THE ATARI® 800™ HOME COMPUTER



OWNER'S GUIDE

ATARI®

ATARI®

A Warner Communications Company



Congratulations on your purchase of the ATARI® 800™ Home Computer. You now own one of the most affordable, enjoyable, and easy-to-use computers for the home.

Affordable, because ATARI Computer equipment, programs, applications, and games, are priced within reach of the home computer user.

Enjoyable because not only will you have fun writing your own programs, but there are also many programs, games, and other applications available, so you can start using your ATARI 800 Home Computer right away. Home study, home office, and home entertainment programs can all be purchased from your ATARI Computer retailer.

The ease begins when you set up your system using your own television set as a display unit. All the components easily interconnect with special plugs in a manner similar to connecting stereo equipment.

Of course Atari, being known for the unbeatable graphics and sound capabilities of its Video Computer System™ game, has put these same qualities into its home computer. The graphics capabilities of the computer are demonstrated in all ATARI Computer programs, especially Star Raiders™ and Missile Command™. The computer's sound capabilities include *four* independently programmable sound channels — unique to ATARI Home Computers.

Included with your ATARI 800 Home Computer is an ATARI BASIC programming language cartridge, *ATARI BASIC Reference Manual,* and an *ATARI BASIC Self-Teaching Guide.*

CONNECTING THE ATARI 800 HOME COMPUTER

This guide helps you set up your ATARI 800 Home Computer in ten easy steps. It also briefly introduces you to the ATARI BASIC programming language and shows you some of the capabilities of your computer.

INSTALLING THE TV SWITCH BOX

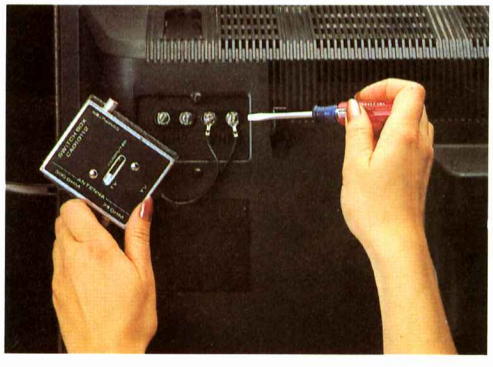
The TV Switch Box connects to the VHF antenna terminal at the back of your television set, and converts your television display from regular TV programming to your ATARI 800 Computer. If you also have cable TV, you can connect the switch box to the cable service as well.

1 Disconnect the present antenna or cable from the TV and reconnect it to the side of the TV Switch Box labeled **ANTENNA.** If it is a flat, twin-lead cable, connect it to the terminals marked **300 OHM** on the TV Switch Box. If you have a round cable, attach it to the threaded connector marked **75 OHM.**



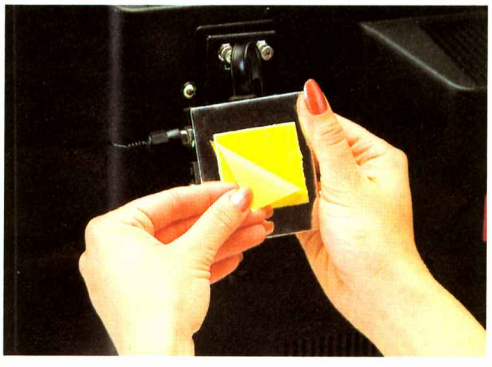


2 Now locate the short, twin-lead cable marked **TV** that comes from the TV Switch Box and connect it to the two VHF terminals on your TV set.



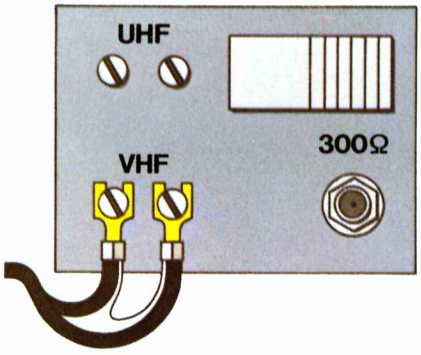
3 Peel off the protective cover sheet from the self-adhesive square on the switch box and press the switch box onto the back of your television so it adheres to the casing.

If your TV was connected to the switch box with a flat, twin-lead (300 Ohm) cable, you are finished installing the TV Switch Box.

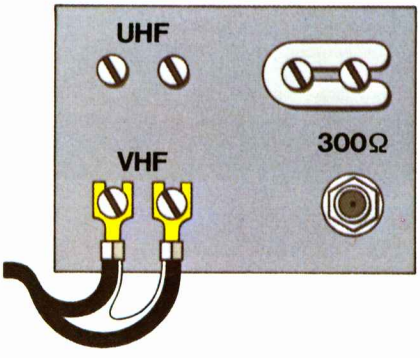


4 If the cable is round (75 Ohm) you may need to adjust the antenna terminal switch on your TV so it can receive the 300 Ohm signal from the TV Switch Box. Make the necessary adjustments as shown in the illustrations.

If you have a VHF antenna adapter that looks like the one in the photograph below, move the antenna cable from the adapter to the 300 OHM (or 300 Ω) position on the switch box. Connect the short, twin-lead cable coming from the TV Switch Box to the adapter. Slip the adapter onto the threaded connector so the pin-like projection makes contact.



If it looks like this, push the switch to the 300 (300Ω) position.

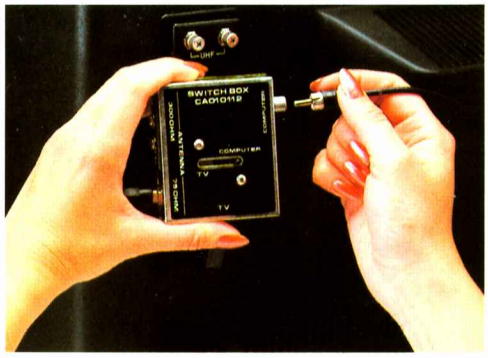


If it looks like this, loosen the screws holding the U-shaped slider and move it to the position on the switch box marked 300 OHM (or 300Ω).

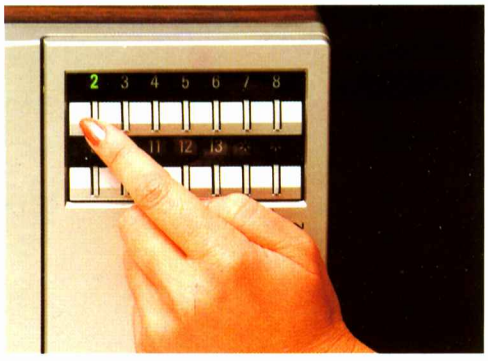


CONNECTING THE COMPUTER CONSOLE

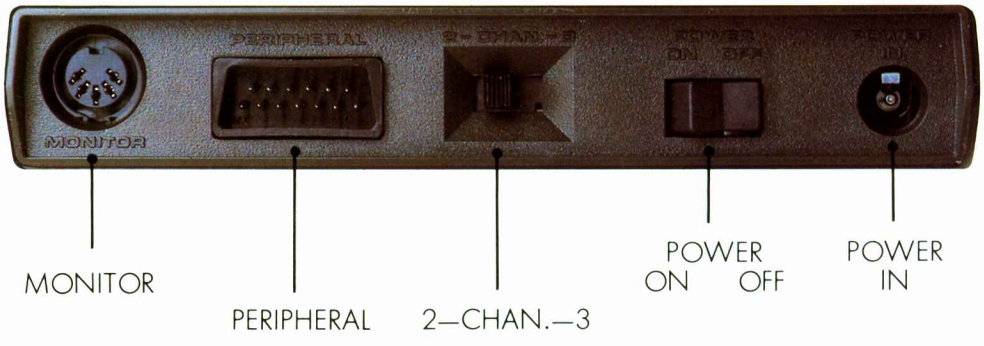
5 Locate the round cord that comes from the back of the computer console. Plug the end of this cord into the terminal on the TV Switch Box labeled **COMPUTER (GAME).** Then move the switch into the **COMPUTER (GAME)** position.



6 Turn on your TV set and tune it to Channel 2 or 3 — whichever is weaker in your area.



7 Set the Channel Select Switch on the right side of the computer console to the same channel. After you turn on the computer, you may need to adjust the fine-tuning knob on your TV to improve the reception.



8 Locate the AC Power Adapter that comes with the computer and plug the round end of the power adapter into the connector labeled **Power In** on the side of the computer console.

9 Plug the other end of the power adapter cord into a wall outlet.



10 You are now ready to turn on your computer. Make sure the cartridge door is closed. The main power switch, labeled **POWER ON/OFF**, is located on the right side panel of the computer. As soon as you move the switch to **ON** (and assuming you have not inserted the ATARI BASIC cartridge), the words ATARI COMPUTER-MEMO PAD appear on your TV screen. Whatever you type will also be displayed on the screen.

The white square you see on the screen is called a **cursor**, and shows you where you are on the display.

You may notice the colors on your TV screen changing periodically. This is normal and occurs to protect your TV set.



If your TV doesn't display ATARI COMPUTER-MEMO PAD or the words you type, check over all the previous steps. If you find the system is connected properly, make sure the cords are plugged securely and power is coming into the system. If you still don't get the proper display, then your computer may need servicing. Contact the authorized ATARI Computer Service Center listed in the yellow pages of the telephone directory, or call ATARI Customer Service/Field Support toll free at 800-538-8737 from anywhere in the continental U.S. (in California, call 800-672-1430).

INSERTING CARTRIDGES

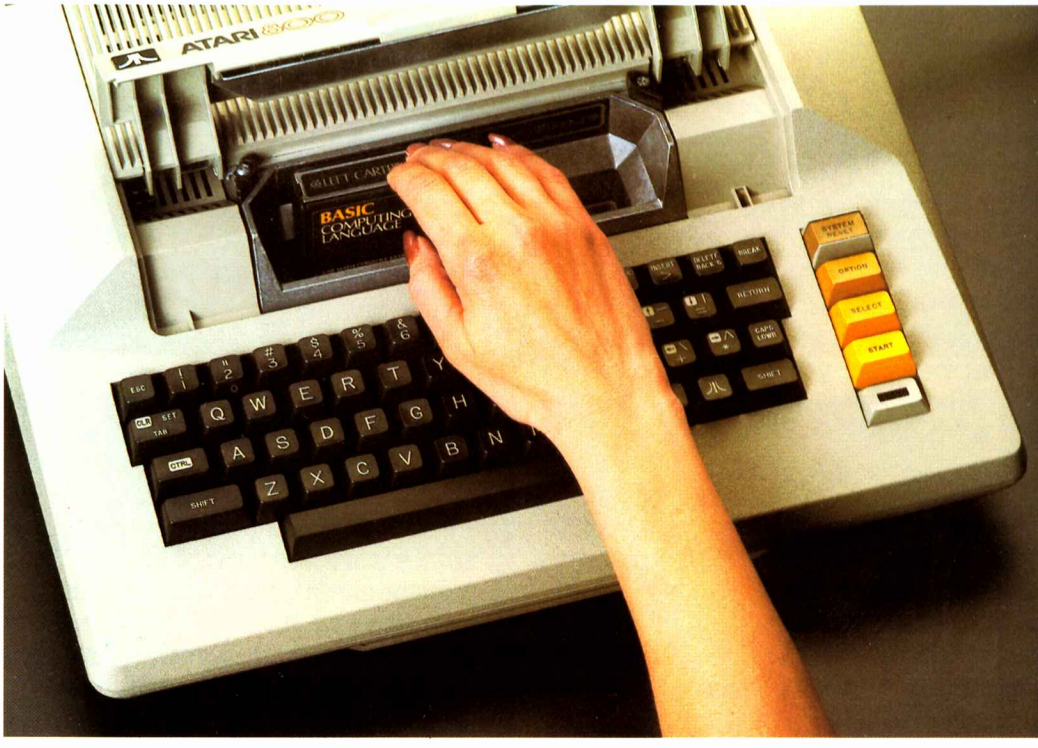
1 Pull the release lever down (as shown) to open the cartridge door. Whenever you do this, the computer automatically turns itself off. When you close the door again, the computer turns itself back on.



2 Insert the cartridge into the left slot with the label facing you. Press down on the cartridge gently, but firmly, until the cartridge is in place.

3 When you close the cartridge door, the red power indicator to the right of the keyboard lights up and the TV screen displays the title screen or prompt for the cartridge you selected. Then follow the instructions that come with the cartridge.

When you insert most cartridges (particularly games), many of the keys on the keyboard stop working. The instructions that come with each cartridge tell you which keys you can use.



THE ATARI 800 COMPUTER KEYBOARD

Many of the keys (shown in grey) on the computer keyboard function the same as they do on a typewriter. The tinted keys are used for screen editing; that is, they move the cursor on the screen to the location you want, and allow you to modify the display. These modifications may include insertions or deletions to a program you are writing or other types of text.



The ESC (ESCAPE) key function depends on the application with which you are working. For instance, if you are writing programs, the ESC key disables the cursor control movements and prints a graphics character instead. Or, if you are working with the ATARI Word Processor and are in the edit mode, pressing ESC takes you out of the edit mode.

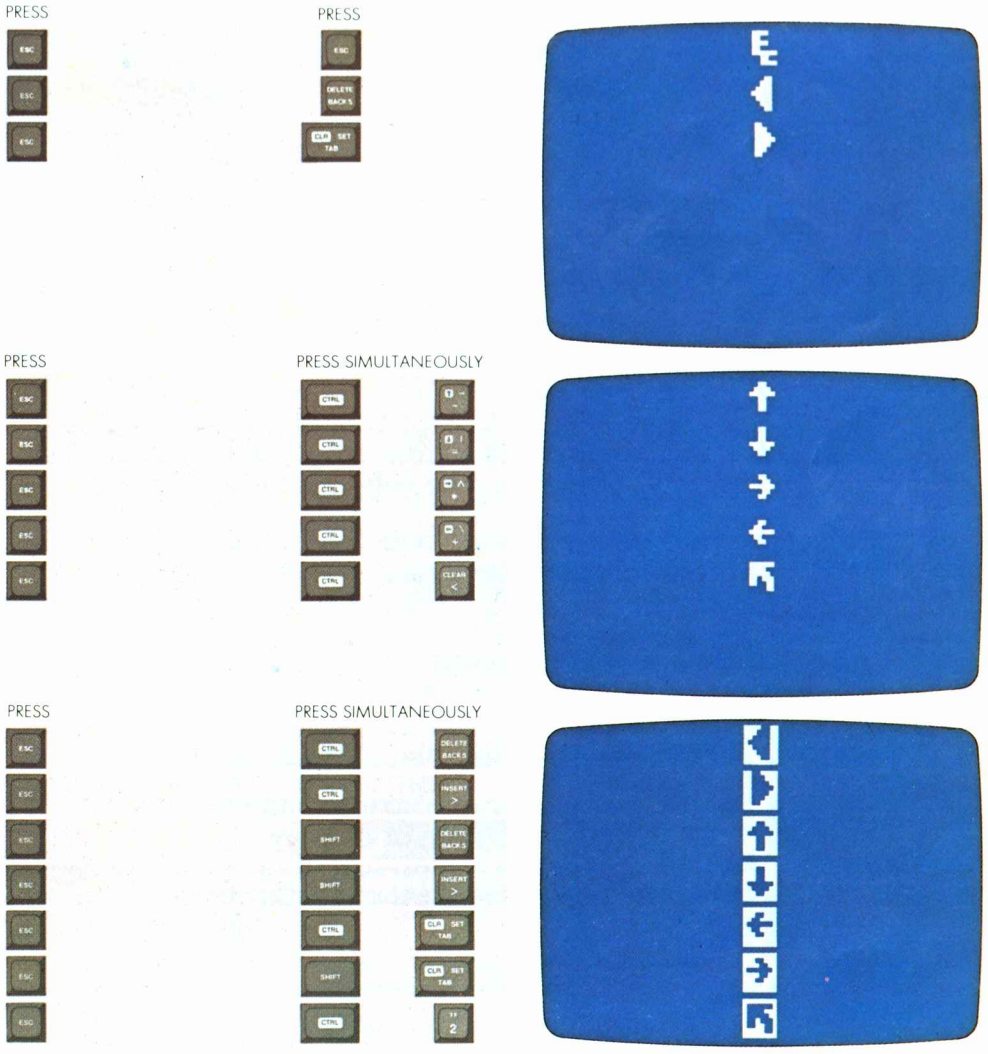
To give you an idea of how the ESC key works as a graphics key, remove the ATARI BASIC cartridge from the computer and turn on the system. After ATARI COMPUTER-MEMO PAD appears, follow these steps:

- Hold down the ESC key and you will see the graphics character E appear on the screen.
- Refer to the Escape Key Chart for the additional graphics characters you can create by using ESC in conjunction with other keys.

Now try the (ATARI logo) key.

- Press the key, then hold down the 2 and you will see 2's typed in inverse video. Inverse video is text being shown in dark letters against a light background.
- To return to regular video display, simply press the key again.

ESCAPE KEY CHART



CONTROL GRAPHICS KEYBOARD



The CTRL (Control) key plays an important part in the screen editing functions; however, another key must be pressed while holding down the CTRL key for something to happen. The following list tells you what function occurs when the second key is pressed with the CTRL key.

CTRL + - Moves the cursor up one line without changing the program or display.

CTRL + * Moves the cursor one space to the right without changing the program or display.

CTRL + = Moves the cursor one line down without changing the program or display.

CTRL + + Moves the cursor one space to the left without changing the program or display.

CTRL + INSERT > Lets you insert a special character or space.

CTRL + DELETE BACK S Lets you delete from where you are on a line back to the beginning of that line.

CTRL + 1 A double-action restarts the scre program.

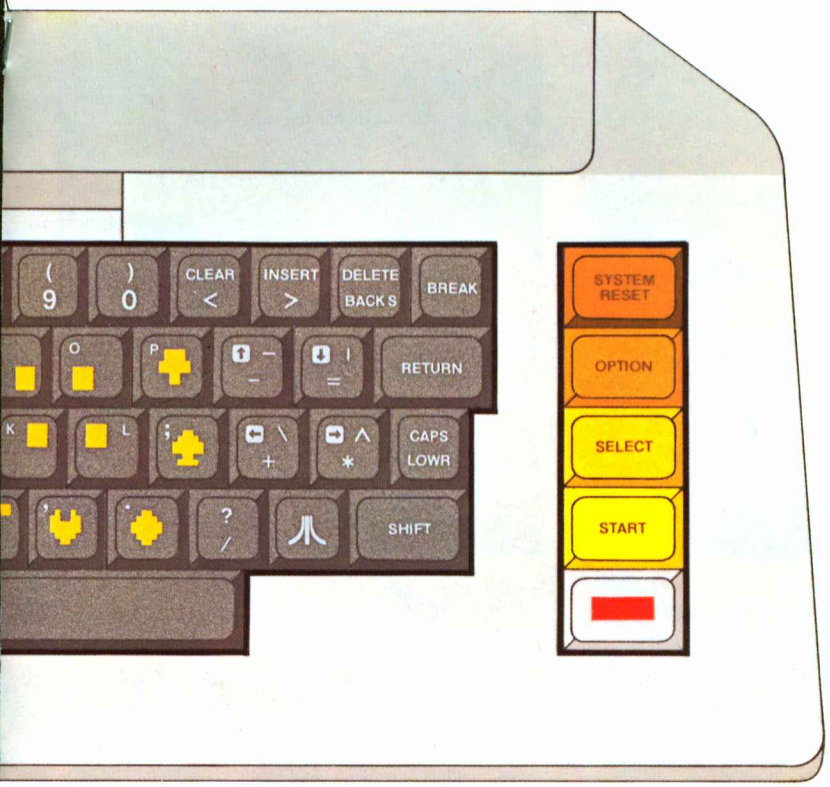
CTRL + 2 Rings the buzze

CTRL + 3 Lets you indicat

The following keys and combina screen editing:

SHIFT + INSERT > When writing p combination lets

SHIFT + DELETE BACK S When writing p combination lets In Direct Mode, lets you back-sp deleting what w



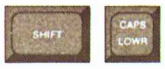
key combination that stops and
n display, without leaving the

the end of a file.

ons of keys are also used for

grams (Deferred Mode), this
you insert one line at a time.

grams (Deferred Mode), this
you delete one line at a time.
pressing DELETE BACK S by itself
ce one space at a time,
s typed.



Puts the screen display into uppercase.



Moves the cursor back one space at a time while deleting what was typed.



Switches between normal and inverse video. When using a printer, the text programmed in inverse video will be **underlined** when printed.



Usually interrupts whatever function the computer is performing at the time BREAK is pressed. It is necessary for you to refer to the individual program or game instructions for its exact function.

To see what graphics characters are available when the CTRL key is used in conjunction with alpha character keys, refer to the Control Graphics Keyboard.

You will find it helpful if you take a few minutes to play with the keyboard and familiarize yourself with the different capabilities, particularly the graphics keys.

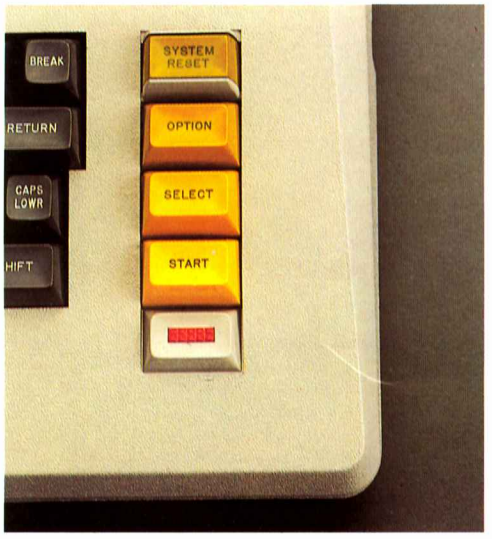
The larger keys to the right of the keyboard are unique to the ATARI 800 Home Computer.

SYSTEM RESET stops the computer from continuing what it is doing and restarts the program from the beginning.

You use the SELECT key to select one of several applications or games within a cartridge or program.

The OPTION key lets you choose one of the variations available within a game or application.

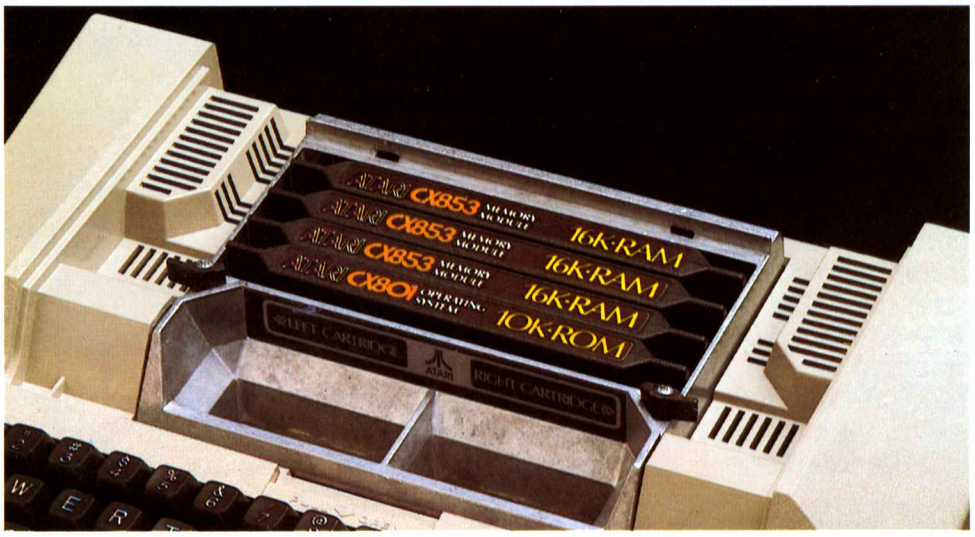
Pressing the START key tells the computer to begin running the game or application.



MORE ABOUT YOUR ATARI 800 COMPUTER

THE COMPUTER MEMORY

Memory makes it possible for a computer to store information which can be recalled when necessary. The amount of memory in a computer is what determines how much data can be stored. Your ATARI 800 Home Computer comes with one ATARI Memory Module™. However, your computer's memory can be expanded by purchasing additional ATARI Memory Modules from your ATARI Computer retailer.

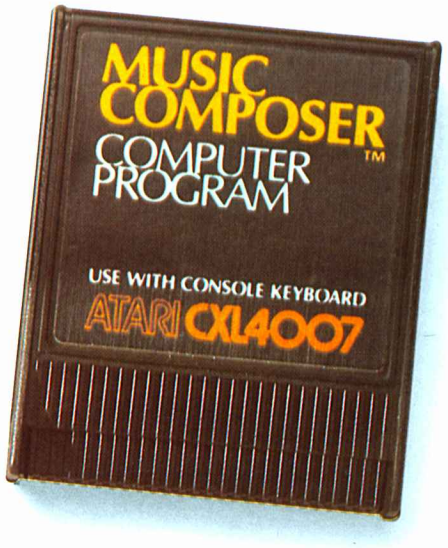


THE CARTRIDGE

Many programming languages games, and applications come in the form of a cartridge. These cartridges contain the actual program or programming information required to perform the desired functions.

The programming language cartridges contain the instructions and other types of code making up that particular language. When you write a program, you are organizing these instructions into a meaningful procedure that the computer can understand and then execute.





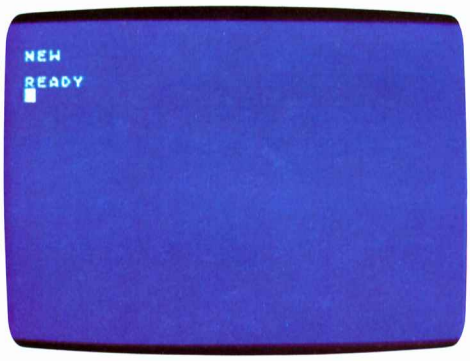
The game cartridges contain the entire program for that game. To begin playing the game, all you need to do is insert the cartridge, turn on the television, make sure the TV Switch Box is on **COMPUTER (GAME)**, and turn on the computer. Then follow the game directions and have fun!

ENJOYING YOUR ATARI 800 COMPUTER

Now that you have had a chance to become familiar with your computer system, let's do some simple programs for fun. The programs listed are written in ATARI BASIC, and will give you an idea of some of the things you can do. To learn more about programming your ATARI 800 Computer in ATARI BASIC, please refer to your *ATARI BASIC Self-Teaching Guide*. Then use your *ATARI BASIC Reference Manual* as you become more familiar with the language.

If you make a mistake while typing in a line of your program, press the DELETE BACK S key until you delete the error. Then type the correction and continue. You can go back to an error by holding down the CTRL key while pressing one of the arrow keys. Press DELETE BACK S to delete the error, then type the correction.

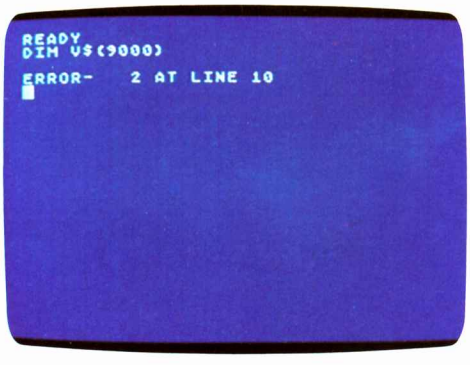
It is also necessary to press the RETURN key after you type in each line of information. Pressing RETURN "enters" the information into computer memory.



Before you type each new program, type **NEW** to clear the computer's memory, and then press RETURN.

Make sure you have inserted the ATARI BASIC cartridge into the left cartridge slot.

Should you type RUN and get and Error Message that looks like this:



The computer is telling you there is a mistake in program line #10. You must go back to that line, find the mistake, and make the correction.

Program One is a computer game, Program Two is a sample of your computer's sound capabilities, and Program Three shows some of the graphics capabilities of your ATARI 800 Home Computer.

Program One:

```
100 REMARK *** THIS IS A SIMPLE COMPUTER GAME
110 LET X = INT(100*RND(1))+1
120 PRINT
130 PRINT "I'M THINKING OF A NUMBER FROM 1 TO 100."
140 PRINT"GUESS MY NUMBER!!!"
150 PRINT :"YOUR GUESS";:INPUT G
160 IF G<X THEN PRINT "TRY A BIGGER NUMBER."
    :GOTO 150
170 IF G>X THEN PRINT "TRY A SMALLER NUMBER."
    :GOTO 150
180 IF G=X THEN PRINT "THAT'S IT!!!YOU GUESSED MY NUMBER."
    :GOTO 110
```

Now type RUN and press the RETURN key.

Program Two:

```
10 READ A
20 IF A=256 THEN END
30 SOUND 0,A,10,10
40 FOR W=1 TO 40:NEXT W
50 PRINT A
60 GOTO 10
70 END
80 DATA 29,31,35,40,45,47,53,60,64,72,81,91,96,108,121
90 DATA 128,144,162,182,193,217,243,256
```

Now type RUN and press the RETURN key.

Program Three:

```
8 REM*******COLLAPSING BOXES*******
10 TRAP 200:J=0
20 GRAPHICS 7+16
30 X1=INT(RND(0)*80)
40 Y1=INT(RND(0)*50)
50 X2=X1+INT(RND(0)*80)
60 Y2=Y1+INT(RND(0)*48)
65 IF X1=X2 OR Y1=Y2 THEN 30
70 COLOR INT(RND(0)*3+1)
80 PLOT X1,Y1
90 DRAWTO X1,Y2
100 DRAWTO X2,Y2
110 DRAWTO X2,Y1
120 DRAWTO X1,Y1
122 X1=X1+2:Y1=Y1+2
124 X2=X2-1:Y2=Y2-1
140 GOTO 70
200 J=J+1:TRAP 200
205 FOR K=1 TO 200:NEXT K
210 IF J<10 THEN 20
215 END
```

Now type RUN and press the RETURN key.

EXPANDING YOUR ATARI 800 HOME COMPUTER SYSTEM

One of the features of your ATARI 800 Home Computer is its expandability. You can add a printer, a program recorder, and disk drives. Each piece of ATARI Computer equipment is made specifically for your ATARI Computer, connects easily to the rest of your system, and has the consistent quality you have come to expect from Atari. You can also add a large family of other peripheral equipment, such as a modem, digitizer, plotter, sensor, or controllers.

Your ATARI 800 Computer comes with a 10K ROM (Read-Only Memory) module, which is part of the Operating System. The ROM is like the conductor of an orchestra, directing every part of your system—telling it what to do and when to perform. Some of the ROM module's specific functions are performing arithmetic calculations and generating the different colors, along with the letters you see on the screen.

ADDING MORE MEMORY

Your computer also comes with a 16K RAM (Random Access Memory) ATARI Memory Module. This means it can hold 16,000 characters of information. However, your system can be expanded to hold 48K RAM, which stores up to 48,000 characters of information.

The memory modules are located under the ribbed section of the console cover, and the following steps show you how to insert additional memory modules into your ATARI 800 Home Computer.

1 Open the cartridge door as if you were going to insert a cartridge.



2 Rotate the black latches located above the cartridge slot in the direction of the arrows as shown.



3 Carefully remove the ribbed cover from the computer. You will see a 10K ROM module and one 16K RAM module already inserted.



4 Position your new memory module directly behind the existing 16K RAM module and push it firmly into place.



5 Place the cover back into position, making sure you match up the notches on the lower back section of the cover and the cover housing.



6 When the cover is in place, press down on it with one hand, and move the latches back into the locking position with the other hand. If the latches do not lock without force, remove and reposition the cover.



PERIPHERAL EQUIPMENT AND ACCESSORIES

ATARI PRINTERS

You may eventually require a printer to obtain a copy of programs or data. This might be the case when using programs such as the Personal Financial Management System™, Biorhythm, Dow Jones* Investment Evaluator™, Mailing List, or programs you write yourself. Atari has three printers available which can be easily connected to your computer.

ATARI 822™ THERMAL PRINTER

- Prints 40 characters per line
- Printing speed of 37 characters per second
- Prints upper/lowercase and point graphics
- Plots points one line at a time
- 5 x 7 dot matrix thermal printer

ATARI 820™ 40-COLUMN PRINTER

- Prints 40 characters per line
- Printing speed of 40 characters per second
- Prints upper/lowercase
- 5 x 7 matrix printer

ATARI 825™ 80-COLUMN PRINTER

- Must be used in conjunction with the ATARI 850™ Interface Module
- Printing speed of 50 to 83 characters per second depending on character set
- Prints 80 to 132 characters per line, depending on character set
- Prints three character sets: monospaced, monospaced condensed, and proportional
- All characters can be elongated (printed double width)
- Prints upper/lowercase
- Full and half-line spacing
- Forward and reverse line feed
- Underscoring and back-spacing capabilities
- Right margin justification
- Handles three types of paper: fanfold, roll, and individual sheets



*Trademark of Dow Jones & Company, Inc.

STORAGE DEVICES

The computer runs programs from its RAM, and the RAM retains programs only as long as the computer's power is on. If you want to store programs or data, you do so on cassette tape or diskette; then, when you want to use the programs, you simply LOAD them into RAM and tell the computer to RUN them. Some ATARI Computer programs are available on ROM cartridges, which are faster and easier to load, but also more expensive. Atari makes two program storage devices.

ATARI 410™ PROGRAM RECORDER

The ATARI 410 Program Recorder is an economical way to add storage capacity to your computer system. It attaches easily and directly to your computer console, or to any other ATARI Computer peripherals you may have.

ATARI 810™ DISK DRIVE

The ATARI 810 Disk Drive adds fast, reliable storage capability. Your files can be stored by name, and are more accessible when you want them.

Up to four disk drives can be attached to your ATARI 800 Home Computer. Each unit is capable of storing 88K (88,000 characters) of information on standard, 5 1/4-inch floppy diskettes.

GAME ACCESSORIES AND ADDITIONAL SOFTWARE

Accessories, such as joy-sticks and paddles, which are required by some of the ATARI Computer games and programs, are available from your ATARI Computer retailer.

Please check the *ATARI Home Computer Product Catalog*, also available at your ATARI Computer retailer, for our full line of programming languages, home study, home office, and home entertainment programs and accessories.





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Every effort has been made to ensure the accuracy of the product documentation in this manual. However, because ATARI, INC. is constantly improving and updating the computer software and hardware, we are unable to guarantee the accuracy of the printed material, or accept responsibility for errors or omissions after the date of publication.

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