White

Recommended for bowlers/Written in BASIC

BOWLER'S DATABASE is a very friendly, easy-to-use program for keeping track of your bowling scores throughout the season. You can create as many files as you need to accommodate each bowler in your family or each member of your league. A file can hold scores for 99 (or more) weeks. In this automatically loaded program, you enter your weekly scores for your first, second, and third games. You can correct any errors later on, should you need to, and you can enter scores for more than one week at a time. You save your files on either cassette or diskette. To see how you're doing, you request summary and detailed reports, which automatically display on your TV screen but which you can also print, if you like. The summary report contains your highest, lowest, and average scores bowled in the first, second, and third games. It also shows your highest, lowest, and average three-game series and your overall game average. The detailed report lists all your game and individual series totals by week.

BOWLER'S DATABASE gives you permanent, detailed records of your bowling performance. It makes comparisons from one season to the next, or from one league to another, a simple task! Revision 2 lets you store scores greater than 255, and it contains a minor display change.

The author invites written questions and comments.

REVIEW COMMENTS
This program's design is excellent. The opening is entertaining.

The calculations are simple, but the program is useful for those tracking their scores over an extended period of time.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI printer or equivalent printer

### ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10091
Diskette (810)	24K	$15.95	APX-20091

NEWSPAPER ROUTE MANAGEMENT PROGRAM
by John R. Powers, III

Recommended for preteenagers-adults/Written in BASIC
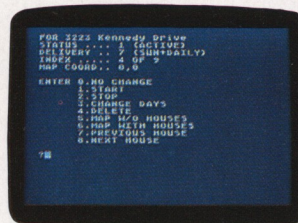
This program can help you manage a newspaper route by simplifying your record-keeping chores and helping plan your route. It supports daily or Sunday routes of as many as 100 subscriptions. You can enter, update, and delete customers' addresses and class of service to reflect subscription changes. And you can locate your customers on a computer-displayed map to help you plan your route. You can create and display a variety of customer lists alphabetized by street address. If you have a printer attached, you can also print this list, as well as print payment collection lists and customer receipts.

REVIEW COMMENTS
This program requires knowledge of BASIC. You'll need to modify the BASIC code to tailor such elements as street names and map coordinates to your route. A preteenage user might need an adult's help with this initial program coding. With this done, the program is easy to use, one reason being its multilevel menu approach.

Program limitations are four-digit addresses, 100 customer records, and 12 street names.

To make full use of this program, you need a printer.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
ATARI Joystick Controller

OPTIONAL
ATARI 825 80-Column Printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$22.95	APX-20013

Business & Professional Applications

CALCULATOR

★ **NEW**

Recommended for ages 15 and up/Written in machine language

Now you can use the best qualities of a calculator on your ATARI Home Computer. CALCULATOR contains 145 functions ranging from simple arithmetic operations to programming commands that let you write your own programs. You can also work complex conversions and watch the stack and memory displays.

Once CALCULATOR automatically loads into computer memory, you can choose five basic categories of operations: conversions, fundamental functions, algebraic and trigonometric functions, statistical functions, and financial functions. After you've finished your calculations, you can print your results. Other commands let you store and retrieve programs as well as data.

The CALCULATOR screen consists of several areas, each represented by a different color. The stack and memory displays share the center of the screen. Along the bottom of the screen is a prompt line, the space for your entries. You can store these entries in the calculator's memory. A scroll area above the prompt line displays your last seven entries. The CALCULATOR printer option can print everything displayed in the scroll area.

REVIEW COMMENTS
This program is comprehensive, but complex to use. CALCULATOR is programmable, making it useful for repetitive calculations.

The user manual includes practical examples for ham radio operators and interest calculations for long-term purchases. Errata sheets list the manual's many mistakes.

REQUIRES
No required accessories

OPTIONAL
An ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$29.95	APX-20130

RPN CALCULATOR SIMULATOR
by John Crane

Recommended for ages 12 and up/Written in BASIC
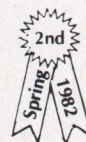
Your kid has made off with your Hewlett-Packard calculator to get through her trig test. You're going through RPN withdrawal! The RPN CALCULATOR SIMULATOR can turn your ATARI Home Computer into an RPN calculator, so you can perform simple or complex mathematical operations without having to write a BASIC program.

Reverse Polish Notation (RPN) is a method for doing mathematical operations based on a stack organization. For example, to add 4 and 5 on an RPN calculator, you press the 4 key, the ENTER key, and the 5 key. Then you indicate the kind of operation you want by pressing the ADD key. Many people tend to prefer this approach over that of using parentheses for doing complex calculations.

Using RPN CALCULATOR is easy. You enter the value or values you want to work with and the command for the operation you want to perform. The results display in the appropriate stack and memory registers. The program's display screen contains four areas of information: (1) the stack of five registers; (2) the twenty memory registers; (3) command syntax reminders; and (4) the value and command input area. You can use RPN CALCULATOR to perform functions using only one value (for example, sine, cosine, and logarithms) and for those requiring two values (for example, addition and subtraction). You can obtain measurements in either radians or degrees. RPN CALCULATOR supports four kinds of calculator functions: (1) system comands, such as clearing registers, and printing register contents on the system printer; (2) stack operations such as rolling the stack up or down, and swapping the contents of any two registers; (3) mathematical functions such as arithmetic operations, logarithms, square roots, and trigonometric functions; and (4) some statistical operations, including arithmetic means and standard deviations.

The author invites written questions and comments.

REVIEW COMMENTS
The statistical capabilities are very useful. Programmability would be a welcome feature.

The user manual is GOOD for explaining how to operate the program. However, it doesn't discuss the advantages of RPN.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10105
Diskette (810)	24K	$22.95	APX-20105

15

TEXT FORMATTER (FORMS)
By Dale Yocum

Recommended for teenagers-adults, depending on text editor used
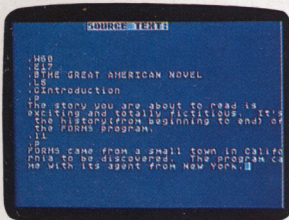
How often have you typed a report or letter and then wished you'd chosen a different layout? When were you last satisfied with your first draft? If you're still using a typewriter, revising your document means retyping your text. But with FORMS and a text editor you can change line spacing, line length, left-hand margin, paragraph indention, and more without re-keying your text. You set up the format by entering simple codes along with your text. For example, you enter ".C" before text you want to center. You use a text editor to type in your FORMS codes and text and to store your data file. You can use almost any editor that produces a text file on cassette or diskette, with or without line numbers, for example, the ATARI PROGRAM-TEXT EDITOR* (APX-20075) or the ATARI Assembler Editor Cartridge (CXL4003). When you're ready to print your text, you run the FORMS program, which asks whether you want to print your entire document (data file) or only selected pages — a convenience when you revise only one section or a few pages of a large document.

REVIEW COMMENTS
Anyone familiar with DEC's formatter, RUNOFF, or the University of Waterloo's formatter, SCRIPT, can easily master FORMS. Most APX documentation is formatted with FORMS.

Users accustomed to text formatters on larger systems won't be able to get as many special effects with FORMS. For example, FORMS doesn't right justify or easily create columnar text, and it has no hyphenation, indexing, or footnote capability. When used with the proportional character set, it produces a ragged right margin and columns misalign.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
A compatible text editor
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10002
Diskette (810)	24K	$22.95	APX-20002

*ATARI PROGRAM-TEXT EDITOR is a trademark of Atari, Inc.

DISKETTE MAILING LIST
by William Bartlett

Recommended for ages 16 and up/Written in BASIC and machine language

Here's a mailing list program that can handle junior's kindergarten class list, mom's client list, and dad's golf club membership list. And this program can accommodate their growing needs. The number of records a file can contain is limited only by available diskette space, not by computer memory, and you can store many different files on one diskette. DISKETTE MAILING LIST can handle very large records having as many as 127 units of information (called "fields"), with each unit as large as 120 characters.

You select program functions from menus. First you define the kinds of information you want to include in the records for a file, and then you add the records themselves. You can revise, add, and remove records as needed. You can sort and re-sort your records in a file by any combination of fields with a total length of up to 185 characters. And you can print some or all of your sorted records according to your specifications for which fields to print and their order. Each record prints on one line, which can be as wide as 132 columns. You can also create custom-tailored mailing labels accommodating single and multilabel forms. Labels can contain information from records and text you specify when you request the labels. How about adding seasonal messages to your labels? Users of the ATARI Mailing List (CX4104) can easily convert their cassette or diskette records with a transfer program included in DISKETTE MAILING LIST.

The author invites questions and comments by telephone.

REVIEW COMMENTS
The option of using as many as 127 fields extends this program beyond printing labels. You can use it for Christmas records, club memberships, and so on.

You need a printer to use DISKETTE MAILING LIST fully.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
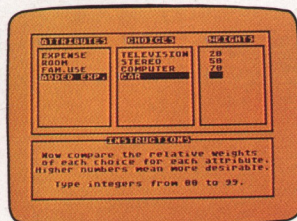
OPTIONAL
ATARI 825 80-Column Printer or equivalent

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	16K	$22.95	APX-20112

DECISION MAKER
by James L. Bruun

Recommended for ages 12 and up/Written in BASIC

Should we open a branch office in Tucson, Phoenix, or Flagstaff? Which meets my financial needs best — mutual funds, money market certificates, or real estate? Should I buy another disk drive for my system, a video tape recorder, or a new stereo? We're always faced with decisions! Big ones, small ones, in-between ones. Sometimes the answers are obvious, but many times they're not, especially when we have many choices and must consider several factors. The DECISION MAKER can help you with business and personal decisions involving as many as ten different choices and ten different factors. Via a series of prompted menus, you enter all the possible outcomes and the factors entering into the decision (e.g., expense and convenience). Then you weight each factor and evaluate how the factor measures up in each outcome. The program computes the best choice, based on the data you entered, and it displays a bar chart of all the choices.

The author invites written questions and comments.

REVIEW COMMENTS

This program is most useful for complex decisions. You must understand well the factors involved in choosing. The menus are clear and easy to use.

You can't edit data you've already entered.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	8K	$15.95	APX-10044
Diskette (810)	16K	$15.95	APX-20044

ENHANCEMENTS TO GRAPH IT*
by Howard D. Siebenrock

Recommended for ages 12 and up/Written in BASIC
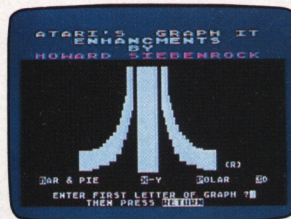
If you own the ATARI GRAPH IT program, you know you can create your own bar charts, pie graphs, two- and three-dimensional plots, and polar plots on your TV screen, and you can use your Joystick Controller to find values of specific points on the two- and three-dimensional plots. ENHANCEMENTS increases the usefulness of GRAPH IT. With ENHANCEMENTS you can save your work on diskette or cassette and later redisplay it. Thus, after spending hours creating plots and charts, you can redisplay them without waiting for them to plot again or without re-entering the data. ENHANCEMENTS also lets you select degrees or radians for plotting the trigonometric functions in the two- or three-dimensional plots, and the function you use displays below the plot.

Incorporating these features into GRAPH IT is simple. You merge programs from ENHANCEMENTS with the cassette GRAPH IT programs and then save the merged programs. From then on, you use these enhanced GRAPH IT programs as you would the original versions, except that you now have additional features readily available.

The author invites written questions and comments.

REVIEW COMMENTS

The menus are similar to those used in GRAPH IT.

The saved plots load quickly.

The programs have only marginal error trapping.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
ATARI 410 Program Recorder
GRAPH IT (CX4109)

OPTIONAL
One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$15.95	APX-20074

*Indicates trademark of Atari, Inc.

ISOPLETH MAP-MAKING PACKAGE
by Clyde Spencer

Recommended for teenagers and up/Written in BASIC
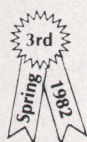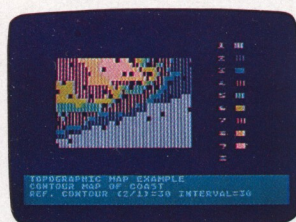
Here's a computer mapping package that creates isopleth maps without the tedious and often subjective hand-contouring usually required. An "isopleth" is a line drawn on a graph or a map connecting all points of equal value. Topographic contour maps are one example of this kind of map. Isopleth maps are useful for grouping randomly sampled data representing a continuously varying property, such as elevation or temperature, within an area.

ISOPLETH MAP-MAKING comprises three programs in menu format. With these programs you can create simple isopleth maps from randomly spaced sample points. You can enter as many as 99 X,Y,Z sets of coordinates and produce a 40×20 printer listing and/or a ten-color annotated screen display. The printer listing uses values from one to nine. Since the program automatically creates nine ranges of values, the contour interval is one-ninth the range of Z-values. Because the main program can take as long as an hour to run, the package includes a plotting program to replot previously generated data files. The package also contains some colorful sample map displays.

REVIEW COMMENTS
The isopleth plotting part of the package takes between 45 minutes and an hour to complete, so you might as well fix yourself a snack and settle down with the latest issue of *THE ATARI CONNECTION™*.

The color plotting part of the package looks good. The sample data provided nicely demonstrates the program's capabilities.

The user manual is GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$22.95	APX-20103

HYDRAULIC PROGRAM (HYSYS)
by William L. Rice

Recommended for people involved with hydraulics/Written in BASIC
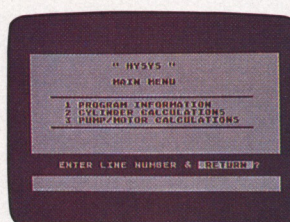
Your racing team wants to speed up tire changes in the pits. Manually jacking up each side of the car currently takes about 3 seconds. You suggest a little DC-powered hydraulic unit might be the answer. You happen to have a unit in your lowrider car you'll remove for team spirit. The unit puts out 4.5 gallons per minute at 2500 pounds per square inch. You also have a 1.5-inch diameter cylinder to go with it. Not having the least idea whether this will raise the car at all, much less do so faster, you tell everyone to take a lunch break. Now get out your ATARI Computer and use HYSYS to find the answer!

Containing 14 system calculations, HYSIS has two menus, one for hydraulic cylinders and one for motors and pumps. It also displays a printable system tally sheet for each menu's parameters. You can display the tally sheet at any time, change one of the parameters, and redisplay the tally sheet with all selected parameters updated to reflect the new input. You can also erase the tally sheet and start over. Intended for people involved in designing hydraulic systems, HYSYS quickly solves all the time-consuming calculations normally needed to size hydraulic systems and components. In fact, the program lessens the technical knowledge needed to design a hydraulic system. With the data the program calculates for you, you can often simply specify the support equipment meeting those specifications. (P.S. Your little power unit will save both time and effort. The pit team was mighty impressed!)

The author invites written questions and comments.

REVIEW COMMENTS
This program is useful only for those already having some knowledge of hydraulics. The automatic updating of the tally sheet is very helpful. You can change one parameter and immediately see the effect on the rest of the system.

The user manual is GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$22.95	APX-20066

Personal Interest & Development

BANNER GENERATOR
by John Daigle & Steve Bittrolff

Recommended for ages 8 and up/Written in BASIC

HAPPY ANNIVERSARY, MOM & DAD! CLEAN YOUR ROOM!! How often have you wished for a dramatic way to make your point? With BANNER GENERATOR, you can turn out one-liners up to six inches high and as long as 80 characters. You can print messages in normal character intensity or extra dark (if you use an ATARI 825 80-Column Printer). You can vary both character height and character width. And you can select from three output methods — the message printed with one fill character (e.g., the character "#"), each output character printed using itself as the fill character (e.g., "A's" for the letter "A"), or a short word used as the fill character (e.g., the word "FAREWELL"). The message prints sideways down the paper like a ticker tape. In addition, you can reproduce banner-size ATARI graphics characters, although these characters can't be fill characters. The possibilities are endless!

REVIEW COMMENTS
Because of letter size, this program uses lots of paper and ribbon. These messages are popular with kids — even when the messages are reminders to do chores! With a little programming, you can use alternate character sets you've designed.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10040
Diskette (810)	16K	$15.95	APX-20040

SKETCHPAD
by Duane L. King

Recommended for ages 12 and up/Written in BASIC and machine language

Remember the doodles you drew around the edges of your lecture and meeting notes? And what about those you sheepishly left on restaurant tablecloths? Now you can doodle on your computer! With SKETCHPAD you can draw designs until you run out of inspiration, and then store them on cassette or diskette for later work.

You create designs by using a Joystick Controller to position a cursor in the drawing area of the display. Then you type one- and two-letter commands in a command window. For example, you type a "B" in the command window to draw a box. Then, to indicate the box's lower left-hand and upper right-hand corners, you position the cursor in the appropriate locations and press the red trigger button. Viola! SKETCHPAD draws a solid box!

The program has 23 commands for drawing, coloring, and merging designs. You can draw points, lines, boxes, circles, lines radiating from a common point, and solid areas. You can create mirror images of designs in several ways — from left half to right half, upper half to lower half, or within the drawing area's four quarters. You can change the hue and intensity of four pen colors (one background and three foreground). All the colors in ATARI BASIC's 128-color palette (16 hues and 8 luminosities) are available, but your design displays in only four colors at a time. For example, if you change a pen's color to red, then all design elements already created with that pen change to red and new elements drawn with the pen also display in red. You can copy the design elements in one area to another area, and you can merge a design on the screen with one stored on cassette or diskette. Computer doodling . . . don't settle for less!

The diskette version contains sample designs not included on the cassette version.

The author invites written questions and comments.

REVIEW COMMENTS
Effectively translating the drawing commands of ATARI BASIC into graphical form, SKETCHPAD is easy to learn and has all the features of a good drawing tool, plus useful extras. The circles are a little irregular.

The user manual is EXCELLENT.

REQUIRES
ATARI BASIC Language Cartridge
One ATARI Joystick Controller
DOS 2-formatted diskette(s) for storing pictures

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10107
Diskette (810)	24K	$22.95	APX-20107

PLAYER PIANO
by Jerry White

Recommended for ages 4 and up/Written in BASIC

Here's a program that turns your ATARI Home Computer into a twenty-note minipiano. Everyone can enjoy this versatile program, regardless of musical ability or training. PLAYER PIANO can also introduce young children to computer applications beyond game playing.

This automatically loaded program displays the 20 black and white piano keys, and a musical note symbol jumps across the keys as you play your tune. The computer keyboard keys corresponding to the piano keys display in the lower part of the screen. With PLAYER PIANO, you can create tunes much like tapping one out on a piano — you strike a key, the note plays, and then it's gone. Additionally, however, a series of menu options let you save your tune as you create it, modify it as desired (now or later), play all or part of it back at any time, and then store it on cassette or diskette, for recall at a later time. You can build tunes having as many as 400 notes, composed of whole, half, quarter, and eighth notes, and having a variety of tempos.

An auxiliary program lets you display on your TV screen or print a data listing of your longer, more complex songs for analysis and modification.

REVIEW COMMENTS
PLAYER PIANO makes clever use of the ATARI computer's graphics and sound features.

You can use this program at many different levels. Very young children can pick out tunes on the keyboard, and older users can compose lengthy tunes, save them, and modify them as desired.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$22.95	APX-10062
Diskette (810)	40K	$22.95	APX-20062

KEYBOARD ORGAN
by Alan Griesemer and Stephen Bradshaw

Recommended for ages 6 and up/Written in QS FORTH

What does "Z Z B B N N B V V C C X X Z" mean to you? With KEYBOARD ORGAN, it's the beginning of "Twinkle, Twinkle Little Star"! You can turn your ATARI Home Computer into a simple organ with vibrato and attack features. You play songs using the computer's keyboard as if it were an organ keyboard, except that you can play only one note at a time. You can record and play back your songs, and even play duets or rounds by recording a song and playing it back while you play along on the computer keyboard.

Two rows of piano keys display on your TV screen. The keyboard symbol you press appears at the top of each piano key and the letter of the musical note appears at the bottom. When you press a key, the piano key changes color to show you what note you're playing.

You can modify the organ sound with the vibrato and attack options. For example, selecting vibrato ON with SOFT attack produces sounds like an organ, whereas setting vibrato OFF with SOFT attack produces sounds like a calliope. You can record a song and play it back as many times as you like. You can also record a song, turn off the record option, compose other tunes, and then replay your recorded song.

The authors invite written questions and comments.

REVIEW COMMENTS
There's no delay in this program between a key press and a sound; it's a good simulation of an organ. The graphics are nicely done.

The ability to edit or save songs on diskette or cassette is a nice feature.

The "play-along" feature is unique.

The user manual, which includes six songs, is VERY GOOD.

REQUIRES
No required accessories

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$22.95	APX-10094
Diskette (810)	24K	$22.95	APX-20094

ADVANCED MUSICSYSTEM
by Lee Actor

Recommended for ages 11 and up/Written in BASIC and machine language

Mozart, Beethoven, and Bach never had it so good. With the ADVANCED MUSICSYSTEM, you can use your musical skills to their fullest. This program provides a complete range of possibilities, from listening to creating.

You select your activity from a menu of fourteen choices. The editing function is one of the most interesting. You enter a musical note by specifying various parameters, such as octave, duration, dynamic level, and articulation. Every time you enter a note, the program reproduces it through the television speaker and displays it on the screen, where it can be easily modified at any time. ADVANCED MUSICSYSTEM can play very complex rhythms and extremely rapid tempos. Once you create music, you can listen to as many as four independent voices in a 5 1/2-octave range. You can watch a piano keyboard playing the notes with each of the four voices appearing in a different color. With the ATARI Paddle Controllers, you can adjust the tempo while the music is playing. Built-in synchronization functions let you construct a tape with at least eight simultaneous voices using an external tape recorder.

ADVANCED MUSICSYSTEM lets you save music on a diskette, and merge files to create very large files. Depending on your system's memory size, you can store up to 6000 notes in a file. Using the automatic play feature, you may listen to the demonstration pieces included on the diskette.

The author invites questions and comments by telephone and mail.

REVIEW COMMENTS

This is a comprehensive package for people with a good knowledge of music. The program has many more outstanding features than can be described in this space.

The user manual is EXCELLENT. It discusses planning, entering, playing, and saving music, and how to connect your computer to your stereo system.

REQUIRES
ATARI BASIC Language Cartridge
DOS 2-formatted diskette(s) for storing music

OPTIONAL
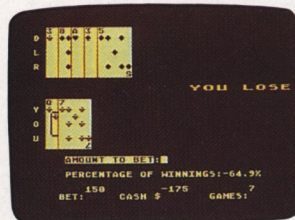One set of ATARI Paddle Controllers
Stereo cable
Tape recorder

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$29.95	APX-20100

BLACKJACK TUTOR, REV. 2
by W. H. Northrup

Recommended for adults/Written in BASIC and machine language

Here's a game with more than entertainment as its purpose. It's also a tutorial designed to increase your mastery of blackjack playing and betting strategy. The training occurs in two stages. In the first stage, you learn basic blackjack strategy so that you can maintain roughly even odds over the dealer. In the second stage, you tackle the tens count strategy, which can give you as much as a ten percent advantage over the dealer during some portions of game play.

Designed for players already familiar with the popular casino card game, BLACKJACK TUTOR is based on the mathematical probabilities of blackjack. You can choose the number of decks to play with and the level at which the dealer reshuffles the cards. You can also play with or without insurance. As the dealer, the computer follows a set of casino rules. You have the options of staying, hitting, doubling, splitting, surrendering, and asking for insurance. When you play against the computer, you can request betting and playing strategy prompts at any time and you can specify whether you want message displays when you take an incorrect action. You can also study the computer playing a tens count strategy game of blackjack against the dealer, with instructive data displays. Revision 2 fixes bugs in doubling and splitting aces.

The author invites written questions and comments.

REVIEW COMMENTS
This is an enjoyable way to increase your blackjack skills. You can go at your own pace. The human engineering could be better.

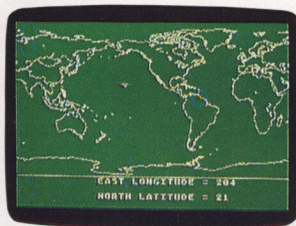The user manual is VERY GOOD.
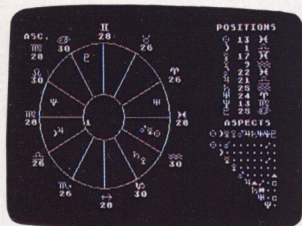
REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10057
Diskette (810)	24K	$22.95	APX-20057

ASTROLOGY
by Harry Koons and Art Prag

 NEW

Recommended for ages 14 and up/Written in BASIC

Ptolemy and Morinus, the famous Greek astrologers, had a much harder time computing the locations of the sun, moon, and planets than you will. With ASTROLOGY, the mysteries of the zodiac, planetary positioning, natal charts, and rising signs will unfold in your very own living room.

Once the program loads automatically into computer memory, you begin preparing your astrological chart. First you enter the exact time and place of birth. You designate the location as geographical coordinates. If you don't know this information, ASTROLOGY computes it for you by displaying either a world or United States map. A movable marker appears on the map, which you then position over the location of your birth. As the marker moves, the longitude and latitude register in degrees below the map.

After you've typed in the time (to the minute), date, and location of birth, ASTROLOGY takes over. The program processes your data and draws an astrological chart on the screen representing the earth, the zodiac, and the twelve astrological houses at the time of birth. Symbols of the zodiac appear on the lines (cusps) between each house. Each planetary sign displays in its proper house. ASTROLOGY also computes the relationships (aspects) of the planets in the houses. The program defines the symbols for the planets and the signs of the zodiac on a separate screen. You can easily access this table for quick identification of the symbols on the chart.

Once you have your complete chart, some simple interpretations are available in the manual. The computer has done its job.

The authors invite written questions and comments.

REVIEW COMMENTS
ASTROLOGY draws nice maps and charts very quickly.

The user manual is VERY GOOD. It includes suggested reading material for further astrological information. You do need additional reference material for a complete interpretation.
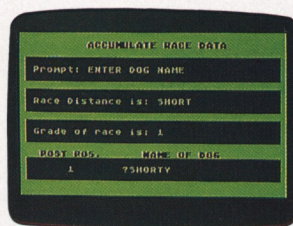
REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$22.95	APX-20078

GOING TO THE DOGS
by Michael Kirtley

 NEW

Recommended for adults/Written in BASIC

Would you like a way to project the outcome of races at the dog tracks? With GOING TO THE DOGS, you can make predictions based on past performances. The program's four main menu selections guide you easily through creating data diskettes to analyzing the races.

Using a blank, formatted diskette, GOING TO THE DOGS creates 714 records which you fill with statistics from a race track form. To enter this data, you follow a series of menus and screens requesting the names of the dogs and specifics of each race listed. The program saves up to eleven of the most current races for each dog. Once you've completed entering this data, you can either save or delete the information. You can create records for more than one racetrack.

When it's time to analyze a race, you enter the dog's name for each post position, the distance of the particular race, and the grade of the race. The program accommodates vacant post positions. Once you enter all eight positions, the program displays all positions and the corresponding dog names. Then it displays a point rating and ranking for each dog. You can print the results before placing your bets.

The author invites written questions and comments.

REVIEW COMMENTS
GOING TO THE DOGS is a well-written handicapping program for dog racing. Since grading systems vary from state to state, you need to replace some letter classifications with numbers. We make no guarantee you'll become a millionaire using this program!

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
DOS 2-formatted diskette(s) for storing data
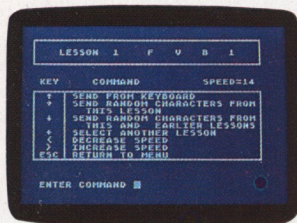A racetrack program

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$22.95	APX-20123

MORSE CODE TUTOR
by Richard Watts/Macrotronics

Recommended for ages 7 and up/Written in BASIC and machine language

Here's a comprehensive and enjoyable program for learning to recognize Morse code. With MORSE CODE TUTOR, you can learn at your own pace. Once you become familiar with all the characters, you can choose from five different practice options.

Beginners will want to use the program's tutorial, which contains eleven 4-character lessons. In each lesson you can specify the character to be sent and then listen to the signal, or you can have the program send any of the lesson's characters at random. In the latter case, you then press the corresponding key on your keyboard. If you press an incorrect key, the program sends the code of the pressed key and then resends the original character, to help you learn the difference. You can also choose to have random characters sent from the current and all earlier lessons. As you become familiar with each code, you can increase the transmission speed, from 5 words per minute to as fast as 60 words per minute.

You then use the program's other practice activities. For example, you can specify the Morse character to be sent; the character displays in blue on your TV screen as it's sent and then changes to yellow, so you always know which character you're hearing. Or, you can have the program send random characters in groups of five or random words. For all these options, you can vary the speed according to your needs. Those preparing for the FCC code test for ham radio operation can listen to randomly generated ham radio callsigns (e.g. KF8WMO); each callsign displays as it's transmitted.

The author invites written questions and comments.

REVIEW COMMENTS
Being able to vary the speed at almost any point in the program is very helpful. MORSE CODE TUTOR is a good teaching tool. It doesn't teach you how to send Morse code, only how to receive it.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10092
Diskette (810)	24K	$22.95	APX-20092

PERSONAL FITNESS PROGRAM*
by David Getreu

Recommended for ages 12 and up/Written in BASIC

Have you been spending too many hours seated at your ATARI Home Computer? Are you developing hobbyist's spread? Do you wind easily when you chase after Rover to retrieve your cassettes or diskettes? Do your muscles strain when you lug your equipment to the users' group meeting? Don't despair. Without leaving your computer, you can recapture the pride and vigor that come with being in good physical condition by exercising for 15–30 minutes a day with animated model Pinky Stamina.

The eight exercises in the PERSONAL FITNESS PROGRAM may help improve your flexibility, strength, stamina, coordination, circulation, and general body tone. Taking into account age, sex, heart rate, and past exercise performance, the program tailors the exercises to each user. You can exercise when you want and at your own pace. The program contains daily and weekly progress charts.

CONSULT YOUR PHYSICIAN BEFORE USING THIS EXERCISE PROGRAM.

REVIEW COMMENTS
The idea of exercising along with a computerized companion is still novel. Computer addicts will probably enjoy this approach. Others might miss exercising with fellow human sufferers. Pinky Stamina is a boring companion after a few sessions.

The animated model and charts make good use of the ATARI Computer's graphics features.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

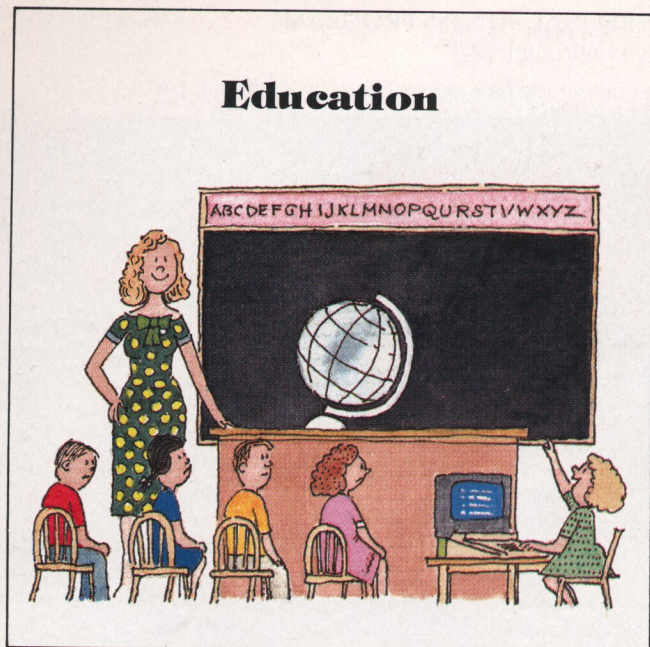### OPTIONAL
One Paddle Controller
One Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$22.95	APX-20033

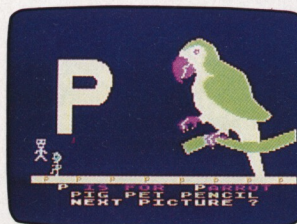*PERSONAL FITNESS PROGRAM is a trademark of Atari, Inc.

Education

MY FIRST ALPHABET
by Fernando Herrera

Recommended for ages 2-8 and 8-90/Written in BASIC

MY FIRST ALPHABET is an easy-to-use, unique teaching book of 36 high-resolution pictures, one for each letter and digit. At the touch of a key, a parade of artistically designed graphics form on your TV screen. Your child will soon master objects and songs, letters and numbers, and shapes and colors with this colorful and melodic program.

The program draws a picture while a little man runs across the bottom of the screen to amuse younger children. Then the letter or number corresponding to the picture displays next to the drawing. For letter drawings, the word identifying the picture displays in a text window, along with the letter in upper and lower case and other words beginning with the letter. The program has many variations. You can choose automatic displays of letters and numbers, letters only, or numbers only. For these variations, youngsters press the key matching the letter or number displayed. They have as many chances as necessary to press the right key. Other variations let you request particular letters, numbers, or pictures, or play the traditional alphabet song and display the complete alphabet. An AUTORUN variation draws pictures, letters, and numbers, and plays tunes randomly and indefinitely, a useful variation for preschoolers.

The author invites questions and comments by mail and telephone.

REVIEW COMMENTS
The program's human engineering and artwork are excellent. It has some of the best pictures we've seen drawn on a computer. Children will find the format very entertaining.

This program is copy-protected.

The user manual is VERY GOOD.

REQUIRES
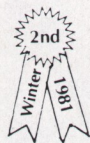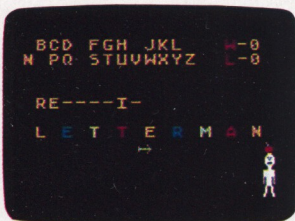ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$29.95	APX-20083

Winter 1981 1st

LETTERMAN
by Ed Stewart and Ray Lyons

Recommended for ages 8 and up/Written in BASIC

Has it ever bothered you that a game as fun as hangman has a violent underlying premise? Well, here's a variation on the traditional paper and pencil, word-guessing game that replaces a dismal outcome with lively animation, colorful graphics, and amusing sound effects. The only object in danger is the apple on Letterman's head! You have six turns in which to guess the secret word, one letter at a time. Either the program or another player can choose the word. LETTERMAN contains nearly 400 words within three selectable difficulty levels. And when you've exhausted this list you can continue to enjoy LETTERMAN because the user manual contains easy-to-follow instructions for adding to (if your system has more than 16K of RAM) or revising LETTERMAN's list of words.

Owing to different computer memory requirements, the cassette and the diskette versions differ slightly. Both versions work as described above. However, the diskette version offers some added features. You can request hints if you get stuck. You can also choose to play under a time limitation for making each guess. And the program can keep track of as many as nine players' turns and scores.

The authors invite comments by mail and telephone.

REVIEW COMMENTS
The graphics features and lively, friendly approach used in every aspect of LETTERMAN make this program especially appealing.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10096
Diskette (810)	32K	$22.95	APX-20096

WORDMAKER
by Dale Disharoon

Recommended for ages 6 and up/Written in BASIC

How about a little friendly and educational spelling competition? WORDMAKER is a game for people of all ages who enjoy words and reading. It's a terrific practice tool for students. The more you play, the better you get.

One or two players use Joystick Controllers to make three- or four-letter words. In a two-player game, you select a time limit between one and five minutes and you're off! A digital timer ticks off seconds as you race to fill your side of the screen with more words than your opponent. You get five points for each correctly spelled word. You lose five for each misspelling. Don't try to copy from your opponent's word list! WORDMAKER knows who spelled the word first and gives that player credit. A 30-second warning freezes the Joystick for a few seconds so you can examine your progress and plan your final strategy.

At the end of a game, the winner's name displays. You may now choose either to reuse all the words in your next game, or to delete those words. If you delete the previously spelled words, the games becomes much harder. You must think of different words and the competition mounts.

In the one-player version, you race against the clock and try to surpass your previous scores. WORDMAKER's printout option lets you study your words after the game. How about writing a story with your new vocabulary list?

The author invites questions and comments by mail and telephone.

REVIEW COMMENTS
The printout option is an outstanding educational feature. Printed lists can be used as creative writing assignments. The human engineering of WORDMAKER is well done. The Joystick is used effectively. Error checking and the word search are fast.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
One or two ATARI Joystick Controllers

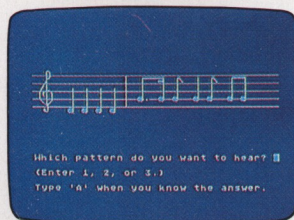### OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	32K	$22.95	APX-10099
Diskette (810)	40K	$22.95	APX-20099

INSTRUCTIONAL COMPUTING DEMONSTRATION
Minnesota Educational Computing Consortium

Recommended for teachers/Written in BASIC

NEW

Computers are becoming commonplace in classrooms at all levels. As computer awareness grows, so does the need to know what computers can contribute to education. This set of demonstration programs in the MECC series illustrates the use of ATARI Home Computers for instruction. The programs highlight the various techniques used in MECC programs, including drill and practice, simulation, educational games, problem solving, and demonstration tools.

Two programs illustrate how individual students can use a computer for drills, tutorials, and problem solving. RHYTHM, a music drill, demonstrates how the computer can provide visual and auditory stimuli as well as instant feedback to a student's responses. It also points up how using random selection for creating hundreds of problems relieves the teacher of tedious drill work. BASE TEN, a mathematics drill, demonstrates the use of graphics and a game-like format to reinforce multiplication skills.

EARTHQUAKES and WORDS are examples of programs suitable for small groups of two to six students, in which students devise group strategies through discussion or compete against another group. EARTHQUAKE is a science simulation in which students interpret reports from three stations to locate the epicenter of randomly occurring earthquakes. WORDS is a one- or two-player game designed for matching two identical words or a word with a related word in the format of the game known as concentration. Teachers can substitute their own words for those in the program to focus on particular subjects.

In SLOPE, a mathematics demonstration, a user types in any equation representing a straight line; the program then plots the line on a coordinate grid. The presentation can introduce the concepts of slope and intercept. LEMONADE, a social studies simulation, demonstrates the computer's ability to generate random events requiring students to make decisions similar to those in running a real lemonade stand.

MECC assists users and educational member systems in coordinating and using computer resources through cooperative planning. It also provides current computing methods and materials. MECC programs come with extensive and EXCELLENT documentation, including many suggestions and materials for both background and follow-up activities.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	16K	$29.95	APX-20137

Education

METRIC AND PROBLEM SOLVING
Minnesota Educational Computing Consortium

Recommended for grades two–six/Written in BASIC

NEW

This set of seven programs contains three drills and practices and four games for learning about the metric system and problem solving techniques. METRIC ESTIMATE is a timed drill for estimating lengths of line segments in centimeters and millimeters. METRIC LENGTH is a drill for converting from one metric unit to another using millimeters, centimeters, meters, and kilometers. METRIC 21 lets students play a game of metric blackjack with the computer. They improve their skill in approximating metric lengths by determining when their line segments add up to 21 centimeters.

BAGELS is a game of logic in which a student uses clues to guess a two- to four-digit number selected randomly by the computer. HURKLE is a game for learning to locate points on a number line or for teaching the coordinate system. Students develop an understanding of direction by guessing the location of an imaginary creature hiding on a vertical or horizontal number line or in a 10 × 10 or −5 × +5 grid. NUMBER is a game of logic in which the computer chooses a number and gives clues. The game can use various ranges of numbers to accommodate different grade levels. TAXMAN is a game for teaching factors and prime numbers. Students choose a number from a list, and the "taxman" collects all the factors of that number remaining on the list. Play continues until no factors are left. The students compete with the taxman for the highest score.

MECC assists users and educational member systems in coordinating and using computer resources through cooperative planning. It also provides current computing methods and materials. MECC programs come with extensive and EXCELLENT documentation, including many suggestions and materials for both background and follow-up activities.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	16K	$29.95	APX-20138

ELEMENTARY BIOLOGY
Minnesota Educational Computing Consortium
Recommended for upper elementary-junior high school levels/Written in BASIC

NEW

One of the MECC program series, ELEMENTARY BIOLOGY contains three introductory biology programs. CIRCULATION is a tutorial on the circulatory system of a fish, which has a two-chambered heart. The program uses color graphics to show movement of a blood cell throughout the circulatory system to the various organs, muscles, and other body parts. The three options available are a tutorial on blood circulation, a demonstration of blood movement, and a quiz.

ODELL LAKE and ODELL WOODS are simulations focusing on ecological concepts of food chains and food webs. In ODELL LAKE, students role play fish in a lake. For use by individuals, small groups, or entire classes, students must select appropriate actions to survive random encounters with other fish and organisms. Thus, they discover the food web relationships by experimentation. In ODELL WOODS, students role play one of four animals found in the northern United States and learn what decisions are necessary for survival.

MECC assists users and educational member systems in coordinating and using computing resources through cooperative planning. It also provides current computing methods and materials. MECC programs come with extensive and EXCELLENT documentation, including many suggestions and materials for both background and follow-up activities.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	16K	$29.95	APX-20136
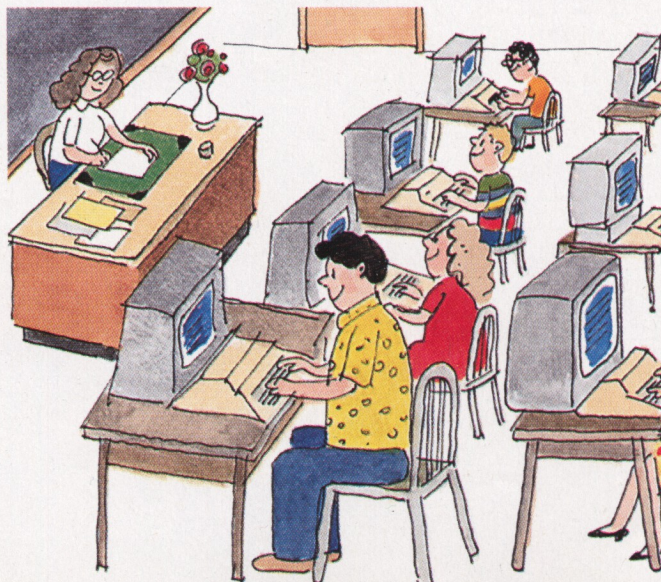
MUSIC I — TERMS AND NOTATIONS
Minnesota Educational Computing Consortium
Recommended for upper elementary–high school levels/Written in BASIC

NEW
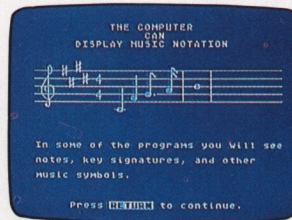
This set of programs is the first in a series of three diskettes to be offered by MECC for music theory drill and practice. The programs use the ATARI Computer's ability to generate tone and produce high-resolution graphics. Students can choose level of difficulty of the problems presented and they can select exercises of increasing difficulty as they improve.

INTRODUCTION is a demonstration program to help acquaint students with the ATARI Computer and its features used in some of the other programs. NOTE TYPES is a drill for recognizing different types of notes and rests. Students identify a note or rest as a quarter, an eighth, and so on, and they determine the number of beats the note is to be held. NAME THE NOTE is a drill for identifying notes on both treble and bass clefs. Students specify the clef(s) and decide whether the exercises include sharps, flats, and ledger lines. KEY SIGNATURES is a drill for recognizing key signatures. Students choose whether to work with major keys only, minor keys only, or a combination of keys. TERMS is a drill for identifying 57 musical terms. The program has three levels of difficulty. ENHARMONICS is a drill for identifying notes that are equivalent in pitch but that can be written differently, such as G-flat and F-sharp. Students decide whether the exercises include double sharps and double flats.

MECC assists users and educational member systems in coordinating and using computer resources through cooperative planning. It also provides current computing methods. MECC programs come with extensive and EXCELLENT documentation, including many suggestions and materials for both background and follow-up activities.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	16K	$29.95	APX-20139

CUBBYHOLES
by Dale Disharoon

Recommended for ages 5-12/Written in BASIC
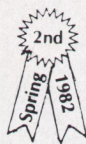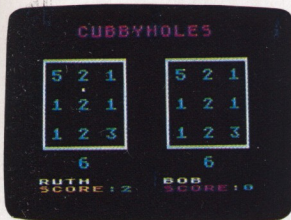
If you're looking for a fresh approach to teaching addition, your search is over. Youngsters will line up to play CUBBYHOLES! This one- or two-player game gives plenty of addition practice, but players will be so absorbed in wielding their Joystick Controllers and planning their strategy, they'll hardly be aware they're sharpening their addition skills.

In the two-player version, you each work on separate, but identical 3-by-3 grids of one-digit numbers. Below the grid a number between 6 and 18 displays. You can either select this number yourself or you can opt for CUBBYHOLES to choose it for you. You use a Joystick to draw boxes around sets of numbers such that each set adds up to the number displayed below the grid. You must use all the numbers in the grid, and you may enclose each number in only one box. Each grid has only one solution! Once you think you've solved the puzzle, move to the middle of the grid and press the Joystick's trigger button. If you're wrong, CUBBYHOLES tells you to try again. If you're right, you score a point and another round begins. You can play as few as two rounds or as many as twenty. In the one-player version, one grid displays and your goal is to complete every round successfully. CUBBYHOLES has more than five hundred puzzle combinations, so line up the kids for fun and competition with an educational twist.

The author invites questions and comments by mail and telephone.

REVIEW COMMENTS
CUBBYHOLES is a charming approach to teaching simple arithmetic. The graphics, sound, and ingenuity add a new dimension to drill and practice programs.

CUBBYHOLES is a teacher's dream for increasing students' concentration, analytical abilities, and math skills — all at the same time. It's a great two-player game, but it's rather weak as a one-player game.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
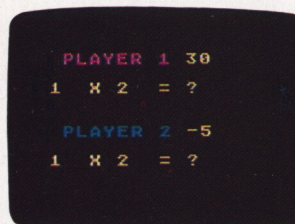One ATARI Joystick Controller per player

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10101
Diskette (810)	24K	$22.95	APX-20101

NUMBER BLAST
by Richard Wiitala

Recommended for ages 6–16/Written in Basic

Who doesn't like color, sound, and action to perk up tedious memory drills? Here's a one- or two-player number drill combining quick thinking with quick reflexes. In the two-player version of NUMBER BLAST, you practice your multiplication and addition while working your Joystick to "blast" to the correct number more quickly than your opponent. But be careful — incorrect answers cost you points. Depending on the kind of number drill chosen, either the first to score 200 points or the player with the higher score at the end of a set number of problems is the winner. In the one-player version, you can practice your Joystick techniques and response speed while blasting your way through the drills. You can select a slow, medium, or fast Joystick speed.

NUMBER BLAST offers practice in random addition problems with numbers ranging from 1 to 20; addition tables from 1 to 9 with one number picked at random; and integer addition problems with numbers ranging from −20 to 20. It also offers random multiplication problems with numbers ranging from 1 to 12; multiplication tables from 1 to 9 with one number picked at random; and integer multiplication problems with numbers ranging from −12 to 12.

The author invites written questions and comments.

REVIEW COMMENTS
The Joystick aspect of NUMBER BLAST, which is quickly mastered, makes this number drill fun for youngsters. The program also uses color and sound to enliven the drills.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
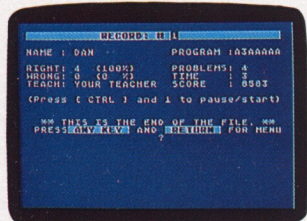A set of ATARI Joystick Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10097
Diskette (810)	24K	$15.95	APX-20097

Education

THREE R MATH SYSTEM
by Dan Rohr

Recommended for ages 5–13 for math drill and for adults for teacher's aids/Written in BASIC

NEW

2nd Summer 1982

Whether faced with a large class or a small one, what teacher wouldn't dream of having an ultrafast way to create custom-tailored math drills for each student? THREE R MATH SYSTEM can do just that. This comprehensive basic math drill package uses a unique password system by which teachers specify the types and levels of problems for each student, as well as the amount of time allowed per problem, the number of problems to be worked, and the total time allowed for the session.

THREE R MATH has 101 difficulty levels covering addition, subtraction, multiplication, and division. Problems range from adding two one-digit numbers to multiplying a three-digit number by a four-digit number. The sequentially designed levels let each student work on problems at his or her current ability level.

Designed for kindergarten through eighth grade levels, the system is very easy to use for both students and teachers. The teacher creates a six- or seven-letter password, one letter representing each selectable drill feature, and gives it to the student. The student inserts a diskette into the disk drive, types in his name and the password, and the drill begins. A summary of the results displays at the end of the session. The results can also be stored on diskette or printed out so that the student has a permanent record of the session. The printout contains all the problems worked, together with the correct answers and the student's answers, helping to pinpoint weak spots. Ten extra problems also appear for more practice. The program produces summary reports of all students' results.

REVIEW COMMENTS
Teachers can use this package and never touch the computer. The reports are a great diagnostic tool and can be used for grading. This package is useful for school computer systems, classroom teachers, and the home.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
DOS 2-formatted diskette(s) for storing records

OPTIONAL
ATARI 825 80-Column Printer or Epson MX-80 Printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	48K	$22.95	APX-20133

FROGMASTER
by Michael Crick

Recommended for ages 9 and up/Written in BASIC and machine language

NEW

1st Summer 1982

Here's a different and fascinating concept in computer instruction. On the surface, FROGMASTER is a fast-moving, high-concentration, competitive game for one to four players. Underneath, however, it's a dynamic exercise in learning how to use conditioning to train animals. Inside each frog or tadpole on the screen is a primitive brain — entirely simulated by the computer.

After FROGMASTER automatically loads into computer memory, the players position themselves on the "football pond." The object is to train your tadpoles to cross your opponent's goal line; the first to score 50 points wins. Left to themselves, the tadpoles dart around randomly. But when you reward them by pressing the Joystick button, they learn to jump in the right direction. When rewarded, the tadpole will glow with pleasure, squeak with delight, and jump again in the same direction. Rewarding also modifies the dozen primitive brain cells controlling each tadpole's behavior. Your aim is to condition these brain cells to turn inept tadpoles into dedicated scorers. After playing some games, you can increase the challenge by adding walls to be penetrated and metamorphosis — where tadpoles turn into frogs that lay eggs and eat opposing players!

REVIEW COMMENTS
This is a good educational simulation as well as an enjoyable game. The metamorphosis option is particularly well done. To appreciate the game fully, read the manual, which provides an EXCELLENT explanation of both the game and the theory behind the program.

REQUIRES
ATARI BASIC Language Cartridge
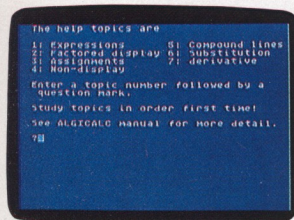One ATARI Joystick Controller per player

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$22.95	APX-20131

ALGICALC*
by The Soft Warehouse

Recommended for ages 14 and up/Written in BASIC

NEW

Summer 1982 3rd

Here's a valuable tool for students and teachers of algebra and calculus and for professionals who want a quick way to perform operations in symbolic algebra and calculus. Students can use ALGICALC together with a textbook to help them solve problems. Professionals will find it useful for such applications as repetitive symbolic operations, for example, for expanding, factoring, or differentiating expressions over a common denominator.

ALGICALC has an advantage over other programming languages like BASIC, FORTRAN, and FORTH, which require that numeric values be assigned to all variables in expressions before evaluating the expression. In ALGICALC, however, you can perform operations on expressions that can be expressed as a ratio of two polynomials in the variable x.

ALGICALC is easy to use, and it has help screens you can display while using the program. To perform an operation, you type in an expression, and the program then expands it, factors it, or differentiates it, as you request. After the result displays, you can enter another expression. In addition, you can assign the results to variables for use in later expressions, letting you perform a sequence of related operations.

REVIEW COMMENTS
Once you learn the program's symbology, calculations are simple. Trigonometric functions would be a useful addition.

The user manual is GOOD for explaining the program's capabilities, but it doesn't explain the underlying mathematical concepts.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$22.95	APX-10126
Diskette (410)	32K	$22.95	APX-20126

*ALGICALC is a trademark of The Soft Warehouse.

POLYCALC*
by The Soft Warehouse

Recommended for ages 14 and up/Written in BASIC

NEW
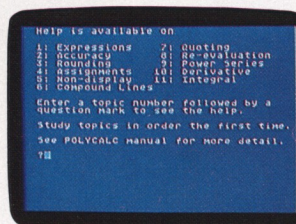
POLYCALC is a computational tool for performing symbolic algebra and calculus operations. It differs from ALGICALC in that POLYCALC supports polynomials that are generalized to permit fractional and negative powers of variables, and the program can use many unassigned variables, whereas ALGICALC can use only one. However, POLYCALC is essentially a polynomial system rather than a rational expression system. The program can help professionals as well as students and teachers of algebra and calculus with their computational activities, including integration.

POLYCALC has an advantage over other programming languages like BASIC, FORTRAN, and FORTH, which require that numeric values be assigned to all variables in expressions before evaluating the expression. In POLYCALC you don't have this limitation.

POLYCALC is easy to use, and it has help screens you can display while using the program. To perform an operation, you type in an expression, and the program then expands, integrates, or differentiates the expression, as you request. After the result displays, you can enter another expression. In addition, you can assign the results to variables for use in later expressions, letting you perform a sequence of related operations.

REVIEW COMMENTS
This is a time-saving tool. Once you learn the program's symbology, calculations are simple. Trigonometric functions would be a useful addition.

The user manual is GOOD for explaining the program's capabilities, but it doesn't explain the underlying mathematical concepts.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$22.95	APX-10127
Diskette (810)	32K	$22.95	APX-20127

*POLYCALC is a trademark of The Soft Warehouse.

Education

STARWARE
by Harry Koons and Art Prag
Recommended for ages 14 and up/Written in BASIC

City lights, cloudy skies, and pollution needn't prevent you from stargazing. With STARWARE you can explore the heavens by way of your ATARI Home Computer. STARWARE displays the stars on your TV screen with the brilliance normally seen only by astronomers at remote mountaintop observatories. Its 900 star coordinates accurately locate all the constellations in both hemispheres. You can display high-resolution diagrams of each constellation and high-res maps of the heavens visible from your home (or any other location) at any date and time this century, down to the second. Even the bright planets, sun, and moon are accurately located with respect to the stars. STARWARE takes about 4½ minutes to generate a complete high-res map.

The program prompts you for the necessary information, such as longitude, latitude, and time zone, to draw your requested map. You can look at a map in two ways — first with only the stars and then with the constellations outlined. STARWARE has beginner and advanced quizzes for testing your progress in learning to identify the program's 66 constellations.

The program also has handy features for telescope owners. It quickly calculates Local Sidereal Time (a time related to stars), letting you easily set the hour circle on your telescope. A "finder" option lets you specify the Right Ascension and Declination of the center of the map and the size of the field of view. This information is useful for locating objects in astronomy books and comets as they're discovered. Happy stargazing!

The authors invite written questions and comments.

REVIEW COMMENTS
With good program design and human engineering, STARWARE makes excellent use of the ATARI Computer's high-resolution graphics. Even novice astronomers will enjoy STARWARE.

The user manual is VERY GOOD.

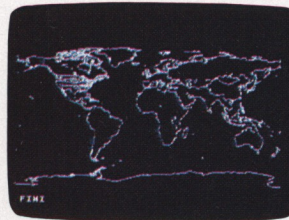### REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$22.95	APX-20111

MAPWARE
by Harry Koons and Art Prag
Recommended for teenagers-adults/Written in BASIC

With the MAPWARE programs you can create a wide variety of high-resolution world maps, store your maps, and display them whenever you like. MAPWARE contains nearly 9000 pairs of geographic coordinates for locating main land masses and islands on Earth. These maps are useful for such applications as games and simulations, tracking satellites, pointing amateur radio antennas, and teaching geography and cartography. The menu-driven programs create and display maps in four different projections: cylindrical (rectangular equal-spaced), orthographic equatorial, azimuthal equidistant, and general perspective (global). Try drawing a world map as you would see it from any distance above your hometown. The map creation program prompts you for the data needed, such as the longitudinal and latitudinal endpoints of your map.

MAPWARE comes on two diskettes — one containing the programs to display and create maps and one containing the coordinate data. You also need a blank formatted diskette on which to store data for the maps you create. MAPWARE comes with five sample maps.

The authors invite written questions and comments.

REVIEW COMMENTS
The maps look quite realistic; the amount of detail is impressive. The authors put a lot of work into MAPWARE.

The user manual is VERY GOOD.

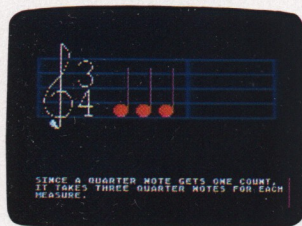### REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$22.95	APX-20055

MUSICAL COMPUTER-THE MUSIC TUTOR
by Computer Applications Tomorrow
Recommended for ages 6 and up/Written in BASIC

MUSICAL COMPUTER-THE MUSIC TUTOR will appeal to the untapped musician in all of us. Good graphics and a catchy tune make this program an excellent educational tool for all ages. Even young children can understand the program's simple explanations.

MUSICAL COMPUTER gives you a solid overview of the mechanics of music. You quickly learn about musical symbols, treble and bass clefs, rhythm, and sharps and flats. You also learn the names of every musical note through simple phrases. For example, "face" stands for some of the notes in the treble clef. You see how musicians read music by counting notes — whole notes, half notes, quarter notes, eighth notes — and the rests that occur in between. You even have time built-in to practice, practice, practice!

The program is divided into two parts. Within each part, you choose your activity from a menu. In part one, you learn about note reading, rhythm, and treble and bass clefs. In part two, you learn about notes and rests, dynamic and tempo markings, sharps and flats, and signs and symbols.

This program is both versatile and easy to use. For example, you can pause at any time to study a particular screen's information. You can also return to the menu at any time. In addition, all your responses consist of single keystrokes. Once you complete this program, you're on the road to an exciting new interest with unlimited horizons.

The author invites written questions and comments.

REVIEW COMMENTS
MUSICAL COMPUTER is a comprehensive look at musical concepts and notation. However, it's not very interactive, and you can't create or play music with it.

Familiarity with music is helpful, but not necessary. The treatments of rhythm and volume markings are particularly well done.

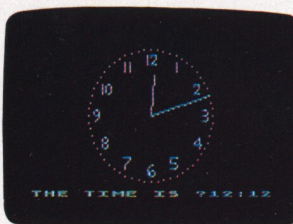The user manual is GOOD.

REQUIRES
ATARI Basic Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$15.95	APX-20098

HICKORY DICKORY
by Dale Disharoon
Recommended for ages 5-11/Written in BASIC

Do you know children who, given the choice between reading the time on a traditional clock in the same room and a digital one in another room, will opt for the extra footwork to read the digital time? Many children today grow up with only digital clocks around the house. When they're faced with a traditional clock with hands, they're often stumped. HICKORY DICKORY can help children master the translation process between these two ways of telling time. Teachers in grades kindergarten through sixth have used HICKORY DICKORY to help students learn to tell time. The program displays time using hour and minute hands on a traditional face clock in high resolution graphics. Using either the computer console's keyboard or a Joystick Controller, the child gives the digital equivalent. HICKORY DICKORY offers six skill levels: exact hours, half hours, 15-minute intervals, 10-minute intervals, 5-minute intervals, and all possible minutes. The child selects the number of examples to try. When he or she answers correctly on the first try, the program notifies the child and goes on to the next example. When he misses on the first try, the program displays a clue and asks him to try again. It moves on to a new example only after the child answers the current one correctly. A running score displays after each example and the total score displays at the end of the session.

The author invites questions and comments by telephone and mail.

REVIEW COMMENTS
This is a good program for teaching children to convert "clock time" to digital time. It uses the Joystick well.

Distinguishing between two adjacent minutes on the clock face is sometimes difficult.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

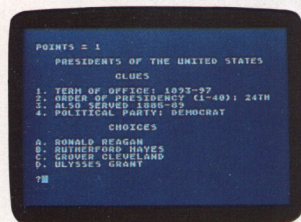## OPTIONAL
One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10071
Diskette (810)	24K	$15.95	APX-20071

Education

PRESIDENTS OF THE UNITED STATES
by Gary A. Dacus

Recommended for ages 10 and up/Written in BASIC

Which president can women thank for giving them the vote? Which president isn't remembered with fondness come April 15 — he gave us our income tax system? Which president suffered through the Iranian hostage crisis? If you can't name these men, then you need PRESIDENTS OF THE UNITED STATES. This one-player quiz has two levels. On the novice level, you select a name from four choices; on the advanced level, you type in a president's first and last name — spelling counts! Both levels give you four clues: (1) term of office, (2) order of presidency, (3) political party, and (4) a general clue describing an event during the president's term or something about his personal life. Study the clues carefully, because you have only one chance per question. The program displays a running total of your correct answers as you play and your final total at the end of the 40 questions.

The game remains a challenge even at the novice level in that the four choices for each set of clues change from game to game and the position of the correct answer within the set of four choices can also change from game to game. These variations both add to the game's interest and ensure that correct answers aren't the result of memorizing letter choices. Oh yes, in case you've forgotten, Warren Harding gave women the vote, William Taft was responsible for our income tax system, and Jimmy Carter held office during the hostage crisis.

The author invites written questions and comments.

REVIEW COMMENTS
This straightforward quiz program is mostly text, using graphics only for the initial display screen.

The programming routines used in the fill-in part let you use various forms of a president's name.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$15.95	APX-10068
Diskette (810)	32K	$15.95	APX-20068

STEREO 3-D GRAPHICS PACKAGE
by Clyde Spencer

Recommended for teenagers and up/Written in BASIC

STEREO 3-D GRAPHICS PACKAGE can introduce you to the world of real 3-D. These programs generate stereograms that let you learn to see a wire-frame stereo model in true three dimensions. Using a simplified approach to the conventional Cartesian coordinate system, you build your model around the center of the "universe" — your TV screen. You then imagine you're in a balloon or aircraft looking down toward the ground and are free to move anywhere you want in the universe. You define your viewing position with the appropriate X, Y, and Z coordinates and the program automatically calculates the parameters to place the center of the universe in the center of your TV screen. You can view objects from anywhere — above, below, behind, and even inside. You can vary the field of view from 2 to 179 degrees, similar to the range from telephoto to normal to wide-angle viewing.

Most of the stereogram drawing is in the ATARI Computer's high-resolution graphics mode. However, the program also draws a red and green stereopair in medium-resolution graphics mode so users not owning a stereoscope and not being able to direct stereoview can use inexpensive anaglyphic (red and green) glasses to learn direct on-screen stereoviewing.

REVIEW COMMENTS
This is a good but complex tool for working with stereo stick figures and photographic techniques. You'll need to read the user manual carefully and experiment awhile. It's good for learning coordinate geometry. Not everyone can see 3-D with the glasses, while people good at seeing stereo can see it without them. You have to make the glasses yourself. Instructions are provided.
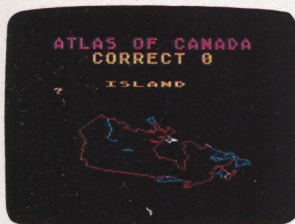
REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI Paddle Controllers
Pocket (folding) stereoscope
Polaroid camera
Anaglyphic glasses (red and green lenses)

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$22.95	APX-20087

ATLAS OF CANADA

Recommended for ages 10 and up/Written in BASIC

What is the capital of Nova Scotia? Is the largest Canadian city also Canada's capital? How many provinces does Canada have? ATLAS OF CANADA can give you the answers. The program first draws an outline of Canada and then outlines a province or landmark in white and asks you to name it (and its capital, if it outlines a province). As a clue, the number of letters in the names display. Should you guess wrong (spelling counts!), the correct answer displays. The outline then changes to blue and the program outlines another province or landmark.

The program keeps score of your correct guesses and displays your final scores. It presents the provinces, capitals, and landmarks in a different order each time you begin a session, so memorizing an order won't help!

How did you do with the questions at the beginning? The capital of Nova Scotia is Halifax. The largest city in Canada is Montreal, but Canada's capital is Ottawa. Canada has ten provinces.

REVIEW COMMENTS

This is the Canadian version of ATARI States & Capitals.

The map is rather small.

The user manual is GOOD.

REQUIRES

ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10093
Diskette (810)	32K	$22.95	APX-20093

QUIZ MASTER

by Ingrid Langevin

Recommended for ages 8 and up/Written in BASIC
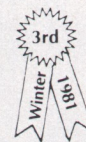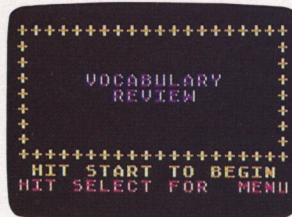
QUIZ MASTER is a classroom-tested, dual-purpose educational tool. Teachers and parents can use it to create five kinds of computer-assisted instruction (CAI) quizzes and students can use it to take the quizzes. Depending on the nature of the material, children as young as third graders can take QUIZ MASTER quizzes.

You can create vocabulary review (or spelling tests), true/false quizzes, and multiple choice quizzes with three, four, or five answers, and you can revise your quiz questions as needed. To create a quiz, you answer a series of questions. For example, to create a vocabulary review quiz, QUIZ MASTER asks you questions like "What is word #1" and "What is its definition?", to which you type in responses. When you're finished, QUIZ MASTER stores your quiz as a data file on either cassette or diskette. The new quiz is then immediately available for use. These quizzes use an encouraging approach. Incorrect answers elicit gentle responses like "OOPS!" Correct answers reward students with superlatives like "AMAZINGLY STUPENDOUS!" The final score displays at the end of a quiz.

The author invites written questions and comments.

REVIEW COMMENTS

This is a straightforward implementation of a quiz program suitable for personal or classroom use. The human engineering and program flow could be better. That QUIZ MASTER varies its responses for correct and incorrect answers makes the quizzes more interesting than usual.

The user manual is VERY GOOD.

REQUIRES

ATARI Basic Language Cartridge

OPTIONAL

One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$22.95	APX-20081

VIDEO MATH FLASHCARDS
by Richard S. Waller

Recommended for ages 6–10/Written in BASIC

VIDEO MATH FLASHCARDS run through two-minute drills in such a pleasant way that youngsters might even do them for recreation! These drills resemble the familiar single-digit problem/answer flashcards, but this version enlivens the drills with some simple sound, color, and graphics features. It also displays a two-minute counter in the corner of the screen so the child can keep track of the time. The goal is to answer correctly as many problems as possible within the two minutes. A child can choose addition, subtraction, multiplication, or division problems or a mixture of all four types. He or she need enter only the answer, without having to press the RETURN key each time. The program displays the number of right and wrong answers as the drill progresses. The child receives a rank, such as NOVICE or MATH WIZ, at the end of the drill according to the number attempted and the number answered correctly. The program also contains a review stage, during which it redisplays any problems missed during the drill to give the child another chance to answer correctly. If he or she misses the answer, the correct answer displays as a suggestion to the child to type in and that problem occurs again later in the review. These drills are suitable for individual and group practice (children taking turns or in teams).

The author invites written questions and comments.

REVIEW COMMENTS
These drills are elementary, but they're well done. You can't set the level within the 0–9 range of problems/answers. The approach is friendly and encouraging, rather than punitive. We especially enjoyed the review cycle. The sounds and graphics are fairly basic.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	8K	$15.95	APX-10048
Diskette (810)	16K	$15.95	APX-20048

MATHEMATIC-TAC-TOE
by Nadav Caine

Recommended for ages 8-16/Written in BASIC
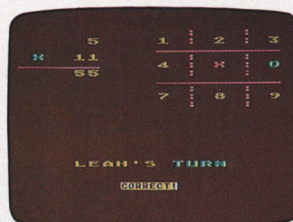
Simple computation errors you make at age eight can stay with you all your life. Don't let your child start out with these mistakes. Here's an offbeat way for kids to practice their basic computational skills. Suitable for classroom or home use, MATHEMATIC-TAC-TOE provides addition, subtraction, multiplication, and division drills on 15 difficulty levels and 15 time-limit levels, making this program appealing to children with widely varying skill levels. The most difficult levels go beyond the point at which students normally memorize answers. The time limit ranges from 2 to 23 seconds.

After choosing the kind of math problem to practice, a difficulty level, and a time-limit level, the two players are ready to square off against each other on the standard three-by-three square, tic-tac-toe grid. A player chooses a square to fill. The computer then poses a math problem, which the player must answer within the designated time limit in order to mark his or her chosen square. The computer marks the square with the player's symbol (X or O) for a correct answer. The player forfeits the square for an incorrect answer. The game ends when one player fills a row vertically, horizontally, or diagonally, or when the players fill all nine squares but neither has completed a row (a tie). Kids will delight in testing their skills against parents', but parents will happily acknowledge defeat in this case.

The author invites questions and comments by telephone and mail.

REVIEW COMMENTS
The graphics could be more interesting.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

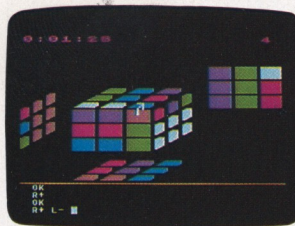| Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10082
Diskette (810)	24K	$15.95	APX-20082

Ententainment

BLOCK BUSTER
by Alan Griesemer and Stephen Bradshaw

Recommended for ages 9 and up / Written in QS Forth

What do you do when you're faced with 43 quintillion possible combinations for solving a puzzle? "The cube" puzzle is a national obsession and it has caused many of us untold frustration. BLOCK BUSTER can help you master that innocent-looking block.

The challenge of cubic puzzles is to unscramble a patchwork of colors so that each side ends up a different solid color. BLOCK BUSTER offers significant advantages over both the cube itself and printed solutions. For one thing, all six sides of the cube display at once! You move the cube's faces either directly with a Paddle Controller or indirectly by entering simple commands in a command window. The program translates your Paddle Controller moves into the corresponding commands and displays them in the command window, letting you note and repeat successful series of moves. The authors base their commands on the notation used in Douglas Hofstadter's article, "Metamagical Themes," in the March 1981 issue of *Scientific American*. Also of great help is the ability to set up the cube to conform to the configuration of a real cube you're stymied by and then, with one command, tell BLOCK BUSTER to solve the puzzle! The program records its moves in the command window. You can also command BLOCKBUSTER to scramble a puzzle for you, when you feel like facing the unknown. Cube fanatics will appreciate the program's timer and move counter displays. Warning! You probably won't spend any less time working cubic puzzles because of this program; BLOCK BUSTER itself is highly addictive.

The authors invite written questions and comments.

REVIEW COMMENTS
Program features are comprehensive. The SCRAMBLE and SOLVE commands are particularly useful. The graphics representation of the block is well done.

BLOCK BUSTER isn't suitable for black and white televisions.

The user manual is VERY GOOD.

REQUIRES
No required accessories

OPTIONAL
One ATARI Paddle Controller
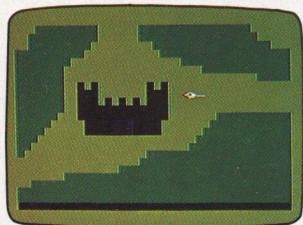ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	32K	$15.95	APX-10110
Diskette (810)	32K	$15.95	APX-20110

GALAHAD AND THE HOLY GRAIL
by Douglas Crockford

Recommended for ages 12 and up/Written in machine language

NEW

1st Summer 1982

Harken back to the days of old and the legend of Arthur and the Knights of the Round Table. As you recall, in King Arthur's court several knights set off in search of the Holy Grail. Only the truly virtuous succeeded.

With GALAHAD AND THE HOLY GRAIL, you become one of the knights on this holy mission. First you decide on your goals. You must swear (this *is* a game of honor) to accomplish one or more of several goals, such as to find three keys, find the Holy Grail, return the Grail to the white chapel, or slay all monsters. If you and some friends wish to play a tournament, you first agree on the goals and then take turns playing a complete round.

The first screen displays the white chapel, the beginning of your journey. Using your Joystick Controller, you guide your knight through a terrain of walls, roads, meadows, forests, and other obstacles. Some of the walls have magnetic powers. You can enter secret portals when you pass over them. As you travel horizontally, vertically, backwards, and forwards, you will encounter dangers from such unexpected sources as travelling knights, a dragon, and spiders. If you're lucky, you've found a variety of implements to help you fend off the attackers and assist in your search. If one of the challengers defeats you, the game starts again and another player tries to reach the goal. GALAHAD AND THE HOLY GRAIL comes in two levels of difficulty.

The author invites written questions and comments.

REVIEW COMMENTS
With the monsters, keys, swords, evil knights, castles, and mazes, the game is spellbinding. The action is fast and challenging. The colors and graphics are fun. Secret portals and enchanted walls give elements of surprise.

The user manual is as wonderfully imaginative as the game!

REQUIRES
One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	Call for availability		

AVALANCHE*
by Dennis Koble

Recommended for all ages/Written in machine language

Premium
ATARI Staff
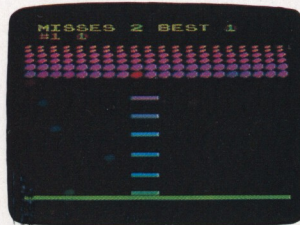
If you like fast-moving games that challenge your manual dexterity, then you'll love AVALANCHE. Six colored layers of graduated rocks are poised overhead. You score points by absorbing the falling rocks with a stack of rectangular shields before the rocks hit the ground. You maneuver your shields back and forth across the bottom of the screen with a Paddle Controller. The impact of the rocks gradually wears away the number and size of your shields, but the rocks keep coming, smaller and faster. If you manage to ward off all the rocks, you face yet another avalanche, but with fewer shields!

Compete against your own best score or pit your skill against an opponent. Four bonus levels challenge your ever-increasing skill. Your chosen bonus level determines the number of misses you're allowed and the number of points you must obtain to earn an extra turn.

REVIEW COMMENTS
Great use of the ATARI Computer's colors, graphics, and sound. Patterned after the ATARI arcade game of the same name, this game really appeals to all ages — it's simple enough for young players, but it challenges experienced players. It's not meant to be a game of strategy, but is rather a game demanding good motor skills. Makes a great party game.

Your TV picture must be centered to accommodate the playing field.

The user manual is VERY GOOD.

REQUIRES
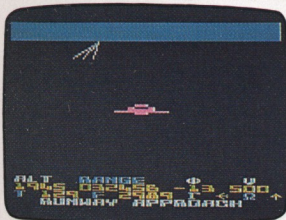ATARI Paddle Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10003
Diskette (810)	16K	$22.95	APX-20003

*AVALANCHE is a trademark of Atari, Inc.

747 LANDING SIMULATOR
by William J. Graham

Recommended for ages 12 and up/Written in BASIC

Here's a game that gives all would-be jumbo jet pilots the frustration, anxiety, and thrill of landing their very own 747 jet airliner. From the cockpit, you see the airport runway and horizon presented in true perspective; your instrument panel display, which is continuously updated, appears at the bottom of your screen. Runway lights flash for pilot guidance, and they brighten as you approach the airport. For further realism, you hear the sounds of air turbulence, various warning signals, and other events. You even hear your engines' deceleration upon landing your aircraft successfully. However, you'll probably have to practice landing many times before you get this far. At the end of your flight, you receive a score that reflects not only your expertise in landing safely but also the quality of your runway approach — how much fuel you used and how long you took to land. The game has three levels of difficulty and two options — landing with instruments on and with instruments off (that is, the instrument display isn't updated).

747 LANDING SIMULATOR uses some interesting graphics. For example, it uses player missile graphics for the midair collisions, a custom designed character set, and a modified display list to obtain large text in the text window.

The author invites questions and comments by telephone.

REVIEW COMMENTS
This game is fascinating, complex, and hard to master. The Joystick commands take getting used to. The game calls for patience and perseverance.

Because the game is written in BASIC, it doesn't have the illusion of real-time flight.

The user manual is VERY GOOD. You must read it to understand how to play the game.

REQUIRES
ATARI BASIC Language Cartridge
One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$22.95	APX-10043
Diskette (810)	32K	$22.95	APX-20043

DOMINATION
by Alan M. Newman

Recommended for ages 12 and up/Written in BASIC
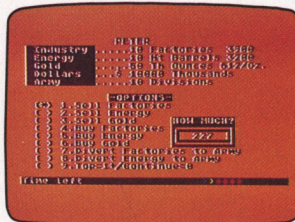
Here's a game where greed, cunning and ruthlessness can work to your advantage. Of course, judicious planning, quick reflexes, and some occasional diplomacy also help. In DOMINATION, between one and five players compete for power via economic means and nuclear or conventional warfare. You must make decisions quickly, exercise skillful hand-eye coordination, outguess your opponents, and cope with random events. You decide the length of the game by setting the number of years you want to cycle through. A cycle consists of three phases for each player. In the Nuclear Conflict phase, you can declare war against any opponent. Then you try to outguess your enemy during seven missile launches. In the Asset phase, you buy, sell, and reallocate assets to prepare for the final phase. In the Domination phase, you choose a country to fight or to try a little diplomacy on — either way, you're after its assets. Should you declare war, you then allocate your armies and personally shoot the cannons. When you prevail, all the country's assets transfer to you; when you lose, your assets diminish according to how heavily you committed yourself. Winner is the richest superpower at the end of the specified time span.

The author invites written questions and comments.

REVIEW COMMENTS
DOMINATION is like three games in one. It's especially fun with several players.

The Paddle Controller aspects of the game could use some finer tuning.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
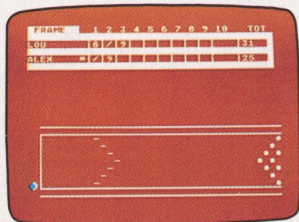One set of ATARI Paddle Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$22.95	APX-10041
Diskette (810)	32K	$22.95	APX-20041

Entertainment

PRO BOWLING
by Wesley B. Newell

Recommended for ages 6 and up/Written in BASIC

Remember your anguish over those near strikes, your frustration over just missed spares? Computerized bowling now lets you experience these frustrations in the comfort of your own home! See if you apply the same body English while your ball rolls down the lane on your TV screen that you use in your games at the local bowling alley. As many as four players take turns using their joysticks to position the bowling ball along the foul line and then roll it down the lane. With PRO BOWLING, you can curve the ball left or right or roll it straight from different areas of the foul line to influence the roll. PRO BOWLING doesn't worry about foul line infringements, but it does give you plenty of opportunity to roll gutter balls, if that's your weakness — either from misjudging your roll or from waiting too long to roll the ball.

PRO BOWLING's display screen is divided into two areas. At the top of the screen is the score sheet, divided into ten frames, plus a total for each player. The program fills in each player's score as the game progresses and it prints the totals at the end of the game. At the bottom of the screen is the bowling lane, complete with foul line, lane spots, and pins (depicted as solid dots).

The author invites questions and comments by mail and telephone.

REVIEW COMMENTS
While PRO BOWLING is somewhat slow, it's a nicely designed BASIC game. The ball uses player missile graphics.

The user manual is GOOD.

REQUIRES
ATARI BASIC Language Cartridge
One ATARI Joystick Controller per player

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10061
Diskette (810)	24K	$15.95	APX-20061

ATTANK!
by Joel Gluck

Recommended for ages 10 and up/Written in BASIC
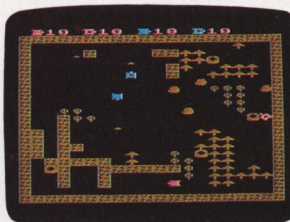
Allow yourself plenty of elbow room when you and your opponent start playing ATTANK! You'll be happily squirming in your chair as you maneuver your two tanks around the battlefield. In this two-player game played with joysticks your mission is to destroy both your opponent's tanks before he or she destroys yours. You maneuver your forces through a realistically responsive environment of trees, rocks, walls, land mines, tunnels, and rubble and then position and fire your guns when your opponent's tank is within firing range. You can choose day or night battle conditions, or a mixture of the two. If you opt for nighttime, only the tanks and shells are visible on the battlefield, except for brief glimpses during explosions.

Packed with colorful graphics and sound effects, ATTANK! is loaded with playing options, such as the number of hits a tank can sustain before being destroyed, shell range, tunnel pattern, and day and/or night battle conditions. You can choose whether to introduce an element of chance into the game by using the random air raid bomb option. ATTANK! also includes two handicap options so that novices can give pro tank players a real workout. All these options, along with a new battlefield layout every game, create almost unlimited game variations and let you customize the game's battle conditions according to each player's skill.

The author invites written questions and comments.

REVIEW COMMENTS
ATTANK! is a deluxe version of the standard tank game. The unique two-tank control and the tunnels are great features. The author makes very interesting use of character graphics, especially in the program's introduction and conclusion.

That the tanks turn only in one-eighth increments can be challenging when trying to hit your opponent at close range. Tank motion can be uneven at times.

ATTANK's many options take some reading to understand, but the effort is worthwhile.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
A set of ATARI Joystick Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$22.95	APX-10072
Diskette (810)	32K	$22.95	APX-20072

EASTERN FRONT (1941)
by Chris Crawford

*Recommended for teenagers and up/Written in machine language*

Editor's Note:

Chris Crawford received *Creative Computing's* 1981 Award for Exceptional Creativity in Programming for EASTERN FRONT.

Operation Barbarossa, the German invasion of Russia during World War II started a campaign lasting nearly four years and taking nearly 20 million lives. Could you have done better than the real German commander? See how well you can maneuver your troops to obtain a good position before the winter sets in and the Russian counteroffensives begin!

EASTERN FRONT is an exceptionally complex one-player wargame. It re-creates the conditions of the campaign, including terrain, seasons, and types of military units, and it adjusts these factors over time. The game closely follows the historic sequence of events. The Germans sweep in, wiping out Russian armies everywhere. But the Russians keep fielding new armies and the Germans, depleted by a long campaign, start to wear down upon approaching Moscow. Reaching Moscow as the mud season sets in, the Germans fail to take the city. They resume their offensive thrust during the winter, making further gains, but they can't achieve decisive results. Their rapidly fading strength combined with the growing Russian strength first halt their advance and then force them to retreat. Your goal is to see if you can change the course of history, given the same physical conditions the German troops faced.

Each turn in EASTERN FRONT covers one week of history. To help you plan your moves, you can display vital information about a unit's muster and combat strength. For realism, you can move your troops only so far within a week. At the same time you're figuring your strategy, the computer is working out the Russian maneuvers. Hence, the longer you take to work through your moves, the more time the computer has to plan its own moves, (However, EASTERN FRONT has a handicap provision for novice wargame players.) Then on your command the computer simultaneously executes all orders. It moves troops and fights battles, taking into account terrain, type of unit, season, and presence of other units. Then it performs a variety of calculations related to the passage of time, including updating the date display, reconfiguring the map for the season, bringing in reinforcements, adding replacements, figuring logistics, and extracting penalties for troops whose supplies are cut off.
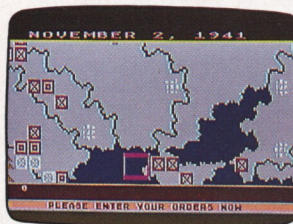
At the end of each week, the computer evaluates your performance and assigns you a score. Recalculated each week, your score reflects how far east your troops have moved, their aggregate muster strength, how far west the Russians moved, and their aggregate combat strength. In addition, if you captured key Russian cities, you earn extra points.

The use of intricate artificial intelligence routines makes EASTERN FRONT a challenging wargame. It approximates the true historical perspective of the campaign, making the game at once both complicated and rewarding to play. EASTERN FRONT also makes exceptional use of the technical capabilities of ATARI Home Computers. The result is a wargame that outshines virtually any other wargame available. For example, EASTERN FRONT uses player missile graphics to move your cursor smoothly over the foreground without disturbing the terrain and troops in the background. Multiple redefined character sets permit a colorful and detailed terrain along with a text display. A custom display list is responsible for EASTERN FRONT's unique screen format. Multiple display list interrupts allow for lots of color — as many as eighteen colors on the screen at a time. Fine scrolling gives EASTERN FRONT a map occupying roughly ten screens of area — 2 1/3 horizontal screens and 4 1/3 vertical screens — that scrolls smoothly in any direction. And multitasking permits simultaneous moves by both you and the computer.

REVIEW COMMENTS

This is the best computer wargame we've ever seen. The graphic display is stunning.

Because EASTERN FRONT eliminates the drudgery of playing wargames, many people who've never cared for wargames before can enjoy this one.

The game takes two or three hours to play and you can't save it, so be prepared for a marathon.

The user manual is VERY GOOD.

REQUIRES

ATARI BASIC Language Cartridge
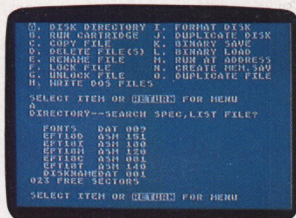One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$29.95	APX-10050
Diskette (810)	32K	$29.95	APX-20050

Entertainment

SOURCE CODE FOR EASTERN FRONT (1941)
by Chris Crawford

Recommended for advanced programmers/Written in assembly language

You've played the game . . . now read the code! Intended for advanced programmers, this package takes you behind the scenes for a look at the thought processes involved in creating a sophisticated, computerized wargame. This diskette contains all the source code files for EASTERN FRONT (1941) — about 700 sectors of code! The user manual contains a complete source and object code listing, as well as the following sections:

- Program structure review
- Detailed memory map
- Unit characteristics chart
- Map diagrams
- Explanatory essays on each module
- Narrative history of EASTERN FRONT development
- Discussion of game design considerations

The package is like a tutorial on advanced game design.

The diskette contains only the source code (that is, the English equivalent of the code the computer runs) for EASTERN FRONT. The object code (that is, the code the computer runs) is sold separately as APX-20050. Only advanced programmers should consider using the source code in this package to create an object file for running EASTERN FRONT instead of purchasing the object code.

The thick, detailed user manual is VERY GOOD.

REVIEW COMMENTS
To get maximum benefit from this package, you need a good understanding of assembly language programming and you should be comfortable using the Assembler Editor Cartridge. Assembly language programmers inexperienced in writing large programs will especially benefit from this package.

REQUIRES
Assembler Editor Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$49.95	APX-20095

DOG DAZE
by Gray Chang

Recommended for ages 8 and up/Written in machine language

Have you ever wondered what attracts Fido to every hydrant he passes? DOG DAZE probably can't solve the mystery, but this game gives you the chance to put yourself in Fido's place. DOG DAZE is a fast-paced, two-player action game requiring skill, strategy, and luck. You control your dog with your Joystick. Each time a fire hydrant pops up on the screen, your dog and your opponent's scramble to claim it first. Because only one unclaimed hydrant pops up at a time, you're both after the same target. You claim a hydrant either by running into it or by shooting your bone at it. However, if your bone misses, you'll have to retrieve it before you can shoot it again. Each claimed hydrant changes to the color of the claimant. As the game progresses, claimed fire hydrants start filling the screen. You can zip right through your own hydrants, but if you run into your opponent's hydrant, you're penalized. A scoreboard of fire hydrants at the top of your TV screen shows who's ahead. The winner is the holder of more hydrants at the end of the time you set for the game, or the first to fill the scoreboard. You can set the time limit from 1 minute to 16 minutes. DOG DAZE also has a handicap option so that novice hydrant chasers can challenge pros.

The author invites written questions and comments.

REVIEW COMMENTS
This game is fun! It spans all ages. Kids will like the dogs, hydrants, and sounds, and adults will enjoy its competitiveness, especially with the time option.

The game could use a few more features and fancier graphics.

The user manual is VERY GOOD.

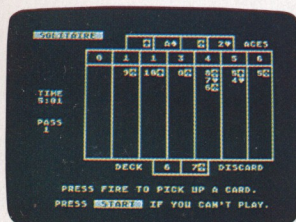### REQUIRES
A set of ATARI Joystick Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	8K	$22.95	APX-10069
Diskette (810)	24K	$22.95	APX-20069

SOLITAIRE
by Mark Reid

Recommended for preteenagers—adults/Written in Basic

You're all knotted up inside because you can't get your mind off the sale you lost yesterday, your overdue mortgage payment, and your wife's recent spending spree at Saks Fifth Avenue. You can usually calm down by playing some hands of solitaire, but your preschooler cut up your last deck of cards to get at all those pretty pictures on the backs. Once again, your ATARI Home Computer can come to your rescue!

SOLITAIRE is a computerized version of the standard, one-player Las Vegas card game. At the top of the screen display are the four ace playing areas, where your goal is to place as many cards as possible to win money. Below this area are seven columns for your seven piles of cards, with one card number and suit face-up in each column. Above each column a number indicates how many cards are face-down in that pile. Beneath the columns is the deck and card discard area. You use your Joystick Controller to pick up and then place a card or stack of cards. Spades and clubs display in inverse video to simulate the red/black difference in card suits.

After playing through the deck once, positioning all the cards possible to build up the ace areas, you earn $5.00 for every card you've placed in that area. The computer keeps track of the money you win or lose and of the time elapsed. This version lets you play through the deck as many times as you like, but the program calculates money earned/lost and elapsed time only for the first pass. Thus, you can play to completion without affecting the true results. See how long it takes you to win $500 (maybe you will have calmed down by then)!

The author invites written questions and comments.

REVIEW COMMENTS
The human engineering and use of the Joystick Controller are very good. This is a realistic simulation of solitaire.

The playing board could use more color and better graphics.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10089
Diskette (810)	24K	$15.95	APX-20089

BLACKJACK CASINO
by Bill Zimmerman

Recommended for ages 10 and up/Written in machine language
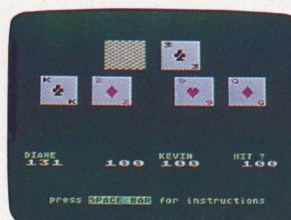
Set out the drinks. Place bowls of munchies around the room. Dim the lighting. Evening dress, however, is optional at this casino. Now invite from one to four players to gather 'round your ATARI Home Computer and spend an enjoyable evening playing blackjack.

BLACKJACK CASINO conforms to the standard game, for many years a worldwide favorite, but it also lets you double down when you have fewer than 12 points, split pairs (in games of one or two players), surrender if you want to cut your losses, and take insurance when the dealer's face-up card is an ace. In addition, it uses the five card Charlie rule (any player holding five cards without exceeding 21 automatically wins against the dealer).

You use your Joystick Controller to enter your initial stake, your bet, and all your playing decisions. You can restart the game at any time and, should you be so unfortunate as to require more money, you can add money to your stake during the game. Depending on their luck and skill, players will come and go during the evening, but the dealer is blessed with unlimited funds, and your BLACKJACK CASINO will provide unlimited hours of entertainment!

The author invites written questions and comments.

REVIEW COMMENTS
BLACKJACK CASINO is strictly for fun, whereas BLACKJACK TUTOR (APX-10057 and APX-20057) is both for fun and for working on improving your strategy. However, the instructions for BLACKJACK CASINO do contain some strategy suggestions. Also, BLACKJACK TUTOR is meant for one player, whereas as many as four players at a time can play BLACKJACK CASINO.

The graphics are well done, especially the card designs.

The user manual is VERY GOOD.

REQUIRES
One ATARI Joystick Controller per player

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	8K	$15.95	APX-10064
Diskette (810)	16K	$15.95	APX-20064

SEVEN CARD STUD, A USER PROGRAMMABLE SIMULATION
by Monty Webb

Recommended for ages 10 and up/Written in BASIC

NEW

That big game is coming up and you need to practice your poker skills. What strategies work against the new player in your group? How's your bluffing? Do you remember when to fold, hold, and raise? SEVEN CARD STUD simulates five card-playing partners with four programmable characteristics.

Using a Joystick Controller, you can change the players' characteristics. If you're new to SEVEN CARD STUD, use the pre-programmed personalities, which are quite a challenge. If you're ready to sharpen your card techniques or create your own competition, you can choose one of three traits in four different categories for each player. First, you decide if a player is hard, average, or easy to bluff. Next, you decide how often this player raises. Then you choose the degree of risk he'll take before he folds. Finally, you determine his overall playing strategy — to loose, smart, or too tight. You answer these questions for each player.

SEVEN CARD STUD shuffles the cards and deals two down and one up to each player. The program finds the highest hand showing and starts the betting. According to the player's programmed characteristics, he will fold, call, or raise. The other players respond in turn. When it's your turn, you also choose to fold, call, or raise. The pot grows as you bet on each round. At the end of seven cards, all hands still in the game turn face-up. SEVEN CARD STUD then determines the winner and the announcement, "Who Has The Gold?", appears with a list of everyone's winnings. You can then go back and see everyone's cards for study.

At the end of a game, you can play another hand against the same players or you can restart the game and change the players' personalities.

The author invites written questions and comments.

REVIEW COMMENTS
This game is not a beginning tutorial. The graphics are very good. Poker players are sure to enjoy this excellent simulation.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$15.95	APX-10118
Diskette (810)	32K	$15.95	APX-20118

CHECKER KING
by William H. Northrup

Recommended for ages 7 and up/Written in machine language

NEW
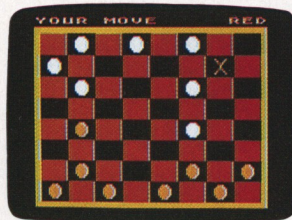
Are your checkers opponents too predictable? Do you need a *real* challenger, the kind who thinks ahead, and can't be double jumped? Then turn on CHECKER KING, the computerized checkers game.

Once CHECKER KING loads automatically into computer memory, a playing board displays on the screen. You then choose to play against either the computer or another person. If you play against the computer, you choose the level of difficulty. Your choice determines CHECKER KING's intelligence. Depending on the level, the program will think ahead before taking its turn. Using a Joystick Controller, you position the movable cursor on a checker and press the Joystick button. Then you move the cursor to the desired new spot and press the button again. The program won't let you make illegal moves and you have to jump your opponent's checkers, if possible. You can also set up the checkers to practice specific strategies.

The game ends when only one color of checker remains on the checkerboard. Players keep track of their own successes and can choose to play the same game again or change the level and play against a new challenger.

REVIEW COMMENTS
The display looks just like a checkerboard. CHECKER KING is a challenging opponent at all levels of play.
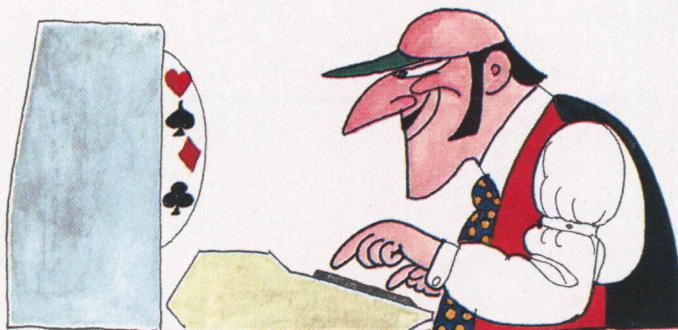
The user manual is GOOD.

REQUIRES
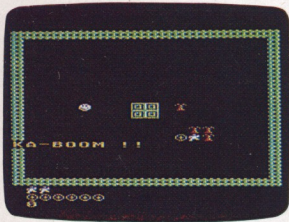One ATARI Joystick Controller per player

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10129
Diskette (810)	16K	$22.95	APX-20129

RABBOTZ
Jeff Johannigman

Recommended for ages 10 and up/Written in BASIC

NEW

Want a truly hare-raising experience? Need something to keep you hopping? You say you're already feeling a little jumpy? Then you're definitely ready for RABBOTZ, a one- or two-player game requiring speed and dexterity.

Once you choose the initial level of your game, you'll see your screen enclosed by a picket fence. The player or players appear as human beings along with a number of jumping Rabbotz, the ammo shack, and Coney Island — the entrance to the Rabbit Transit System. You move your player using a Joystick Controller. Rabbotz reproduce on the playing field by "splitting hares." Although Rabbot reproduction happens randomly, no more than two dozen Rabbotz appear on the field at one time.

You accrue points by either sabotaging Rabbotz, catching a bonus ball, or clearing the playing field of Rabbotz to complete a level. The Rabbotz move in unexpected directions and speed. Both you and the Rabbotz can enter Coney Island and reappear anywhere on the screen. Press the Joystick button to plant land mines in the Rabbotz' path. If you run out of mines, move your player over to the ammo shack for more mines. If a Rabbot steps on a mine, you win points. If you run into a mine or a Rabbot, you lose one round of a three-round set. If you clear the playing field of all Rabbotz, you advance to the next level and battle one more Rabbot than the previous level with one less land mine at your disposal. You can win bonus rounds by making it to higher levels. If you catch the smiling bonus ball, which appears at random times and places on the screen, you win points.

The game keeps track of your score during each set. At the end of the game, all scores display. The highest score this session also displays.

The author invites comments by mail and telephone.

REVIEW COMMENTS
The game is clever and entertaining. Character graphics make the action a bit jerky and slow. It's frustrating to have a Rabbot catch you by jumping two spaces diagonally when you can jump only one.

The user manual is VERY GOOD.

REQUIRES
ATARI Basic Language Cartridge
One ATARI Joystick Controller per player

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette	16K	$22.95	APX-10119
Diskette	24K	$22.95	APX-20119

Entertainment

SALMON RUN
by Bill Williams

Recommended for ages 8 and up/Written in machine language

NEW

3rd Summer 1982

The story of the determined salmon, struggling upstream to spawn every season, takes a slightly different twist with SALMON RUN. The mighty little fish struggles upstream, fighting bears, waterfalls, and sea gulls. But, is it all for naught? Does he merely die in the end? Now his fate lies in *your* hands.

The screen display of this automatically loading program shows a salmon in a vertical river course, flanked by a jagged shoreline. At the top of the screen is a display of the game level and your score. Using a Joystick Controller, one to four players take turns guiding Sam the salmon up the river to reach his dear Samantha.

Each game level includes an increasingly difficult series of river courses. Sam faces a variety of complicating circumstances during his journey upstream. He must overcome waterfalls, bears, fishermen, and sea gulls. The frequency of their appearances depends on how long you play the game. Sam can jump the waterfalls and sidestep the fishermen or animals, but if he misses, he starts his trek upstream all over again.

Sam's struggle upstream is timed by a shrinking horizontal bar at the top of the screen. He races the line as well as the life-threatening river course. Should Sam successfully complete one lap, he wins Samantha and a baby salmon.

You win one point for every foot you help Sam swim and ten points for every waterfall he jumps. You lose points if you cause him to fall backwards. In a one-player game, you compete against your own best score. In a multiplayer game, you play for the highest score.

The author invites comments and questions by telephone and mail.

REVIEW COMMENTS
"Children" of all ages will enjoy SALMON RUN. The graphics are charming!

The user manual is VERY GOOD.

REQUIRES
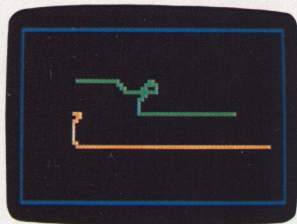One ATARI Joystick Controller per player

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10120
Diskette (810)	24K	$22.95	APX-20120

BLOCK 'EM, REV. 2
by Jose Suarez

Recommended for ages 8 and up/Written in BASIC

With BLOCK 'EM you can vent your aggressions and enjoy yourself at the same time. One or two players can select from several game variations. In the two-player game, you each build a maze-like wall with your Joysticks, trying to be the first to box in the other's wall. Every collision you force on your opponent earns you a point as well as the satisfaction of seeing your opponent's wall glow and then disintegrate before your very eyes! Simultaneous collisions of both players earn no points for either one. This version has options for determining the winning score (for quick or prolonged games), block size, and play speed.

Or, you can select from two one-player versions. In Ghost Wall, you compete against the computer, but the computer's wall has a distinct advantage — it can pass through yours. In Captive Sssnake!, you move your snake around the field trying to reach the escape hole before colliding with anything. After your snake reaches a certain length, it remains that length as it moves around. Each time you reach the escape hole, your next snake grows!

The games demand both reflex speed and strategy, but the relative importance of each depends on the options you select. Revision 2 adds the two one-player variations, offers a black-and-white TV screen option, and improves Joystick response at slow speeds.

The author invites written questions and comments.

REVIEW COMMENTS
The options make this game more interesting than the standard versions. The losing player's disintegrating wall creates an amusing effect.

The one-player games aren't as fun as the two-player game, but are good for practice.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
A set of ATARI Joystick Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10090
Diskette (810)	24K	$15.95	APX-20090

SPACE CHASE
by Fernando Herrera

Recommended for ages 8 and up/Written in BASIC
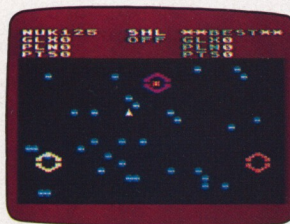
You're in a beautiful, colorful galaxy. Your mission is to conquer all the planets for the Galactic Federation and then go on to the next galaxy. A piece of cake, right? But don't forget about those dreaded Clone Robot Ships that will pursue you relentlessly to every corner of space, destroying every planet in its path, planets the federation will hold you accountable for.

You move your ship through space with your Joystick until you reach a planet, thereby conquering it. You can plant nuclear charges in the path of the enemy Clone Robot Ships. You can also protect yourself by turning on your shields, but you earn fewer points if you do. Another way to elude the enemy is to venture past the galactic fringe and re-enter the galaxy from the other side.

The more skilled you become at conquering a galaxy, the tougher the challenge you face. In the first galaxy, you must dodge only one Clone Robot Ship. But you face more enemy ships as you enter additional galaxies. You have only one life for your mission, but you can enter any number of galaxies! Your mission ends when an enemy ship destroys you or when your ship explodes from a nuke.

This real-time, fast-paced game offers realistic sounds and colorful displays. Other features of SPACE CHASE are options for number of nuclear charges and whether to use protective shields, intelligent pursuit of Clones, and scoring based on your selected strategy and your skill. You and your friends can compete in three different ways, because SPACE CHASE keeps track of three different scores — the most points earned, the most planets taken, and the most galaxies conquered.

The author invites written questions and comments.

REVIEW COMMENTS
You can't steer your ship as accurately as you'd like, so hitting a planet is hard when you're close to it.

SPACE CHASE is a little slow, but not enough to keep you from enjoying it. It has good sound effects.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10088
Diskette (810)	24K	$22.95	APX-20088

BABEL
by Joel Gluck

Recommended for ages 8 and up/Written in BASIC

BABEL is a fast-moving, two-player game packed with sound effects and graphics. You're in a race to build a tower to reach the stars overhead. Which kind of builder are you? One that lays a solid foundation or one that lets the bricks fall where they may? You use your Joystick to lay the bricks that let you climb to the stars and you score points with each star you touch. You win by outscoring your opponent, but you can also lose at any point if you box yourself in with bricks. In addition, building too precarious a structure can cause you to fall and lose points. And just when you think you finally have the game sewed up, you can become the victim of a celestial event or you can incur the wrath of the heavens!

Play BABEL for preset goals, set your own goal, or play an open-ended game. BABEL has three levels of difficulty.

The author invites written questions and comments.

REVIEW COMMENTS

BABEL is an imaginative game that uses ATARI Computer sound and graphics features creatively.

Playing BABEL takes both dexterity and forethought. At the same time, it's playable on many levels, making it fun for experienced as well as for novice players.

Owing to the colors used, BABEL isn't suitable for black and white TV screens.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
A pair of ATARI Joystick Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10038
Diskette (810)	24K	$22.95	APX-20038

MEMORY MATCH
by Bruce Frumker

Recommended for ages 6 and up/Written in BASIC
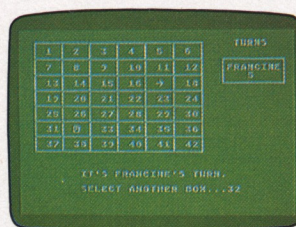
Drat! Where did I see that other heart? Was it "sun" or "son" in box 39? Was that flag in box 17 flying leftward or rightward? "What?" you ask. These are typical comments you'll hear from MEMORY MATCH players. Designed for one to four players, this is a challenging version of the popular memory game requiring players to match pairs of hidden objects. MEMORY MATCH contains 42 numbered boxes hiding 21 matching pairs. You may choose from four kinds of memory challenges. You can select pictures, such as airplanes, boats, houses, space creatures, and rabbits. Or, you can choose the ATARI Computer graphic symbols, which can differ, for example, in whether they're facing left or right, up, down, or diagonally, or are in normal or inverse video mode. You can also choose single letters. Or you pick three-letter words, which pose yet another memory challenge since many of these words rhyme or sound alike, such as "two" and "too," "sit" and "hit," and "hat" and "hot." You enter your pair of number guesses either via the keyboard or with a Joystick Controller. MEMORY MATCH is a game that will interest and challenge all ages.

The author invites comments and questions by telephone and mail.

REVIEW COMMENTS

This is a good implementation of the classic game. The graphics symbol option is especially challenging.

Designed to avoid distraction, this game isn't visually stunning, but it has all the right features for a game of this kind.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
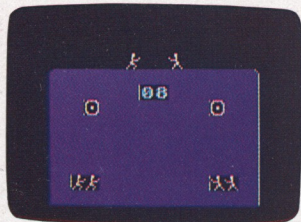
OPTIONAL
One ATARI Joystick Controller per player

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10070
Diskette (810)	24K	$22.95	APX-20070

PUSHOVER
by Joel Gluck

Recommended for ages 8 and up/Written in BASIC

NEW

You're locked in a life-or-death struggle high atop a sheer cliff. Two more steps and it's curtains. But wait! Your strength returns and you start pushing your opponent to an untimely demise. You did it! You've won your first round of PUSHOVER.

Once the game starts, a two-sided cliff appears on the screen and a helicopter airlifts one of each player's three warriors to the battleground. The fighters bow to each other and the fight begins! As quickly as possible you must interpret the command symbols displayed on the face of the cliff. You race to respond to the commands with your Joystick. With each correct response, you push your opponent closer to the edge of the cliff. The battle can rage back and forth until finally the one who persists with the faster correct responses wins the round as the other warrior plunges to the ground. The battles continue until one player loses by having no remaining warriors. After catching your breath, you can then choose to play another game using the same levels of difficulty, change the options, or leave the battlefield until another day.

PUSHOVER has several interesting options. At the start of the game, you can choose one of three types of symbols or a mind-boggling mixture. You can vary the computer's skill from "easy victim" to "invincible opponent" in a one-player game. In a two-player game, a handicap option lets novices battle warriors.

The author invites written questions and comments.

REVIEW COMMENTS
PUSHOVER is both simple and intense. The graphics and animation are very good. The title and setup are as entertaining as the game.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
One ATARI Joystick Controller per player

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	32K	$22.95	APX-10116
Diskette (810)	32K	$22.95	APX-20116

THE MIDAS TOUCH
by Duane Bolster

Recommended for ages 8 and up/Written in BASIC

NEW
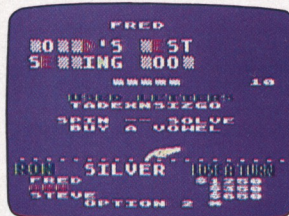
Put your worries aside and get ready for a challenging word game. THE MIDAS TOUCH won't turn everything to gold, but it will provide hours of fun, competition, and *thinking*.

Before the competition begins, you choose the number of players between one and three, kind of game, time limit for choosing letters, and level of difficulty. In game 1, you fill in blanks on the upper third of the screen. In the more difficult game 2, you fill in the blanks and then try to guess the correct answer to the phrase.

At each turn you have three choices. You can win the chance to choose a consonant by spinning a roulette wheel of words. To spin the wheel, press any number key between 1 and 9 before the timer counts down one-half of your chosen time limit. The words FREE SPIN, LOSE A TURN, LOSE TOUCH, GOLD, SILVER, OIL and ROCK scroll in single file across the lower third of the screen. Depending on where the scrolling stops, you either win a free spin token (usable at any time), choose a consonant (when you stop on a mineral), or lose all your points (when you lose your touch). You have your full time limit to choose a consonant. If you're successful, the letter turns into the mineral. The program computes the dollar value of the consonant, according to the mineral, and adds that amount to your score, which displays at the bottom of the screen. If the letter doesn't exist in the phrase, your turn ends. Or, you can choose to buy a vowel. If you guess a correct vowel, you win points. An incorrect vowel guess ends your turn. Or, you can type the solution. A correct guess wins you the game. An incorrect guess eliminates you from this round of play. The winner keeps his winnings while the other players' scores return to zero. At the end of a set of three games, each player's total score displays.

The author invites comments by telephone and mail.

REVIEW COMMENTS
MIDAS TOUCH is a fun and challenging word game.

The user manual is GOOD.

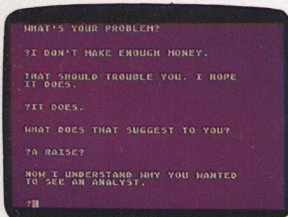### REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	32K	$15.95	APX-10115
Diskette (810)	32K	$15.95	APX-20115

TERRY
by Ingrid Langevin

Recommended for ages 10 and up/Written in BASIC and machine language

Your guests languidly dunk the chips in the dip. Their eyes glaze over in boredom. Only their hands are active . . . stifling yawns. The awkward conversational pauses stretch out interminably. Your party is going down the tubes. It's time to bring in TERRY! Not only can she breathe life back into your party, but she can even help you and your guests figure out why the party is bombing, if you're curious to know the reason. Granted, TERRY can be sarcastic at times, and sometimes TERRY's comments make sense only to TERRY. But as analysts go, she's cheap and she's always available. Besides, how else could you save both your party and your composure? (P. S. TERRY is also a good companion when you're all alone.)

TERRY is your very own analyst. Depending on your mood, you can engage her in light conversation, or you can reveal your innermost feelings. While she doesn't promise to clear up all your problems, she will keep your sessions in the strictest confidence, so feel free to reveal all. And she's very easy to use. You can start conversing as soon as she automatically loads into computer memory. You talk to TERRY via the keyboard, and she displays her responses on your screen. She can last as long as you can — long after your last guest has departed!

REVIEW COMMENTS
TERRY is a lightweight version of the artificial intelligence programs designed to imitate psychotherapists. However, TERRY doesn't pretend to be as smart or as probing. She favors, instead, rollicking repartee.

Some of TERRY's responses are a little odd!

The user manual is GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	32K	$15.95	APX-10047
Diskette (810)	32K	$15.95	APX-20047

REVERSI II
by Russell Segal

Recommended for ages 6 and up/Written in machine language
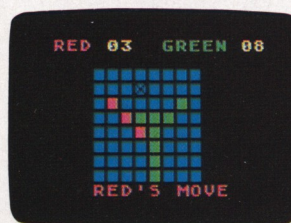
REVERSI II is a two-player strategy game playable on several levels. The object is to outflank your opponent's squares on two sides — vertically, horizontally, or diagonally — to capture them. You win if you have more points than your opponent when the last square on the grid is filled. Often a substantial lead can vanish with one strategically placed marker. One player can compete against another player, using one or two Joystick Controllers, or one player can compete against the computer at three different levels. At the easiest level, the computer always takes the most pieces possible on a move. At the intermediate level, it studies not only its possible moves but your resulting countermoves, thereby playing a good defense. At the highest level, the computer considers its moves, your responses, and its next move; it also judges the value of each square, since some are considered more valuable than others.

Another option offers an unusual feature — you can watch as the computer figures out its next move (using the highest level of strategy). On its turn, the computer displays the number of squares to be gained for any legal move and the value of each square after considering the next few moves. Then, after adding the weighting of this value to each square, the computer makes its move.

The author invites written questions and comments.

REVIEW COMMENTS
The computer's quick response makes the game fun to play. Because this is a much better program than our original REVERSI, it replaces the original.

The computer is a challenging opponent.

The option showing the computer's thought processes isn't very useful.

The user manual is VERY GOOD.

REQUIRES
One ATARI Joystick Controller

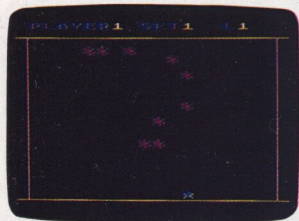### OPTIONAL
A second ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10077
Diskette (810)	24K	$22.95	APX-20077

Entertainment

JAX-O
by John Ortiz

Recommended for ages 7 and up/Written in BASIC

NEW

"Jacks" players, it's time to trade your chalk circle for a television screen. The game is the same — only the face has changed. Using your Joystick Controller, you toss a ball onto a playing field and then race to pick up the jacks before the ball bounces.

One to four players can play JAX-O. Each player chooses his own level of difficulty before the game starts. Different levels can exist in the same competition. This choice includes the size of the playing field and ball speed. The game has seven levels and will proceed through each level unless you choose to "hold" and replay games on the same level.

Once the game starts, ten jacks appear on a square playing field. The player, set, and level number display at the top of your screen. Your player looks like a hand holding a ball and moves when you manipulate your Joystick. Pressing the Joystick button throws the ball onto the field. The player scurries about trying to pick up a jack and catch the ball before it bounces. Clear the field and you move into set two. Now you pick up two jacks at a time until you clear the square. Continue through the sets picking up threes, fours, and so on, up to tens. Your turn ends when your attempt to pick up the jacks fails.

The game starts over once you complete the seventh level. In a one-player game, you try to master different levels of difficulty. In a multiplayer game, you race to be the first to complete all seven levels.

The author invites written questions and comments.

REVIEW COMMENTS
This fun, challenging game has good graphics. You must be quite agile with your Joystick to get the sevens, eights, nines, and tens.

The user manual is GOOD.

REQUIRES
ATARI BASIC Language Cartridge
One ATARI Joystick Controller per player

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10121
Diskette (810)	24K	$15.95	APX-20121

BUMPER POOL
by Steve Smith

Recommended for ages 8 and up/Written in BASIC
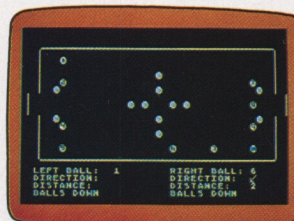
Has your local pool hall been torn down to make way for another parking lot? Do some of the unsavory characters hanging around the tables keep you from getting off your best shots? Do you get the yen to play when the hall is closed? Whatever your problem, you can still play bumper pool with this two-player computer version of the popular pool hall game. In BUMPER POOL, your goal is to shoot all five of your balls into the opening at the opposite end of the pool table. Twelve round bumpers located in the center and at both ends of the table impede your path. A ball hitting a bumper bounces unpredictably, whereas you can predict the direction in which your ball will travel after a cushion shot off the table edge or a bank shot off other balls. In each turn, you select the ball you want to move, the direction in which you want to move it, and the distance you want it to travel. The computer then follows your instructions. The results can sometimes be all ten balls moving at once! You must play both offensively and defensively — to maneuver your balls down to the other end of the table, while keeping your opponent from pocketing all five opposing balls before you do.

The author invites written questions and comments.

REVIEW COMMENTS
The colors, sounds, and redefined character set used in BUMPER POOL create some pleasing graphics. It's easy to play the game, but not so easy to pocket the balls. Some of the angles take getting used to. Since the ball motion is handled by BASIC, it's not as smooth as it could be.
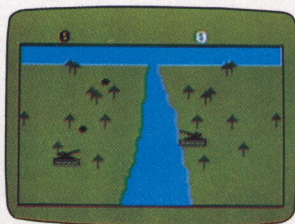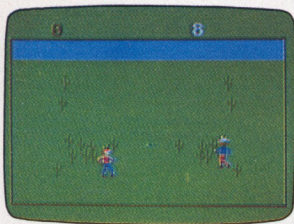
The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
A set of ATARI Joystick Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10053
Diskette (810)	24K	$15.95	APX-20053

OUTLAW*/HOWITZER

Recommended for all ages/Written in machine language

Here are two games to show off your marksmanship. In OUTLAW you square off against another cowboy, who has you cornered in the desert. Fortunately for you, you can hide behind cactuses to elude his bullets. You use your Joystick Controller to chase your opponent and to take aim, then to scamper out of range as he fires back at you. You can run him all over the desert, but he's a real sharpshooter, so you'll be doing some fancy footwork to get him before he gets you. The first to score ten hits is the winner.

In HOWITZER your tank confronts the enemy tank across a river, which neither of you can cross. You hear your tank rumble as you use your Joystick to maneuver around the field. But you can't count on the trees to protect you from enemy fire. Each cannonball you fire that misses its target leaves a hole in the field, but you'll know when either of you has scored a hit — the earth shakes and the tank explodes. The first to score ten hits is the winner.

You can play OUTLAW or HOWITZER against the computer or against another player. To compensate for different levels of skill, each side can play with or without handicaps — each game has eight variations.

REVIEW COMMENTS
Both games use colorful, action-packed graphics and sound effects, which make these games appealing to players of all ages and levels of skill. A good party game!

The user manual is VERY GOOD.

REQUIRES
ATARI Joystick Controller(s)

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$22.95	APX-10004
Diskette (810)	24K	$22.95	APX-20004

*OUTLAW is a registered trademark of Atari, Inc.

GRAPHICS/SOUND DEMONSTRATION

Recommended for all ages/Written in BASIC and machine language

This diskette shows off the ATARI Computers' outstanding graphics and sound effects capabilities. An ATARI Computer can produce 128 different colors (16 colors, each at 8 levels of brightness). Use these colors in myriad shapes, patterns, and sequences and just try to imagine the range of special effects possible! This diskette illustrates but a few of the many two- and three-dimensional effects you can achieve with an ATARI Computer. The diskette also contains a scrolling map that demonstrates the ATARI Computers' fine scrolling capability; the assembler source code is included to let you see how it works. By studying the source code of any of these programs, you can adapt the techniques to your own applications.

REVIEW COMMENTS
Even on a black and white screen these graphics are impressive; on a color screen, they're stunning!

The user manual is VERY GOOD for running the programs but only FAIR in explaining how the programs work.

REQUIRES
ATARI BASIC Language Cartridge
ATARI Joystick Controller
ATARI Paddle Controllers
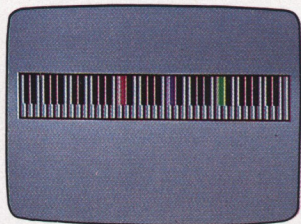
OPTIONAL
ATARI Assembler Editor Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$15.95	APX-20028

JUKEBOX #1
by Lee Actor

Recommended for ages 6 and up/Written in BASIC and machine language

NEW

Do you need a new approach to home entertainment? How about some elegant music as background for your next dinner party? Created with the help of ADVANCED MUSICSYSTEM (APX-20100), JUKEBOX #1 turns your ATARI Home Computer into a record player you set and forget.

A selection of eight quality classics fills JUKEBOX #1. Once the program loads automatically into computer memory, a display of the musical titles appears. Press the SELECT key to make your choice. The selections are "Overture to the Nutcracker" by Tchaikovsky, "Flight of the Bumblebee" by Rimsky-Korsakov, "Air on the G-String" by J. S. Bach, "String Quartet in Eb" by Mozart, "Brandenburg Concerto #5 in D" by J. S. Bach, "Well-Tempered Clavier" by J. S. Bach, "Fur Elise" by Beethoven, and "Fugue in C minor" by J. S. Bach. If you want to hear everything, an automatic play feature loads and plays each piece in sequence.

As you listen to a piece, a piano keyboard plays notes on your TV screen, with each of the four voices in a different color. For additional fun, plug in your ATARI Paddle Controllers and change the tempo of a piece as it plays. One controller makes large jumps in speed. The other controls fine tuning.

(Note. The music on JUKEBOX #1 cannot be modified using the ADVANCED MUSICSYSTEM program because of space-saving measures taken by the author.)

The author invites questions and comments by telephone and mail.

REVIEW COMMENTS
This is an excellent way to show off the ATARI Home Computer's musical capabilities. The auto-play feature will be of particular interest to store owners and others needing a good sound demonstration program.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
One set of ATARI Paddle Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$15.95	APX-20135

CENTURION
by Robert Zdybel

Recommended for teenagers-adults/Written in BASIC
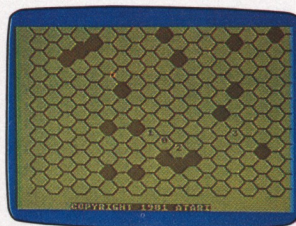
Here's a real-time war game in which you are a Roman centurion assigned to destroy ten hordes of barbarians before they destroy your ten legions. Your legions occupy positions in an 11-by-18 grid of hexagons. But you don't know the locations of the enemy units until one of your units nears an enemy unit; then that unit displays in its hexagon. You move your legions by issuing a series of directional commands. After entering your commands for a unit, you go on to move other units while the program carries out your commands. It also controls the enemy's moves. The barbarians are intent on wiping out your units! Thus, you constantly need to scan the grid for enemy movement and then recall your units to revise your strategy.

CENTURION has ten levels of difficulty to accommodate novice and experienced warriors alike. The high levels allot barbarians greater strength and give you less time to plan your moves. If you vanquish the barbarians, the Roman Senate awards you silver pieces commensurate with your victory.

REVIEW COMMENTS
This game calls for quick thinking and constant checking of both the graphic and the data displays. The displays do a commendable job of clearly tracking the large amount of information and number of movements involved in playing CENTURION.

The game's human interface is weak. For example, it can become confused if the user makes a mistake, and it's also slow at times.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10016
Diskette (810)	24K	$15.95	APX-20016

LOOKAHEAD
by Johnson Software

Recommended for ages 8 and up/Written in BASIC

LOOKAHEAD is a strategy game played with Joysticks. The game board is a table of numbers. You can move only horizontally across a row; your opponent can move only vertically within a column. The object is to force an end to the game while you have more points than your opponent. You score points by landing on numbers and you end the game by landing on the last number in any column or row. The strategy in LOOKAHEAD isn't as simple as always landing on the highest number, however, because your opponent might then be able to land on an even higher number or force you to move to the last available number in a row while your opponent has the higher score. The sharper your opponent, the further ahead you must plan your moves!

You can play against another player or against the computer, which can play at three levels. You can also specify the highest number you want used in the number table. If you like an element of luck in your games, you can choose to have some numbers in the table display as question marks until selected.

The author invites written questions and comments.

REVIEW COMMENTS
LOOKAHEAD makes good use of the ATARI Computer's graphics capabilities. Playing against the computer is a challenge for all but very advanced players.

The game is an enjoyable way for children to practice their addition.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
ATARI Joystick Controller(s)

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10032
Diskette (810)	24K	$15.95	APX-20032

ANTHILL
by Steve Bittrolff

Recommended for all ages/Written in BASIC
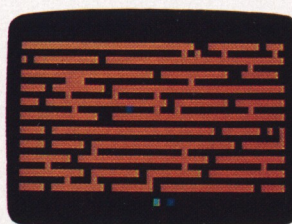
After playing this two-player game, you'll watch your step around anthills. You and a friend are at the bottom of a subterranean anthill. The first to reach the surface wins, but it's not simply a matter of tracing the quickest path and using your Joystick to follow it to the top. This anthill is at a construction site, and so paths open and close in the maze as the earth shifts under the weight of the heavy machinery. In addition, a frantic blue ant scurries around the maze trying to keep you from deserting. If it zaps you, you're thrown back to the bottom of the heap, and your race begins anew.

REVIEW COMMENTS
This is an interesting variation on maze games using a Joystick Controller to move around. You need patience while a path opens up, but you also need speed to beat your opponent *and* the dynamic maze, which might reclose the path before you can get through it.

The game could be more imaginative. For example, it would be fun to hear the ants scurry around, bounce against closed pathways, and thud back to the bottom of the maze.

Owing to the colors used, the bad blue ant is hard to see on a black and white TV screen. However, you can still play the game, since you know when you've been zapped because of where you land.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
ATARI Joystick Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	8K	$15.95	APX-10024
Diskette (810)	16K	$15.95	APX-20024

COMEDY DISKETTE

Recommended for all ages/Written in BASIC

For those who appreciate the lighter side of computers, we offer a melange of humor and whimsy. Lest we spoil the fun by telling too much, we merely hint here at what's in store for you. The subtitles are:

BURP — for those who yearn for a little variety in their READY prompt.

ACHTUNG — for those who can recall their fear of what could happen if they touched the wrong key on the keyboard.

SOCRATES — for those who can use a fresh supply of aphorisms to guide and comfort them in this complex age.

NERDQUIZ — for those who want to test their NERD quotient.

DOS.SIS — for those who take the DOS menu selections for granted.

FPFSQUAD — for those who can't face any more debugging sessions or hardware failures.

REVIEW COMMENTS

These routines have something for most people. Some use clever graphics and sound effects, some stress textual humor, and some combine all three elements. However, the humor is somewhat juvenile and the routines might not appeal to everyone.

The user manual is VERY GOOD.

REQUIRES

ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$15.95	APX-20027

PRESCHOOL GAMES

by Bob Polaro

Recommended for ages 3—8/Written in BASIC

This set of eight games for young children introduces some basic game concepts. Some resemble traditional children's games. Others develop such skills as pattern recognition and memory recall. Played with a Keyboard Controller, they are:

TIC-TAC-TOE — complete a row or column first and you win; play against the computer or against another player.

TOUCH-ME* — try to reproduce a sequence of tones the computer plays; build up to an 8- or 16-note sequence.

PIANO — compose a tune and then have the computer play it back.

COUNTING — count the number of notes the computer plays, or enter a number and have the computer play a tune with that number of notes.

BATTLE — guess the secret location of your opponent's battleship before she guesses yours and you win; play against the computer or against another player.

ROCKSCIS — pick "rock," "scissors," or "paper," and then let the computer or another player try to guess your choice.

MUSICAL — after the computer plays musical chairs, match the position of the chair taken away with the corresponding button on your Keyboard Controller.

SOUNDBOX — press a button to produce a noise, such as chirping, exploding, drilling, or splashing.

REVIEW COMMENTS

The graphics in these games aren't nearly as elaborate as the ATARI Computer can support.

The user manual is VERY GOOD. However, a child will usually need oral instructions from someone the first time through most of these games.

REQUIRES

ATARI BASIC Language Cartridge
ATARI Keyboard Controller(s)

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	16K	$15.95	APX-20006

*TOUCH-ME is a trademark of Atari, Inc.

DICE POKER
by Bob Polaro

Recommended for ages 8 and up/Written in BASIC

DICE POKER is a game in which strategy can compensate for bad dice rolls — at least, up to a point! As many as four players or teams can compete at a time. A game consists of thirteen rounds of play. In each round, you can roll any or all of five dice up to three times to obtain one of thirteen scoring combinations, such as aces, three of a kind, and full house. But you must select some combination each turn, even if you score zero points. You earn bonus points for rolling five of a kind or for high scores. Winner is the highest scorer. The diskette version of DICE POKER keeps track of the top ten scores and players' initials.

REVIEW COMMENTS
DICE POKER keeps score in a nicely formatted display and the program is easy to use.

This makes a good party game because several people can play at a time.

This version doesn't let one player compete against the computer.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
One to four ATARI Joystick Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10035
Diskette (810)	24K	$15.95	APX-20035

DOWNHILL
by Mark Reid

Recommended for ages 8 and up/Written in BASIC and machine language
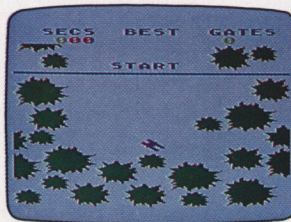
Brrrrr! The nippy air triggers your yen to ski. But it's hard to get away, and even when you can get away, the crowds are starting to spoil your fun. Help is here! With DOWNHILL, you can sit by the fire, sip a cup of hot chocolate, and ski to your heart's content. Not only that — you have the slopes all to yourself! This one-player game challenges your hand/eye coordination and timing precision (but your legs can relax). You use a Paddle Controller to steer your skier around trees and through gates on the beginner, intermediate, or expert course. If you like, you can preview each course before running it, or you can run it sight unseen. The intermediate and expert courses have narrower openings between trees and you'll have to turn your skier uphill if you hope to make every gate. When necessary, you can snowplow (slow down) to avoid hitting a tree or gatepost, which cost you precious seconds. Besides choosing the difficulty of your course, you can also vary the degree of the slope to decrease or increase the speed with which your skier runs the course.

The object is to ski to the bottom of the hill as fast as possible, while making every gate. Each gate missed causes a score penalty. The program keeps track of the best time for each course, so you can compete against a friend's time or against your own best time. SWOOSH! Time to hit the powder!

The author invites questions and comments by mail and telephone.

REVIEW COMMENTS
DOWNHILL makes colorful and imaginative use of the ATARI Computer's sound effects and graphics features, including vertical scrolling and player missile graphics.

Recovery after wrapping your skier around a tree can be maddeningly slow!

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
ATARI Paddle Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10063
Diskette (810)	32K	$22.95	APX-20063

BASIC ADVENTURES

Adventures are maze games in which you're given descriptions of your current surroundings. These games use text only — no sound, motion, color, or graphics. Each version places you in a different setting and assigns you a different goal, such as escaping from an evil wizard or finding a treasure. You move around by entering one-letter directional commands like "U" for "up." In your meanderings, you encounter objects to help you accomplish your task or to protect you. If you're stumped, you can ask for hints. In addition, each version has secret words, which can effect wondrous results. All the user manuals are GOOD.

CASTLE, REV. 2
by Robert Zdybel

Recommended for preteenagers—adults/Written in BASIC

You must find an escape route out of an enchanted castle in which you've been imprisoned by a wrathful wizard. Revision 2 has improved text display.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$15.95	APX-20019

WIZARD'S GOLD

Recommended for preteenagers—adults/Written in BASIC

You're in another magical castle, but this time your task is to find a hidden bar of gold and return it to its rightful place.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$15.95	APX-20020

CHINESE PUZZLE
by Dennis Koble

Recommended for teenagers—adults/Written in BASIC

This one is for jigsaw puzzle fans. In this diabolical version, you find yourself locked in a suite of rooms from which you try desperately to escape. Unlike most Adventures, the rooms hold no helpful hints.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$15.95	APX-20023

SULTAN'S PALACE
by Dennis Koble

Recommended for adults/Written in BASIC

The notorious Sultan Abdul has abducted the sheik's daughter. Gallantly, you offer to rescue the princess from Abdul's pleasure palace. Your will power will be tested if you wander into certain of the Sultan's special rooms. This version is for adults and mature teenagers.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$15.95	APX-20025

SLEAZY ADVENTURE
by Bob Smith

Recommended for teenagers—adults/Written in BASIC

Your friend has purchased a sailboat, currently moored in Thailand. You volunteer to sail it home for her, thinking you can use it to import contraband. Of course, the more valuables you take, the greater the risks you face.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$15.95	APX-20021

ALIEN EGG
by Robert Zdybel

Recommended for preteenagers—adults/Written in BASIC

You awake from a deep sleep to find yourself the only one left aboard your spaceship. To complete the mission alone, you must suit up, exit the spacecraft, capture a specimen of the inhabitants (an alien egg), and return it to the ship's lab for analysis.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$15.95	APX-20022

WIZARD'S REVENGE
by Max Manowski

Recommended for preteenagers-adults/Written in BASIC
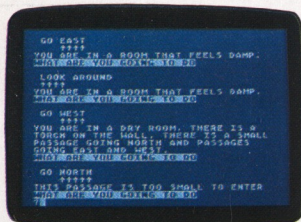
As a non-believer, you casually make a deprecating remark about wizard believers. Next thing you know, you're transported to a strange and hostile land with nothing but the clothes on your back. It's wizard country and you'd better high tail it out of there! However, that's easier said than done, as you'll soon discover.

This version of Adventure accepts free form commands and it contains some randomness from session to session. It's full of traps. Even using the HELP command can get you into trouble.

REVIEW COMMENTS
Although a typical Adventure, this one contains some sounds and it has a chatty approach. Be prepared to die many times before you figure out how to avoid all the traps.

The user manual is GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$15.95	APX-20054

System Software
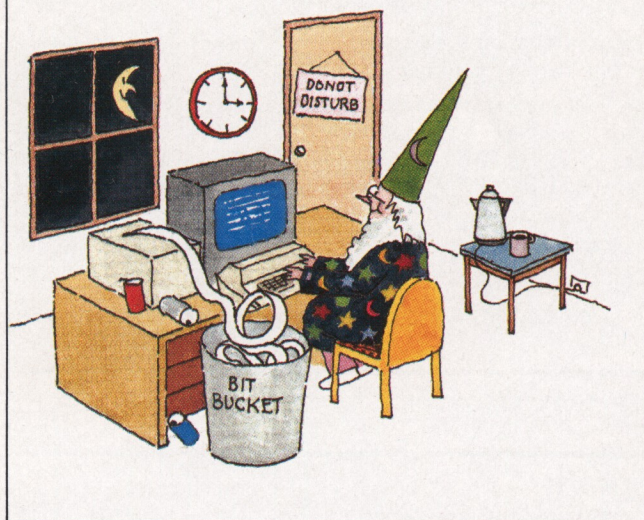
CHAMELEON CRT TERMINAL EMULATOR
by John Howard Palevich

Recommended for ages 14 and up/Written in BASIC and machine language
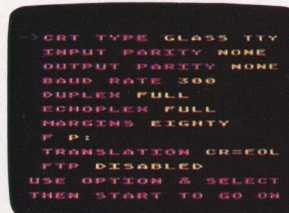
Convert your ATARI Computer into a computer terminal! For three terminal types, "Glass TTY," ADM-3A, and VT-52, CHAMELEON supports tabs, line feed, form feed, and a visual bell signal. For the ADM-3A and VT-52, it also supports cursor addressing and basic editing features. It doesn't support the special graphics character set of the VT-52 or some rarely used ADM-3A features.

CHAMELEON's major features are: (1) an 80-column, 24-line character display (displaying 40 columns at a time) with a lock cursor feature for automatic horizontal scrolling; (2) previous page buffer; (3) continuous transmission at baud rates of 75 to 4800 and non-continuous at 9600; (4) selectable input and output parity; (5) a BREAK signal; and (6) the full ASCII standard character set; (7) program uploading and downloading capability between your computer and a time-sharing system and between two ATARI Computers; and (8) the ability to dump the contents of the TV screen to a printer. Assembly language programmers with a 32K disk system and the Assembler Editor Cartridge can define new terminal types with CHAMELEON (the diskette version includes the source code).

The author invites written questions and comments.

REVIEW COMMENTS
This is a versatile, well thought-out program. The wide screen emulation is great for large computer systems expecting an 80-column terminal. Your TV picture must be properly centered to handle the 40-column display. It has no autoreturn mode; the host computer must send a CR-LF signal.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
ATARI 830 Acoustic Modem or an RS-232C device
ATARI 850 Interface Module

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10058
Diskette (810)	24K	$22.95	APX-20058

EXTENDED fig-FORTH, REV. 2
by Patrick Mullarky

Recommended for advanced programmers/Written in machine language

For several reasons, the FORTH language has been gaining in popularity in recent years. Many advanced programmers find that FORTH is a good development tool for applications requiring high speed and low memory consumption, such as process control, systems software, and games. For these kinds of jobs, a FORTH program often runs 10 to 100 times faster than does a BASIC program to perform the same function. Because FORTH wasn't designed for floating point calculations (although they're possible and this version supports them), it isn't normally used for business applications, number crunching, and the like. However, it fills the gap nicely between BASIC and machine language programming. On the one hand, programming in FORTH is usually easier than programming in machine language, but FORTH programs don't run as fast as machine language programs do. On the other hand, programming in FORTH is sometimes slower than programming in BASIC, but FORTH programs run faster than BASIC programs do.

EXTENDED fig-FORTH is a full implementation of the standard FORTH as defined in the Forth Interest Group (fig) Implementation Guide. It roughly follows the 6502 Rev. 1.1 FORTH sources as supplied by the Forth Interest Group (P. O. Box 1105, San Carlos, CA 94070). Many changes were incorporated in adapting the sources to the ATARI Home Computer, but the definitions, operation, and user interfaces remain as described in the guide.

This version adds many definitions, including extended double-precision words, such as 2DUP, 2SWAP, D@, and D!. Also included in this version are the standard FORTH Editor, a complete Assembler for the 6502, a set of the ATARI Computer's Color/Graphic definitions, and a set of the ATARI Computer's floating-point definitions. A new definition, SAVE, lets you make a self-booting image of FORTH on a diskette and will include any new definitions you add. This feature lets you produce applications packages in volume easily. This version doesn't implement the definitions DLIST, MON, and TASK. It does implement the complete set of ATARI Computer Screen-Editor capabilities, making editing and changing FORTH programs simple and straightforward.

You should be familiar with FORTH to use EXTENDED fig-FORTH. Beginning FORTH programmers might want to use the primer, *Starting FORTH*, by Leo Brodie (Prentice-Hall) along with EXTENDED fig-FORTH. Screens are included in the diskette version for this purpose in Revision 2 (along with some bug fixes).

The cassette version is a subset of the diskette version. It doesn't contain the EDITOR, OS, or COLOR/GRAPHICS screens. However, the manual lists all the screens, so cassette users can type in the screens they want to use that aren't included on the cassette. The cassette version is primarily for use as an introduction to FORTH, and not as a software development system.

The author invites questions and comments by telephone and mail.

System Software

REVIEW COMMENTS
This version does a good job of emulating the fig-FORTH model.

The toggling printer command is very convenient in that printing doesn't require special commands.

Upon booting, all error messages are in force. They're nicely formatted and easy to read.

This FORTH includes convenient extensions to allow for diskette backup. It also includes the DECOMP (decompile) word in the DEBUG package; DECOMP is a fairly sophisticated function not often found on microcomputer versions of FORTH.

It supports the RS232 port I/O. Two sound commands are included.

The user manual is GOOD, but it assumes familiarity with FORTH.

REQUIRES
No required accessories

OPTIONAL
All ATARI peripherals and accessories

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$39.95	APX-10029
Diskette (810)	24K	$39.95	APX-20029

ATARI PASCAL LANGUAGE SYSTEM

Recommended for advanced programmers familiar with Pascal/Written in Pascal and assembly language

Pascal is a structured-programming language suited for professional software developers, making it an excellent tool for developing and maintaining programs. ATARI Pascal is a multipass, pseudo-code compiler offering a flexible modular compilation scheme to permit easy transition from large, monolithic programming style to modular programming without extensive preplanning. This modular compilation scheme allows full access to procedures and variables in any module from any other module. Once the source program has been compiled, the Pascal Linker is used to bind individually compiled modules and their run-time libraries into an executable object program.

ATARI Pascal supports the International Standards Organization (ISO) draft standard (DPS/7185 as of 10/1/80), including variant records, sets, typed and text files, passing procedures and functions as parameters, GOTO out of a procedure, conformant arrays, and program parameters.

Although ATARI Pascal isn't completely compatible with UCSD Pascal™, both versions are written around a common core — Pascal as defined by Jensen and Wirth. The differences aren't as significant as, for example, the differences in various BASICs.

ATARI Pascal contains many enhancements, including:
- additional predefined scalars: BYTE, WORD, STRING
- additional operators on integers
- null strings
- ELSE on CASE statement
- external procedures
- absolute variables
- chaining to another program
- modular compilation

It also contains the following built-in procedures and functions:
- graphic, sound, and controller (Joystick and Paddle) functions comparable to those available in ATARI BASIC
- real and transcendental definitions
- move and fill procedures
- bit and byte manipulations
- file manipulation procedures
- heap management aids
- string manipulation
- address and sizeof functions

ATARI Pascal supports sequential and direct access files, text files, and block I/O. It has the same file handling capabilities as the ATARI Disk Operating System 2.0S.

Run-time error handling includes checks for divide by zero, heap overflow, string overflow, and range checking, as well as support for user-supplied routines.

ATARI Pascal has been tested, but not exhaustively. The ISO Test Suite has been successfully executed. Although errors are detected, the results might not be the same as in the ISO Test Suite. Testers agreed that ATARI Pascal is an excellent "second generation" product suited for software development. However, this product is seriously restricted owing to memory limitations and diskette capacity and performance.

As with other APX programs, ATARI does not support this product after the sale. However, we'll study all documented problems we receive for future revisions.

REVIEW COMMENTS
ATARI Pascal offers all the major features of Pascal. The product is for software developers with patience and persistence. Compilation is time consuming and is restricted to *two* (and only two) disk drives. However, one drive can be used after compilation to run the object program. Before buying ATARI Pascal, consider carefully its limited testing, support, and lack of tutorial information.

The user manual is GOOD for advanced Pascal programmers, but it's a reference only, not a tutorial. It describes ATARI Pascal's unique extensions, but it has very few examples.

REQUIRES
TWO ATARI 810 Disk Drives
ATARI Program-Text Editor (APX-20075)

OPTIONAL
ATARI 825 80-Column Printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	48K	$49.95	APX-20102

ATARI PROGRAM-TEXT EDITOR*

Recommended for teenagers—adults/Written in machine language
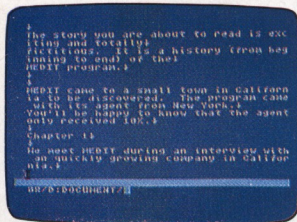
We're proud to offer this exceptionally well-designed, easy-to-use text editor. It's superb for revising source programs written in various programming languages (for example, ATARI BASIC, ATARI Pascal, or assembly language). An outstanding feature of the Program-Text Editor is its two mode approach of immediate text editing along with commands for searching the file and for manipulating both text strings and blocks of text. The editor uses a cursor for working with program text. You edit your text by moving a cursor around the 20 lines of text in the text window and then typing in your revisions. The cursor indicates your current position and where the next character will appear. (The cursor also lets you do automatic vertical scrolling forward and backward in your text.) You can position the cursor and revise text in any of the following ways:

- Move cursor left or right
- Move cursor up or down one physical line
- Move cursor to beginning or end of logical line
- Display previous or next screen of characters
- Insert new line(s)
- Tab to next tab stop
- Insert characters into text
- Delete characters to the left or right of the cursor
- Delete current logical line

It also has an auto-indent feature for repositioning the cursor to an automatic tab stop on the next logical line, which is useful when writing code in languages like Pascal.

The Program-Text Editor uses commands for more general text changes and for moving whole or partial files in and out of computer memory. The command window at the bottom of the display screen contains three lines in which you can retain a series of commands and use them repeatedly, as needed. Command mode offers these actions, among others ("n" refers to a number; "buffer" refers to the part of the file currently in computer memory; "file" refers to the entire file):

- Move cursor left or right n characters
- Move cursor up or down n logical lines
- Move cursor to start or end of logical line
- Move cursor to column n (range 1-200)
- Move cursor to beginning of buffer or file
- Move cursor to end of buffer or file

The editor supports files too large to fit into computer memory with commands to load in sections of the file. You also use command mode to search for specific strings. The editor accepts wild cards as substitutes for characters in search strings. It offers these search commands:

- Search for occurrence n of string 1 in buffer or file
- Search for string 1 in buffer or file and replace with string 2 n times
- Search for string 1 in buffer or file and replace upon verification with string 2 n times

Other commands let you insert and delete text strings. You can delete blocks of characters within a line, or you can delete the entire logical line. You can recover a deleted line with another command.

The editor also supports work with blocks of text. After you place markers immediately before and after the relevant text, you can use these commands:

- Copy the marked block to a new location
- Move the marked block to a new location (erasing its previous position)
- Delete the marked block
- Print the marked block to the printer
- Write the marked block to a specified diskette file

You can also load in a designated diskette file and insert it before the cursor.

Another outstanding feature of the Program-Text Editor is the ability to customize it to fit categories of files. When you specify a filename with a certain extender, the editor automatically uses the options you set instead of its normal settings. Settable options are:

- Set tabs and tab type (normal or expanding)
- Set tab display method
- Set carriage return display method
- Disengage auto-indention feature
- Set maximum line length
- Set left and right screen margins
- Set screen color and luminance and character luminance

REVIEW COMMENTS

This is the best program-text editor we've seen. Its human engineering is excellent. The macro capability of the command window combined with the cursor orientation of the text editing gives you the best of both worlds.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge (for customizer feature only)

OPTIONAL
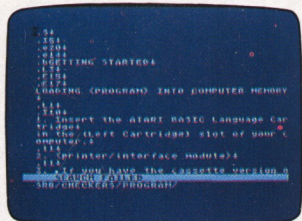ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$39.95	APX-20075

*ATARI PROGRAM-TEXT EDITOR is a trademark of Atari, Inc.

System Software

WORD PROCESSING DISKETTE

This diskette combines the Program-Text Editor and the text formatting program available through APX. Used together, they constitute a reasonable word processing system. The programs are:

TEXT FORMATTER (FORMS) (APX-20002)

ATARI PROGRAM-TEXT EDITOR (APX-20075)

*Please see the individual program descriptions for information about program contents and the minimum RAM and accessories needed to use these programs.

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	*	$49.95	APX-20076

BASIC UTILITY DISKETTE

This diskette combines the following programs on one diskette:

BASIC Program Compressor (MASHER) (APX-20008)

BASIC Cross-reference Utility (XREF) (APX-20009)

Ultimate Renumber Utility (APX-20086)

Variable Changer (APX-20012)

*Please see the individual program descriptions for information about program contents and the minimum RAM and accessories needed to use these programs.

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	*	$49.95	APX-20036

ULTIMATE RENUMBER UTILITY
by Justin E. and Douglas J. Wilder

Recommended for BASIC programmers/Written in machine language
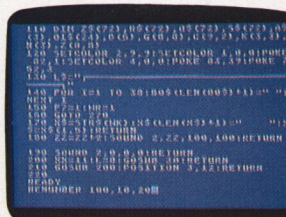
At last we can offer you a *fast*, convenient BASIC renumbering routine! ULTIMATE RENUMBER UTILITY operates directly on your BASIC program in memory and is very fast. It has no lines of BASIC language to appear with yours when you list or save your program. It's unaffected by the NEW command or by pressing the SYSTEM RESET key. And it reduces the memory area for your BASIC program by only 600 bytes.

At the beginning of your computer session, you load RENUMBER into computer memory, where it resides on page six. Then you load in your BASIC program whenever you wish. To renumber your program, you type one statement consisting of the command RENUMBER (or REN.) and three parameters: beginning line number, new starting line number, and increment value. You enter this information just like any other immediate mode BASIC command; no USR calls are required. If you accept the program's default values, then you just type REN. and off it goes!

RENUMBER changes not only numbers at the beginning of each line, but also all references to these numbers within any program statement to correspond to the new line number. After it completes the renumbering process, the program displays line numbers of code containing expressions and variables used as line number references, with a reminder to check these lines.

The authors invite written questions and comments.

REVIEW COMMENTS
This program has all the important features of a good renumbering routine. The use of the command RENUMBER is very attractive.

Block moves of program statements are possible, but the process is lengthy, requiring writing an intermediate file to diskette or cassette.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	8K	$22.95	APX-10086
Diskette (810)	16K	$22.95	APX-20086

BASIC PROGRAM COMPRESSOR (MASHER)
by Dale Yocum and modified by Jerry White
Recommended for BASIC programmers/Written in BASIC
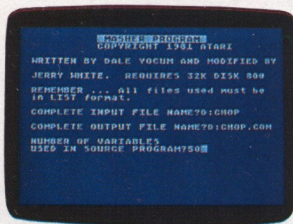
If you've ever worked for hours on a program just to have it run out of memory, this utility is for you. MASHER compresses your BASIC programs into as little memory as possible. You can tell MASHER the name of your program and how many variables you've used (the BASIC Cross-Reference Utility or the Variable Changer, described elsewhere in this section, tells you this if you don't feel like counting). Then MASHER (1) removes REMark statements, (2) converts frequently used constants to variables, and (3) packs together multiple short lines to form longer ones. Depending on how compressed your initial code is, MASHER can reduce the required RAM by as much as 50 percent. Used wisely, it can save you a lot of work and RAM.

MASHER reserves lines 0–9 and variable names Q0–Q999 for its own use.

REVIEW COMMENTS
MASHER not only makes your programs smaller, but also makes them run faster.

Be prepared to wait a *long* time for MASHER to convert a program. Conversions can take anywhere from a few minutes to many hours, depending on the length of your program.

MASHER can make mistakes. You might find that some compressed programs will require "touching up."

A MASHed program will be very hard to read, because all REMarks have been removed and lines have been compressed. Therefore, you'll probably want to MASH a program only after you've debugged it.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
BASIC CROSS-REFERENCE UTILITY (APX-20009)
VARIABLE CHANGER (APX-20012)

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$15.95	APX-20008

BASIC CROSS-REFERENCE UTILITY (XREF)
by Lane Winner
Recommended for BASIC programmers/Written in BASIC
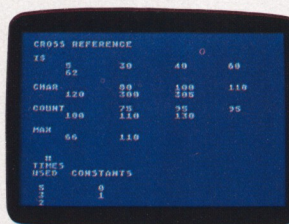
XREF is a utility program that gives you some important information about your BASIC program. First, it tells you the number of variables you've used, which is helpful in large programs, where you might be approaching the 128-variable limit. (It's also necessary information for running the MASHER program, described elsewhere in this section.) Second, it lists the names of all your variables. Third, and most important, it tells you the lines in which you've used these variables. This information can be valuable for debugging complex BASIC programs.

REVIEW COMMENTS
XREF is a handy utility to have in your library. In several instances, it has saved us hours of frustrating debugging. It's also useful when trying to squeeze out seldom-used variables because it's like a program road map.

XREF's error trapping could be better. For example, it might stop and display a BASIC error if it doesn't like your input or your file. It's also rather slow — a large program might take 15 minutes to cross-reference.

For large programs, a printer is almost a necessity.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$15.95	APX-20009

VARIABLE CHANGER
by Lane Winner

Recommended for advanced BASIC programmers/Written in BASIC
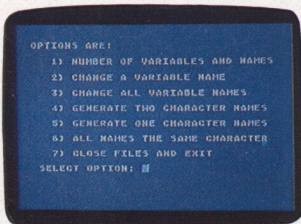
How often have you typed in a complete BASIC program and later wished you'd called a variable by a different name? Have you ever run out of RAM because of lengthy variable names? Have you wanted to protect your program at times from being listed? If so, consider this utility. VARIABLE CHANGER changes a variable's name throughout your BASIC program by modifying your program's internal symbol table. You can change particular variable names, or you can have the utility change them all to the shortest possible length. This latter option helps compress a program into the smallest possible space. (This is a good companion program to MASHER, described elsewhere in this section.) To protect your program from curious eyes, you can also use this utility to convert all your variable names to the *same* non-printing character. Because the BASIC interpreter has already translated your variable names to an internal form, your program will still run, but no one will be able to read it by using the LIST command.

REVIEW COMMENTS

This program is quite fast, because it takes advantage of the unique structure of ATARI BASIC by modifying the names in the symbol table associated with a tokenized BASIC program instead of by modifying the actual program code.

The power of this program makes it unsuitable for a novice programmer. You can make a real mess of your program if you're not careful.

Trying to expand variable names to be much longer than they were originally might cause some program statements to exceed the maximum logical line length permitted by the Screen Editor, and you won't be able to edit such lines in the future because the Screen Editor will truncate them.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$15.95	APX-20012

DISK FIXER (FIX), REV. 2
by Mike Ekberg

Recommended for advanced systems programmers/Written in machine language
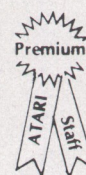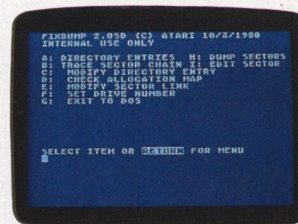
FIX lets an advanced programmer get directly at several important areas of a diskette. Depending on the circumstances, FIX can sometimes help you recover some or all of your files from a "crashed" diskette. FIX lets you: (1) display directory entries, so that you know the exact entry for each file; (2) modify directory entries, so that you can control directory information; (3) trace sector chains through a file, looking for the end of the file or for a bad sector, so that you can verify the structure of a file; (4) check the allocation map, so that you can recover misallocated sectors; (5) modify sector links, so that you can control the file number, sector byte count, and forward sector pointer for any sector on the diskette; and (6) edit actual sector data. This utility program is for an advanced systems programmer only. Its use requires a detailed understanding of disk structure. Revision 2 lets you look at and edit sector data.

REVIEW COMMENTS

FIX has been invaluable on several occasions in salvaging a destroyed diskette. Styled after the ATARI DOS menu structure, it has a fairly good user interface.

You can do more harm than good with this powerful utility if you don't know what you're doing. It's a tool for an advanced user *only*.

The user manual is GOOD.

REQUIRES
No required accessories

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$22.95	APX-20010

DSEMBLER
by Volker Multhopp

Recommended for assembly language programmers/Written in BASIC and machine language
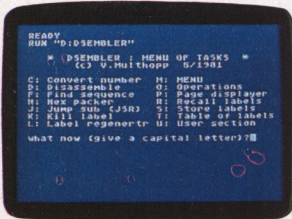
If you write machine language subroutines as part of ATARI BASIC programs, you know how cumbersome debugging your assembler routines can be. Here's a tool written in BASIC that's useful for studying and debugging 6502 machine language code. With DSEMBLER you can disassemble any of the valid 6502 machine code in memory and display or print the results in a five-field format: (1) the location of the disassembled instruction; (2) the hex value of each byte of the instruction; (3) if you labeled the location while debugging the code, the label name (i.e., not necessarily the label you assigned as you wrote the code); (4) the op-code for the instruction; and (5) any associated operand using standard 6502 format (if you labeled an operand address while debugging, the label name will appear instead of that address).

Using DSEMBLER, you can also: (1) convert integers between 0 and 65535 to hexidecimal and vice versa; (2) regenerate labels, rename existing labels, and remove an existing label (DSEMBLER can create as many as 254, two-to-eight character labels); (3) display or print a list of label values and their names; (4) store a file of labels to diskette or cassette and recall them; (5) load your machine code quickly into memory; (6) display "pages" of memory for quick scanning; (7) jump to a machine language subroutine with the 6502 X, Y, and A registers set as you wish; (8) search any part of memory for any specified byte sequence, using wild cards for byte values if you wish; and (9) write your own operation as an option on DSEMBLER's menu.

The author invites questions and comments by telephone.

REVIEW COMMENTS
DSEMBLER is a useful, easy-to-use debugging tool for programmers writing assembler routines to run with ATARI BASIC programs.

The user manual is GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$22.95	APX-10065
Diskette (810)	24K	$22.95	APX-20065

SUPERSORT, REV. 3
by Bob Fraser

Recommended for intermediate-advanced BASIC programmers/Written in machine language

SUPERSORT is a high-speed sorting routine you call from your BASIC programs. It can sort 1,000 thirty-byte names in less than ten seconds and 1,000 one-byte items in less than two seconds! Depending on your computer's memory size, SUPERSORT can sort as many as 10,000 records. A record is limited to 256 characters. Any data field can be a sort key and SUPERSORT can sort on as many as 89 keys. SUPERSORT loads itself into RAM as an AUTORUN.SYS file when you boot a diskette containing SUPERSORT. You run your BASIC program as usual, storing in one long string the items you want sorted. You POKE in your record and key lengths and execute a USR function. SUPERSORT sorts the entire string in ascending order by your specified key(s). Your BASIC program then determines what is done to the sorted data.

Installing itself below BASIC at boot time, SUPERSORT uses page 6 in memory as a scratch pad and about 1000 bytes of RAM for itself. This program combines C. Hoare's QUICKSORT with a standard insertion sort. The algorithm is described in Donald Knuth's *Art of Computer Programming*, vol. 3, p. 114. The diskette has the assembler editor source code to allow you to modify the program to fit your needs.

REVIEW COMMENTS
This utility is designed for use only with BASIC. With some work, you can modify it for other uses. SUPERSORT does no error checking, so you must write your calling program carefully; otherwise, it will sort all of memory, including your program. Because it uses the AUTORUN.SYS feature, using the RS-232 ports of an ATARI 850 Interface Module at the same time you use SUPERSORT can be awkward.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
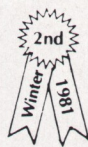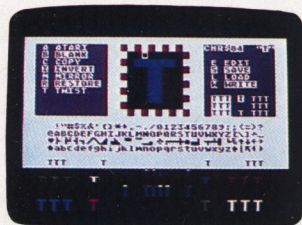ATARI Assembler Editor Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$22.95	APX-20030

INSTEDIT, REV. 2
by Sheldon Leemon

Recommended for programmers/Written in BASIC and machine language

The ATARI Computer's ability to change character sets lets you use foreign language alphabets and special symbols easily. You can also develop graphics characters to replace the plot-and-draw method of generating high-resolution graphics. Drawing a picture then becomes as easy as printing a string of characters. Animation of these figures is possible just by alternating the character set in use. INSTEDIT can help you take advantage of these advanced graphics capabilities.

You use a Joystick Controller to edit a character in an eight-by-eight matrix. INSTEDIT simultaneously displays the modified character in all six graphics modes. To experiment with combining characters, merging them to create larger objects, you can use INSTEDIT's memo pad mode, which lets you display character sequences in the lower half of the screen in any graphics mode. You can even create objects for use with the ATARI Computer's system of player missile graphics.

In addition to point-by-point character editing, you can change the whole character at once. You can erase it, restore its original shape, invert letter and background color, copy the form of another letter, or shift the position of the character within the matrix. You can store a character set for further work. Once you're satisfied with a set, INSTEDIT can write all or part of your character data to a diskette file or to a cassette in the form of BASIC DATA statements, assembler source code using the .BYTE directive, or even an entire BASIC subroutine for incorporating your new character set into an existing program. Revision 2 contains a minor change in the editing prompt.

The author invites written questions and comments.

REVIEW COMMENTS
Making good use of the ATARI Computer's graphics capabilities, INSTEDIT is the best character set editor we've seen.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10060
Diskette (810)	24K	$22.95	APX-20060

INSTEDIT (Microsoft BASIC Version)
by Sheldon Leemon

Please read the description under INSTEDIT, REV. 2 for information about this program.

REQUIRES
ATARI Microsoft BASIC (CX8126)
One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$22.95	APX-20113

MICROSOFT BASIC CROSS-REFERENCE UTILITY
by Fred Thorlin

Recommended for Microsoft BASIC programmers/Written in Microsoft BASIC

NEW
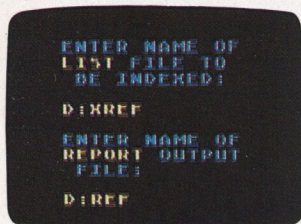
Have I used this variable somewhere else? Does another statement branch to this one? How did I get to this statement? What caused the value of that variable to change? If I change this subroutine, what other code is affected? If you've programmed in BASIC, you've probably faced these kinds of questions. MICROSOFT BASIC CROSS-REFERENCE UTILITY (MXREF) can help give you the answers. This program development tool produces directories of variable usage and line number references within ATARI Microsoft BASIC programs.

MXREF requires your program to be stored on diskette in LIST format. After loading MXREF into computer memory, you answer prompts requesting the names of the file to be processed and the report file. MXREF then analyzes your program and issues a report to your designated output device. The report includes title, variable reference, and line number reference sections. The title section identifies the file analyzed and the value of the TIME$ field when the report was generated. The variable reference section lists all variables in alphabetical order; next to each is a list of all line numbers of statements referencing the variable. The line number reference section lists all line numbers that are referenced within statements; next to each entry is a list of all line numbers of statements referencing the indicated line.

The author invites written questions and comments.

REVIEW COMMENTS
This utility is a good program documentation and debugging aid.

The user manual is VERY GOOD.

REQUIRES
ATARI Microsoft BASIC (CX8126)

OPTIONAL
ATARI printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$15.95	APX-20125

PLAYER GENERATOR
by Paul G. Abell

Recommended for ages 12 and up/Written in BASIC

NEW
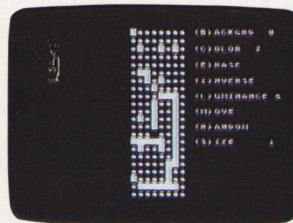
You don't have to be a computer pro to create screen movement and animation for your games, educational programs, or business presentations. PLAYER GENERATOR saves you time and energy when you create players with your ATARI Home Computer.

Once the program loads automatically into computer memory, an 8 × 22-dot grid appears. You create a player by using your Joystick Controller to move a flashing cursor over the dots and pressing the trigger button when the cursor rests on the desired dot. You follow this procedure until you have your desired graphic. While you're designing, a replica of your player displays alongside the grid. You can create up to five players. The program lets you save your design and use it in your own program.

Using a series of program options, you can select one of fifteen background and player colors, erase the player and design grid, reverse background color and dots, alter luminance of the player, generate a random pattern, alter the size of a player, store a demonstration program of your new design to cassette or diskette, print player data, retrieve a design from a diskette, or save a design to a diskette. One key press cycles you through all the possibilities within each choice.

The author invites comments by mail or telephone.

REVIEW COMMENTS
Designing players is easy and straightforward with PLAYER GENERATOR. The keyboard is used very effectively in the design phase. The player movement routine is slow.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
One ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	24K	$15.95	APX-10117
Diskette (810)	32K	$15.95	APX-20117

T: A TEXT DISPLAY DEVICE
by Joseph J. Wrobel

Recommended for BASIC programmers/Written in machine language
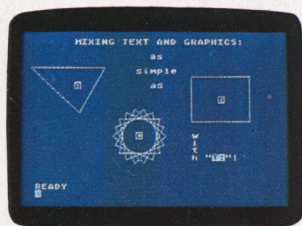
Remember your frustration when you tried to put all that text on the screen and found 40 characters cramping your style? What about the less-than-satisfactory results when you tried to label some graphs? T makes intermixing text and graphics on the same line not only possible but easy. You'll have more freedom and control over what you can put on a line with this autoloading, 510-byte routine than you have using the standard technique of doing display list modifications.

Rather than working through the display list feature (although T is compatible with a modified display list), T defines a new device, T:, and uses it like P: or any other input/output device. Printing to T: plots characters — text and graphics — to the screen, the character size depending on the current graphics mode. You use the standard ATARI BASIC I/O commands with this new device name (no PEEKs or POKEs), so you don't need to learn a different set of commands. T also has special operation XIO commands for setting left and right margins, choosing from three character widths (in half width, up to 80 characters can display on a line), altering the character base pointer for user-defined character sets, and offsetting text for printing subscripts, superscripts, or proportional spacing. You can use T with any of the standard BASIC and hardware graphics modes (both full and split screen), with as many colors as are normally available in each mode. In all modes, T prints the full ATASCII character set in both normal and inverse mode. The program supports random screen printing as well as sequential line printing.

The author invites comments and questions by mail.

REVIEW COMMENTS
T is a slick solution to mixing text and graphics modes on the same line. The 80-character display mode is really useful only on black-and-white monitors. You can obtain an 80-column mode only through your own programs.

The user manual is GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	8K	$22.95	APX-10067
Diskette (810)	16K	$22.95	APX-20067

DISKETTE LIBRARIAN
by Ronald & Lynn Marcuse

Recommended for teenagers-adults/Written in BASIC and machine language
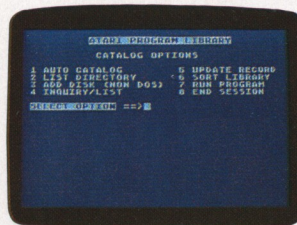
"Why doesn't someone write an on-line cataloging system to organize my diskette files," you grumble as you search your stack for the game your friends are impatiently waiting to play. Help is here! DISKETTE LIBRARIAN not only catalogs several pieces of information about your diskette files, but also updates entries, searches and sorts on any unit of information, and displays or prints the formatted catalog. In addition, DISKETTE LIBRARIAN can automatically run a BASIC program stored in SAVE format after it locates the program and prompts you to insert the referenced diskette. This feature can make your computer easier for beginners to use.

A series of menus guide you through these activities. You set up your catalog by first entering a volume number for each diskette (you must leave one sector free on each diskette to store this internal label). Then, as each file name on a diskette displays, you add the following information in response to prompts: (1) description, (2) file type, (3) program source, and (4) date. DISKETTE LIBRARIAN supports both automatic and manual file updating. You can display or print complete or partial catalogs and complete or partial entries that are sorted or unsorted.

The authors invite questions and comments by telephone.

REVIEW COMMENTS
The assembly sort routine makes for very fast file sorts.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI 825 80-Column Printer or Epson MX-80 Printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$22.95	APX-20056

UTILITY DISKETTE II
by RLM Microsystems

Recommended for teenagers and up/Written in BASIC and machine language

★ NEW

UTILITY DISKETTE II contains five programs for performing various housekeeping and programming functions. The MENU program displays the disk directory and lets you run a BASIC program by typing a number. The LISTER program prints a formatted listing of any BASIC program with substitutions for all non-printing characters. You can print headings and the conversion table showing the printed character substituted for each non-printing character. And, you can select the printed line width, number of lines per page, and normal or compressed type. The COMPARE program analyzes two versions of a BASIC program and displays or prints lines that don't match. HEXDUMP produces a formatted screen display or a printed listing of either memory locations or diskette files. The program works with any type file, including BASIC, binary, and data files. The output is in ASCII representations of printable hexadecimal values. SORT is a high-speed sort/merge routine that sorts fixed-length records up to 255 bytes long in ascending or descending order and on any sort key. The program's sublist algorithm lets you sort diskette files larger than the available memory can handle.

The authors invite questions and comments by telephone and mail.

REVIEW COMMENTS
This is a useful set of utilities. SORT and COMPARE are particularly handy to have, the latter program providing helpful, pertinent information.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

OPTIONAL
ATARI 825 80-Column Printer or equivalent printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$29.95	APX-20124

2nd Summer 1982

COSMATIC ATARI DEVELOPMENT PACKAGE
by John R. Powers, III

Recommended for teenagers and up/Written in BASIC

★ NEW

With the COSMATIC ATARI DEVELOPMENT PACKAGE you can use your ATARI Computer as a low-cost 1802 Development System. The 1802 is a microprocessor used in many popular hobby computers and games. The package functions as a development system for 1802 assembly language. Both 1802 cross assembly and data transfer are supported. With your own text editor (for example, the ATARI Assembler Editor Cartridge (CXL4003) or the ATARI Program-Text Editor, APX-20075), you prepare an 1802 assembly language source program using all the power of symbolic references, mnemonics, and operand expression processing, and store it on a diskette file. The cross assembler takes your 1802 assembly language program and produces hex machine instructions and data. Then, using the data transfer program, you can upload and download files, and inspect and change the 1802 microcomputer memory contents.

Features include: a superset of both the RCA CRA Assembler and the Hughes HMDS Assembler; a full operand expression evaluation with nesting to ten levels; a source file chaining option; a sorted label table output; an ability to assemble 20–30 source statements per minute; a two-step methodology permitting the use of the intermediate file as backup; an output fully compatible with UT4 and UT20 hex loading utilities; the source code file created with or without line numbers for input to the assembler; sample 1802 source files included to demonstrate and test features; and file upload and download capabilities with the 1802 source and object code supporting this feature.

The author invites written comments.

REVIEW COMMENTS
Users should have an 1802 microcomputer and be able to assemble an RS-232 interface circuit (instructions provided in the documentation). Those writing cross-assemblers will find the source code instructive. The user manual is EXCELLENT.

REQUIRES
ATARI BASIC Language Cartridge
ATARI 850 Interface Module (for data transfer)
A text editor

OPTIONAL
An ATARI printer

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	32K	$29.95	APX-20051

EXTENDED WSFN
by Harry Stewart

Recommended for programmers/Written in machine language
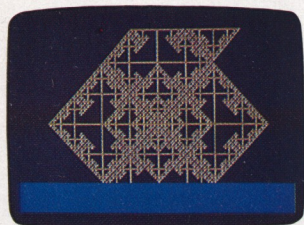
Do you know someone who's curious about your ATARI 400/800 Computer but has no programming knowledge to call on to try out your system? This program might be the answer. WSFN (Which Stands For Nothing) is an educational graphics language developed for teaching programming concepts to beginners. Picture a small robot turtle holding a pen in his mouth and sitting in the middle of your TV screen. Now imagine you can command the turtle to do such things as move, turn, and raise and lower his pen. That's what WSFN is all about. WSFN programs consist of strings of one-letter commands like "F" for "forward" and "L" for "left turn." With simple instructions, users can write such standard programming structures as loops and subroutines. This version of WSFN is greatly extended compared to the original language, and it contains many advanced debugging, graphics, Joystick, and mass storage features. Although you can do some fairly advanced graphics with WSFN, it's meant to be a beginner's language. Also, because it's strictly a graphical system, it isn't suitable for developing applications programs.

REVIEW COMMENTS

This is a very comprehensive version of WSFN, with many advanced features. It can be a lot of fun to use and the graphics it generates can be dazzling. Also, this language is *fast*, executing faster than BASIC in most cases.

Because of time and staffing restrictions, this program hasn't undergone the extensive testing that any new language should. Some users may find WSFN's command language a bit cryptic at first.

The user manual is VERY GOOD and it's complete, but it still contains some editing corrections.

REQUIRES
No required accessories

OPTIONAL
ATARI Joystick Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10026
Diskette (810)	24K	$22.95	APX-20026

INSOMNIA (A SOUND EDITOR), REV. 2
by Bob Fraser

Recommended for BASIC programmers/Written in BASIC and machine language
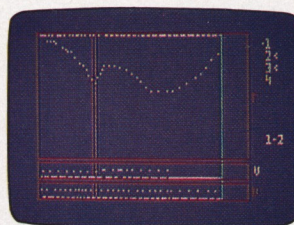
This sound editing package gives you an easy and enjoyable method for generating a complex (four-voice) sound or a few simple sounds lasting up to four seconds. You can install these sounds in your BASIC programs through a machine language subroutine included in INSOMNIA that lets your program run unimpeded by the sounds. Thus, your program isn't slowed down by its sounds, but it can turn these sounds on and off at will.

You create sounds by plotting points in three windows of a screen display: frequency, volume, and distortion. These parameters correspond to the last three parameters in the SOUND statement of ATARI BASIC. You select the sound parameters and plot your points using a Joystick Controller, a Paddle Controller, or both. Working with any of the ATARI Computer's four sound generators, you immediately hear the changed sound each time you plot a point. You can play your sound either continuously or once only, and you can isolate one voice for modification or you can combine voices to hear the overall effect. INSOMNIA also can produce very low and very high frequency sounds normally unattainable with conventional sound generating methods. You can save and recall sounds on diskette for further revision. Revision 2 corrects bugs in one of the demonstration programs.

REVIEW COMMENTS

This well-designed program is very useful for learning how changing one parameter effects the resulting sound. INSOMNIA supports all four voices, creates sounds as long as four seconds, and doesn't tie up machine time while generating the sound in your program. SOUND EDITOR (APX-10018 and APX-20018) supports only two of the four voice channels, creates sounds of one second or less, and uses machine time when generating the sound.

INSOMNIA can load four voices into RAM only once, when your program loads in. Thus, your're limited as to sound complexity or variability within a program.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
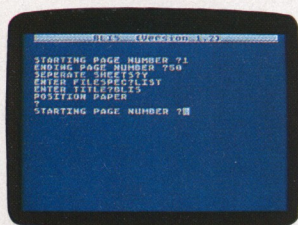One ATARI Joystick Controller
One ATARI Paddle Controller

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$22.95	APX-20073

BLIS, REV. 2
by Image Marketing Corporation

Recommended for BASIC programmers/Written in BASIC

BLIS prints your ATARI BASIC programs in a clear, easy-to-follow format. You can print each routine on a different page, if you wish. In addition, it indents logical units like FOR/NEXT loops and IF/THEN statements. It can also print your REMark statements in boldface, or it can print them as titles at the top of the page. If your program contains multiple statements per line, BLIS will print each statement separately, indenting as appropriate. All these features make debugging easier, since you can clearly see program blocks and subordination. These features also result in a format that is suitable for publication. Other niceties are running top titles, page numbers, use of the condensed character set to preserve the visual logic even with long statements, and conversion of nonprinting characters within strings to printed representations. To use BLIS, you simply answer a series of prompted questions that set your options. These include starting and ending page numbers (in case you want to print only part of your program listing), whether you're using continuous paper or separate sheets, the name of your program file, and whether you want to print a running top title.

Revision 2 corrects an indention error in nested loops.

The author invites written questions and comments.

REVIEW COMMENTS
The formatted program listings produced with BLIS are very pleasing and helpful.

The error trapping could be better.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge
ATARI 825 80-Column Printer only

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	16K	$22.95	APX-20049

LOAD 'N GO
by Brad Stewart

Recommended for BASIC programmers/Written in BASIC and machine language
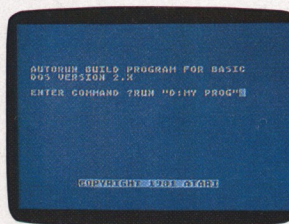
Would you like to encourage the non-programmers in your house to use your BASIC programs? One way is to eliminate the initial steps required to load and start a program, so that they need only insert a diskette and power up the computer. Would you like to streamline the initialization steps you go through when you power up? With LOAD 'N GO you can automatically start a BASIC program whenever you power up your computer. It's like custom-tailoring your computer to a single application, except you can custom tailor it to as many applications as you wish. To set up the automatic program execution, you run LOAD 'N GO once. LOAD 'N GO asks you for a RUN or LOAD command for the BASIC program you want to autoexecute. It then creates an AUTORUN.SYS file that automatically starts your program whenever you turn on your computer with the program diskette inserted in a disk drive.

LOAD 'N GO is very simple to use, and its applications are limited only by your imagination.

REVIEW COMMENTS
This program has only one function — to autoexecute BASIC programs, but it's a powerful utility that took some time to write.

You can't use LOAD 'N GO with a diskette containing an AUTORUN.SYS file, since LOAD 'N GO will replace the file with its own AUTORUN.SYS file.

The user manual is VERY GOOD.

REQUIRES
ATARI BASIC Language Cartridge

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	16K	$15.95	APX-20037

KEYPAD CONTROLLER

by Thomas D. Newton

Recommended for programmers/Written in BASIC and machine language

The keyboard layout on the ATARI Home Computer is ideal for many uses. However, for activities involving entering lots of numbers, a numeric keypad would probably serve you better. Now you can have the best of both worlds — the keyboard's typewriter layout and separate keypad layout using a pair of Keyboard Controllers. With KEYPAD CONTROLLER, not only can you enter numbers in keypad fashion, but you can also do program editing. You use one controller to enter numbers, periods, and commas, and the other controller to enter arithmetic operators (+, −, *, /, and ^) and to move the cursor around the screen. You can move the cursor up, down, left, and right, and you can insert and delete characters.

KEYPAD CONTROLLER has another function programmers will appreciate. You can use it to slow down program displays on your TV screen.

This automatically loaded program is usable with both the ATARI BASIC Language Cartridge and the Assembler Editor Cartridge. Once you load KEYPAD CONTROLLER into computer memory, it remains there until you turn off your computer, but you activate and deactivate the controllers as needed by pressing three keys.

The author invites written questions and comments.

REVIEW COMMENTS

If you want to modify the interpretation of the keys on the controller, you can do so with a BASIC program provided by the author.

The user manual is VERY GOOD.

REQUIRES

ATARI BASIC Language Cartridge or Assembler Editor Cartridge
A pair of ATARI Keyboard Controllers

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	8K	$15.95	APX-10106
Diskette (810)	24K	$15.95	APX-20106

Spring 1982 2nd
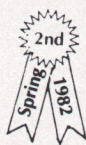
GTIA DEMONSTRATION DISKETTE

Recommended for BASIC programmers /Written in BASIC
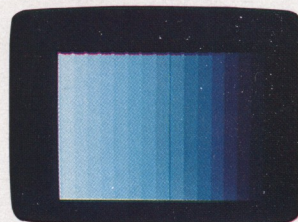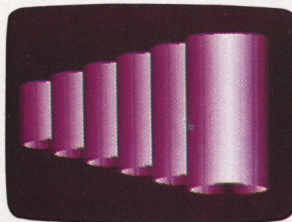
Load this diskette into your ATARI Home Computer, turn out the lights, and enjoy spectacular whirling shapes in exquisite colors! This set of more than twenty BASIC programs shows off the extraordinary graphics power of the new GTIA chip. This chip supports the nine graphics modes of the CTIA chip, plus three additional modes, which are accessible through ATARI BASIC. The demonstration programs are packed with motion, such as rotating barrels, whirlpools, multiple circling rings, marquee and barber pole effects, shooting rays, and moving corridors. Stunning color blending and shading highlight brass rings, cones, and other designs. A rainbow of colors rotate on designs like the ATARI Home Computer logo, a beachball, and cylinders. Funnels, cones, melons, spheres, and other designs dazzle you from several perspectives.

To determine whether your ATARI Home Computer already has the GTIA chip and for information about how to have your system upgraded if it doesn't have this chip, call the Home Computer Customer Service number, 800/538-8547 (or 800/672-1430 within California).

REVIEW COMMENTS

These demos really show off the GTIA's ability to produce high-resolution pictures with perspective and color shading. Some take several minutes to complete, but it's worth the wait.

The user instructions describe only how to load the programs and a little about what to look for in each design. To understand how the effects are achieved, you'll need to dig into the BASIC code yourself.

REQUIRES

ATARI BASIC Language Cartridge
ATARI 400/800 Home Computer with GTIA chip installed

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$15.95	APX-20104

SPEED-O-DISK

by Jubal Ragsdale and Dave Henry

Recommended for ATARI 810 Disk Drive owners/Written in BASIC

We don't like to talk about it, but occasionally an ATARI 810 Disk Drive will drift from its normal speed. If you store information on diskettes in a drive that's running more slowly or faster than the normal speed (within a range), you'll end up with diskettes that disk drives operating at normal speed can't handle. One indication that your drive's speed might be off is that you get frequent Error 144 (Device Done Error — invalid "done" byte) or Error 138 (Device Timeout) messages. SPEED-O-DISK is a utility to measure the speed of your drive. The program displays disk speed on your TV screen and it updates the information every five seconds.

Although the instructions describe how to adjust your disk drive if it's not running at proper speed, *you can void your warranty by* attempting to adjust the drive yourself rather than taking it to an authorized ATARI Service Center for adjustment. Neither ATARI nor APX assumes responsibility for the accuracy of these instructions or for the consequences to your disk drive if you attempt to adjust the speed based on the instructions. We recommend, instead, that you take your drive to your nearest authorized ATARI Service Center for adjustment.

The authors invite questions and comments by mail and telephone.

REVIEW COMMENTS

As with any diskette speed program, an incorrect speed occasionally appears when a disk retry occurs briefly.

The user manual is GOOD.

REQUIRES

No required accessories

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	16K	$22.95	APX-20109

SCREEN DUMP UTILITY

Recommended for programmers/Written in machine language

These three programs let you print copies of screen displays. You can copy text to any ATARI printer or equivalent printer. You can copy text and graphics characters to an ATARI 822 Thermal Printer or a Centronics 739 Graphics Printer. An AUTORUN.SYS file automatically loads a screen dump program into memory. You then enter or load in an applications program. Whenever you want a printed copy of a display screen, you simply type CONTROL-P. You can change several of the graphics screen dump programs' parameters, including increasing the size or proportion of the printed image, printing black on white or white on black, printing in grey scale or in black and white, and letting the grey scale represent either luminance or color. You can also call these programs from your applications programs with a USR function.

REVIEW COMMENTS

You can print graphics *only* from an ATARI 822 Printer or a Centronics 739 Printer. This program won't print graphics from any other printer.

The minimum-scale dump to an ATARI 822 Thermal Printer occurs as two passes, the first pass printing the leftmost two-thirds of the screen and the second pass printing the remaining third underneath. The procedure takes about 15 minutes. You then cut and tape the strips together to form a complete display screen. The print quality on this printer isn't the best, but it's usable.

These programs install themselves below user memory at boot time, moving the lower memory boundary up. Therefore, programs in machine language that rely on certain absolute memory locations being available might not work with these screen dump programs. Also, programs using player missile graphics must have been designed to run with this program.

The user manual is GOOD.

REQUIRES

Printer (see program description)

ORDER INFORMATION

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$15.95	APX-20045

System Software

The following programs are also available for purchase.

CODECRACKER — break the three- to five-letter code within twelve guesses. Requires an ATARI BASIC Language Cartridge.

Media	RAM	Price	Order No.
Cassette (410)	8K	$15.95	APX-10052
Diskette (810)	16K	$15.95	APX-20052

DEVELOPER'S DISKETTE — preliminary versions of a few APX utilities and some demonstration and miscellaneous routines. Requires an ATARI BASIC Language Cartridge. Optional are an ATARI 825 80-Column Printer, an ATARI Joystick Controller, and an Assembler Editor Cartridge.

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	40K	$22.95	APX-20034

LEMONADE — a stripped-down version of the classic computer game for teaching basic economic concepts to upper grade school students. Requires an ATARI BASIC Language Cartridge.

Media	RAM	Price	Order No.
Cassette (410)	16K	$15.95	APX-10001
Diskette (810)	16K	$15.95	APX-20001

MINOTAUR — try to find your way out of the random maze before the Minotaur devours you. Requires an ATARI BASIC Language Cartridge and an ATARI Joystick Controller.

Media	RAM	Price	Order No.
Cassette (410)	24K	$15.95	APX-10039
Diskette (810)	32K	$15.95	APX-20039

MUGWUMP — practice the coordinate system while trying to locate four hidden mugwumps in a ten-by-ten grid. Requires an ATARI BASIC Language Cartridge.

Media	RAM	Price	Order No.
Cassette (410)	8K	$15.95	APX-10005
Diskette (810)	16K	$15.95	APX-20005

BASIC RENUMBER UTILITY — a slow renumbering routine that can also renumber blocks of code. Requires an ATARI BASIC Language Cartridge.

Media	RAM	Price	Order No.
Cassette (410)	N/A		
Diskette (810)	24K	$15.95	APX-20011

SOUND EDITOR — a program for creating short (one-second) sounds like croaks and rattles. Requires an ATARI BASIC Language Cartridge and an ATARI Joystick Controller.

Media	RAM	Price	Order No.
Cassette (410)	16K	$22.95	APX-10018
Diskette (810)	24K	$22.95	APX-20018

SPACE TREK — destroy the enemy Oralop spaceships that are threatening the galaxy. Requires an ATARI BASIC Language Cartridge.

Media	RAM	Price	Order No.
Cassette (410)	24K	$15.95	APX-10015
Diskette (810)	32K	$15.95	APX-20015

TACT TREK — a tactical-level interstellar combat game calling for lots of patience. Requires an ATARI BASIC Language Cartridge.

Media	RAM	Price	Order No.
Cassette (410)	24K	$15.95	APX-10031
Diskette (810)	32K	$15.95	APX-20031
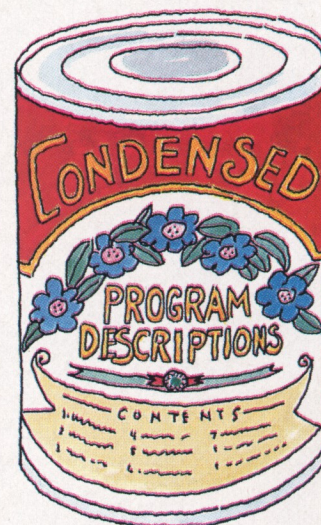
Publications
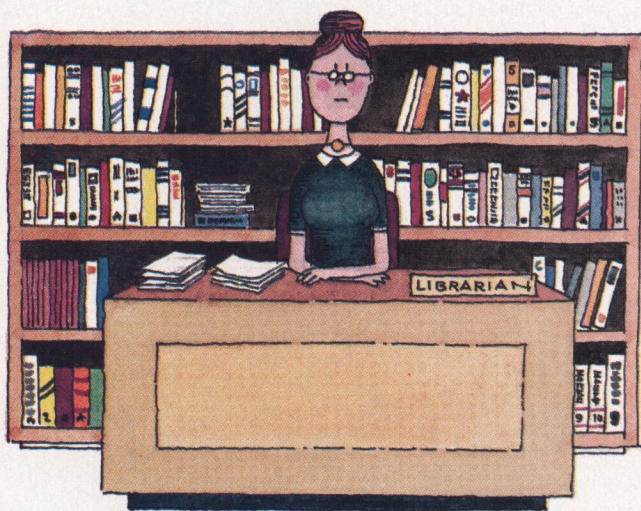
DE RE ATARI

by Amy Chen, Jim Cox, Chris Crawford, Jim Dunion, Bob Fraser, Kathleen Pitta, and Lane Winner

Handbook for advanced programmers

$19.95 (APX-90008)

DE RE ATARI tells you everything you want to know about the ATARI 400 and ATARI 800 Home Computers, but were afraid to ask. It's an excellent resource and training text for professional programmers who use ATARI Home Computers and for advanced hobbyists who understand ATARI BASIC and assembly language. Neither an introductory manual nor a reference for the computer, *DE RE ATARI* is a tutorial that explains the concepts and principles behind the internal structure of the ATARI Home Computer.

Topics include graphics indirection (i.e., color registers and character sets), player-missile graphics, display list interrupts, scrolling, sound, the Operating System, the Disk Operating System, and ATARI BASIC. Many discussions concern the three special-purpose integrated circuits designed by ATARI — ANTIC (a microprocessor for television display), CTIA (a chip for television display), and POKEY (a chip for input/output and sound generation). Appendices contain information on memory usage, human engineering, the hardware and software used to operate the ATARI 410 Program Recorder, cassette applications, television artifacting, and the GTIA chip (the new television display chip). Sample programs, display screens, and diagrams generously illustrate the discussions on the strengths and versatility of ATARI Computers. A glossary defines and explains some less commonly encountered terms used in *DE RE ATARI*.

An added feature is a laminated Programmer's Card containing the most critical and often needed facts and figures about the computer.

By the way, in case you were wondering, *DE RE ATARI* is Latin for "All About ATARI."

APX PRODUCT CATALOG

$2.00 (APX-90009)

If you're reluctant to share your APX Product Catalog with fellow ATARI Home Computer owners, tell them they can order their own. The catalog, which is published quarterly, contains descriptions of all programs, publications, and hardware currently available through the ATARI Program Exchange. The next time you're in a quandry over what to give someone, if that person is fortunate enough to own an ATARI Computer, try gift wrapping a catalog and let the recipient select a program!

Hardware
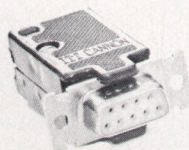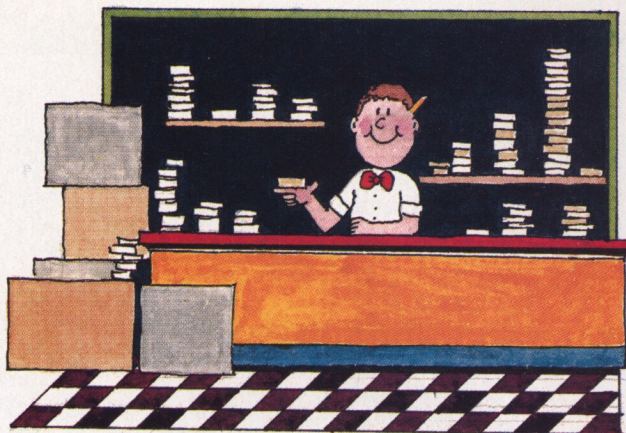
DE-9S WITH DE 110963-1 SHELL (controller plug)

$6.25 (APX-90001)

This connector is suitable for the front Joystick ports of the ATARI 400/800 Computers. Because you can program these ports for both input or output, they're perfect for many specialized interfacing applications. These 9-pin, female connectors have solder-on, gold-plated contacts in a Nylon insulator. To allow the connector to mate more securely with the computer's port, you may need to file the plastic shell slightly.

5-PIN DIN CONNECTOR

$2.49 (APX-90002)

You can use this connector with the ATARI 800 Computer's video plug to connect your computer to video monitors, or to run the sound through a stereo system.

13-PIN I/O PLUG

$9.95 (APX-90003)

You can use this connector, custom-designed for ATARI Home Computers, to build your own interface cables or devices.
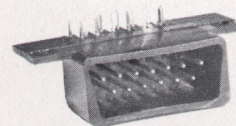
13-PIN I/O SOCKET

$4.95 (APX-90004)

This 13-pin, board-mounted connector with right-angle pins is the connector used inside ATARI Computers and peripherals. You can use it to build your own peripherals, extension cables, and interfaces.
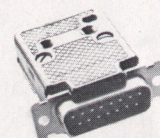
DA-15P WITH DA110963-2 SHELL (850 printer plug)

$5.95 (APX-90005)

Use this 15-pin, male connector to connect your ATARI 850 Interface Module to a compatible parallel printer. These connectors have solder-on, gold-plated pins in a Nylon insulator.
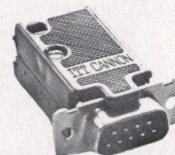
DE-9P WITH DE110963-1 SHELL (850 serial plug)

$5.49 (APX-90006)

Use this 9-pin, male connector to connect your ATARI 850 Interface Module to external RS-232 or current-loop devices. These connectors have solder-on, gold-plated pins in a Nylon insulator.

Ordering Information

APX products only. The ATARI Program Exchange handles orders only for the items described in this catalog. For all standard ATARI Home Computer products, including any software, hardware, or documentation mentioned in this catalog, see your local ATARI Computer retailer.

$10 minimum order, plus shipping and handling charge. We'll fill orders of $10.00 or more. Please add $2.50 to your order to cover shipping and handling.

Mail orders. To order by mail, fill out an order form and mail it, together with your payment, to the ATARI Program Exchange, P. O. Box 427, 155 Moffett Park Drive, Sunnyvale, CA 94086.

Phone orders. For faster service, phone in credit card orders, using our toll-free number, 800/538-1862 (or 800/672-1850 for calls within California). You can also call us at 408/745-5535.

Payment by check, money order, VISA, or MasterCard. Your payment must accompany all mail orders. Enclose a check or money order, or charge your order to your VISA or MasterCard account. Include the $2.50 shipping and handling charge in your payment, and California residents need to add 6.5% sales tax to the merchandise total, exclusive of shipping and handling.

No C.O.D. or purchase orders. We regret that we cannot accept orders paid by C.O.D. or by a purchase order.

Foreign orders. At present, we can handle orders only from the United States. Contact your ATARI supplier for more information.

Delivery to P. O. Box numbers. We normally ship your order by United Parcel Service (UPS). Because UPS doesn't deliver to P. O. Box numbers, please use a street address on your order form.

Alternate shipping method. Please indicate an alternate method of shipment if UPS doesn't deliver to your area.

DISCLAIMER OF WARRANTY AND LIABILITY ON COMPUTER PROGRAMS. Most APX programs have been written by people not employed by Atari, Inc. The programs we select for APX offer something of value that we want to make available to ATARI Home Computer owners. To offer these programs to the widest number of people economically, we don't put APX products through rigorous testing. Therefore, APX products are sold "as is," and we do not guarantee them in any way. In particular, we make no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. We are not liable for any losses or damages of any kind that result from use of an APX product.

LIMITED WARRANTY ON MEDIA AND HARDWARE ACCESSORIES. We, Atari, Inc., guarantee to you, the original retail purchaser, that the medium on which the APX program is recorded and any hardware accessories sold by APX are free from defects for thirty days from the date of purchase. Any applicable implied warranties, including warranties of merchantability and fitness for a particular purpose, are also limited to thirty days from the date of purchase. Some states don't allow limitations on a warranty's period, so this limitation might not apply to you. If you discover such a defect within the thirty-day period, call APX for a Return Authorization Number, and then return the product along with proof of purchase date to APX. We will repair or replace the product at our option.

You void this warranty if the APX product: (1) has been misused or shows signs of excessive wear; (2) has been damaged by use with non-ATARI products; or (3) has been serviced or modified by anyone other than an Authorized ATARI Service Center. Incidental and consequential damages are not covered by this warranty or by any implied warranty. Some states don't allow exclusion of incidental or consequential damages, so this exclusion might not apply to you.

No cancellations, returns, refunds, or credits. To keep our costs down, we accept no cancellations and no returns, except for defective media or for goods damaged in shipment. We give no refunds or credits.

Goods damaged in shipment. If your order arrives damaged, please call one of our toll-free numbers within seven days after receiving your order. Have your packing slip at hand and ask for a Return Authorization number. Do not return a program to APX without this number.

Right to make changes. We reserve the right to make price and availability changes in the products described in the APX catalog at any time and without notice.
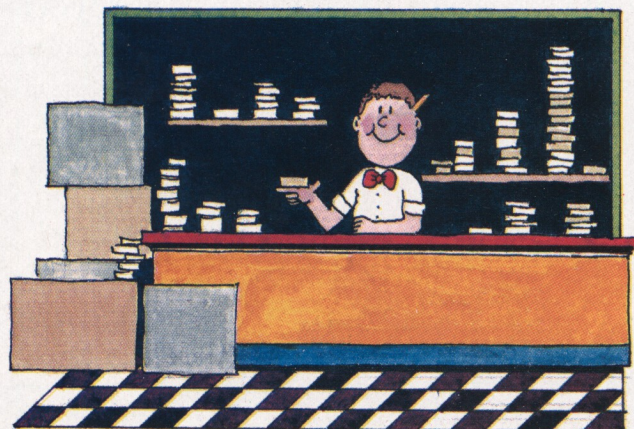
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Please read all the ordering information before filling out this form.

GPX ATARI® PROGRAM EXCHANGE

Name _____

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(alternate shipment method if UPS does not deliver in your area)

Please indicate the amount of RAM you have

_____ K

Qty	Order Number	Description	Price Each	Total Each
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	APX			
	APX			
	APX			
	APX			
	APX			
	APX			
	APX			
	APX			

Subtotal of all items ordered	
California resident add 6.5% sales tax	
Shipping & handling charge	$2.50
TOTAL	

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Credit card account no.

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Signature (as appears on card)

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Program Submission Packet Request Form

Fill out this request form to obtain complete information on submitting programs to APX, including a Program Submission Form, Program Submission Agreement, Author's Guide, and contest details.

Name _____

Address _____

City _____

State/Country _____

Zip/Mail Code _____

Phone (   ) _____

Computer background:

_____None

_____Computer user/hobbyist

      _____Have not used ATARI Computers

      _____ATARI Computer user

_____Professional microcomputer software developer (have ads in trade journals and/or existing products)

      _____Have not used ATARI Computers

      _____ATARI Computer user

_____Other (please specify):

Area(s) of interest for writing software for ATARI Computers:

APX Programs by RAM Size

GPX

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Address Correction Requested

Programs by our users. . .for our users.

APX-90009