# THE ATARI BOOX

ATARI800XL

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# THE RIGHT COMPUTER FOR THE TASK AT HAND

Whether you want to set up a domestic office or host your own video game tournament, the versatile ATARI 800XL Home Computer fits the bill. The hefty 64K RAM memory gives you the power to perform a myriad assortment of useful tasks. Using just the console and your television, you can write and edit on the screen. create art and attractive graphics, and program with ATARI BASIC, a

built-in, all-purpose computer language. The fullstroke, low-profile keyboard is set up like a typewriter, but with added practical features such as special function keys and a HELP key when you need extra information in a program.

Your computer gives you access to the large family of ATARI products, including over 2,000 software programs. A copy of the latest ATARI catalog is packed with the console. With the right peripherals and programs, you can compose music, communicate with other ATARI owners, balance your budget, learn a foreign language, or follow the stock market.

In the following pages you'll learn how easy it is to connect the computer to your television, and how simple it is to operate once it's turned on.



MEET THE ATARI 800XL HOME COMPUTER
HOOKING IT UP
CHECKING IT OUT
ADAPTING YOUR COMPUTER TO A JOB
HOW TO TELL YOUR COMPUTER WHAT TO DO
AT YOUR COMMAND
ATARI ART AND GRAPHICS
A HOST OF CHARACTERS FROM OTHER COUNTRIES
ÉXPLORING ATARI BASIC
BUILDING A SYSTEM
A CLEAN, SAFE COMPUTER ENVIRONMENT
YOU ARE NOT ALONE
IN CASE OF DIFFICULTY



# MEET THE ATARI 800XL HOME COMPUTER

# Expansion Connection

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VB

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For plugging future accessories or peripherals into your computer system

## Serial Input/Output Port

Connects peripheral equipment such as disk drives, program recorders and printers to your computer

## Cartridge Slot

Plug-in cartridges provide quick and easy program loading

## Monitor Jack

Provides access to a monitor's superior resolution.

## Power On/Off Switch

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Selects channel 2 or channel 3 for the clearest picture

## Switch Box Jack

To plug in connecting cable from Switch Box

**Controller** Ports

1X008121414

IIIIIII

IIIIII

For connecting touch tablets, key pads, joysticks, and paddle controllers



All you need to set up your ATARI 800XL Home Computer is a television and a screwdriver; Atari provides the rest. Set-up takes only a few-minutes.

Remove plastic covers from around the keyboard when you unpack the computer.

## Installing the TV Switch Box

1. Disconnect the VHF antenna or cable TV line. If the antenna has a flat, twin-lead cable, connect it to the 300-OHM screw terminals on the side of the TV Switch Box labeled ANTENNA. If it has a round cable, attach it to the 75-OHM threaded connector.





2. If the TV's VHF connection has two screw terminals, connect the short, twin-lead cable on the Switch Box to them.

If the VHF connection is threaded, attach the Switch Box cable to the screw terminals on the VHF adapter supplied with your TV. Then screw the adapter onto the set's threaded terminal. if you don't have an adapter, you can buy one at a video store.



3. Peel the cover from the adhesive square on the Switch Box and stick the box securely on the back of your TV.

If the antenna connected to the Switch box uses a flat, twin-lead cable, go to step 5.



**4.** If your antenna uses a round (75-OHM) cable and you did not use a VHF adapter, you may adjust your TV set as shown below.

If the back of your set looks like this, push the switch to the 300-OHM  $(300 \Omega)$  position.



If it looks like this, loosen the screws holding the U-shaped slider and move the slider to the position marked 300 OHM (or  $300 \Omega$ ).



If it looks like this, insert the tiny wire into the hole in the center of the antenna terminal.



Connecting Your	
Computer to the	1
TV Switch-Box	

5. Plug the connecting cable into the COM-PUTER connection on the TV Switch Box and into the jack labeled SWITCH BOX on your computer.





6. Move the switch on the TV Switch Box to the COMPUTER position.

7. Connect the twopronged plug on the AC Power Adapter to an electrical outlet. The round plug goes in the computer's POWER IN jack.



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

9. Set the Channel Select Switch on the computer to the same channel. After you turn on your computer, you may need to adjust the TV's finetuning knob to improve reception.

**10.** A few seconds after you turn on the main power switch on the computer, the screen shows the word **READY** from the ATARI BASIC Programming Language.

If you leave the computer on one display long enough, the colors on the screen begin changing to protect your TV set.

When you turn off the computer, wait 3 to 5 seconds before turning it back on.





ATARI800XL

When you turn on your ATARI 800XL, it automatically tests itself. You also have the option of double checking the computer's memory, sound and colors, and keyboard.

Thereafter, run the test only occasionally, because the computer tests its memory each time it's turned on. If the circuits fail the test, the words MEMORY TEST and red and green squares and rectangles appear on the screen.

1 2 3 4 5 8 5 8 5 8 3 0 QLEAR INCENT

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The built-in ATARI BASIC and any software that you try to use will be ignored by the computer.

This means that your computer needs service. Contact your ATARI Home Computer retailer or factory-authorized ATARI SÉRVICE<sup>™</sup> center.

## The Self Tests

Start the tests by holding down **OPTION** while turning on the computer or by typing BYE when BASIC says READY. A SELF-TEST menu will appear on the screen. Like a restaurant menu, this

RETURN

?

offers a choice of selections: ALL TESTS, MEM-ORY TEST, AUDIO-VISUAL TEST, AND KEYBOARD TEST. Press SELECT to choose a test, then press START. Press HELP to return to the SELF-TEST menu.



When you select ALL TESTS, the computer runs the tests for you. They repeat until you press HELP. Press RESET to stop the tests and return to ATARI BASIC.

7

SHIFT

## **Memory Test**

This test checks Read-Only Memory (ROM) and Random-Access Memory (RAM). ROM is noneraseable memory containing the computer's operating system. RAM is for the programs you use or write yourself.

The memory test works a little like a stoplight. Two bars appear on the screen when the ROM is tested. If the bars turn green, the ROM is okay and you may proceed. Red means STOP: The ROM is out of order, and you must contact your ATARI retailer or Factory Authorized Service Center.



During the RAM test, 48 squares—each representing a RAM section are tested. The remaining 16K RAM is available only with certain software programs. If a square turns white, then green, the corresponding section is good. If no square turns red, the RAM is okay.

Audio-Visual Test

The audio-visual test checks the four programmable sound voices and color and graphics capability. A musical staff and treble clef appear on the screen above the number of the voice tested. Six notes are played and displayed on your TV screen. The six notes repeat once for each of the four voices. If a voice number appears but you don't hear music, that voice is not working properly. Make sure the TV's sound is turned up.

The colors displayed should be consistent during each test.



#### The Keyboard Test

You work with two keyboards when you select this test, the one under your fingertips and a facsimile on the screen. When you press a key, a corresponding key on the TV screen flashes in reverse video (a blue character on a white background) and a note sounds. The space bar and special-function keys are already in reverse video, so pressing one of them changes the matching key on the screen to normal video. If nothing happens on the screen when you press a key, that key is not working.

The keys in the top row of the screen keyboard are located on the far right side of your computer keyboard. Disregard keys numbered 1-4. Reading from left to right. the keys in the screen's top row include: RESET, START, SELECT, OPTION, four numbered keys, HELP, REVERSE VIDEO ( ] ), and BREAK. Otherwise, the two keyboards have the same arrangement of keys.

SHIFT and CONTROL flash only when pressed simultaneously with another key.



There are three keys that do not flash or sound and that terminate the test when pressed. **HELP** returns you to the SELF-TEST menu. **RESET** returns you to BASIC, and **BREAK** evokes no response.

# ADAPTING YOUR COMPUTER TO A JOB

Software enables the computer to perform a specific task, whether it's storing and organizing names and addresses, acting as your personal bookkeeper, or providing you with a video arcade in your living room. It's up to you to select which ready-to-use software you need.





# Inserting a Cartridge

When using software in cartridge form, first turn the computer off, then insert it firmly into the cartridge slot above the keyboard with the label facing you. If you've been using another software program, turn the computer off, insert the cartridge, wait a few seconds, then turn it back on before using the new cartridge.



# HOW TO TELL YOUR COMPUTER WHAT TO DO

You communicate with your computer through the keyboard. You can do a lot more, however, than just type on this keyboard. You can throw away your ink eraser and editing pencils, for you can transform text and programs with a few keystrokes. NOTE: The white square on the screen is the cursor. It shows where you are on the display.



# Keyboard Wizardry

Though the ATARI 800XL keyboard looks and works much like a typewriter, there are keys that allow you to reach into a bag of editing tricks.

**CONTROL** and **SHIFT** are particularly important in editing and in generating graphics and international characters. They move the cursor, delete or insert characters or sentences, or change from upper-case to lower-case letters. Another key must be pressed while holding down **CONTROL** or **SHIFT** for a command to be executed. Since a key's function may change in certain programs, always consult your program user's guide.

The next few pages show some of the commands you use to tell your computer what to do.



AT YOUR COMMAND

RESET

Stops the computer in the middle of what it's doing and returns the program to its opening screen. It does not usually erase your work in RAM memory. **RESET** sometimes has undesirable side effects, such as interfering with the closing of open DOS files. Generally, **BREAK** is preferred for stopping a program. Consult the instructions for the software program you are using.



Chooses among variations within a program. Consult the instructions for the software program you are using.

Usually tells the computer to

dividual program instructions.

Often used to select one of

several applications within a

begin running a game or

program; refer to the in-



SELECT

program; its function varies from program to program refer to the individual program instructions. With some software, gives

access to information that can guide you through a program when you need help.







CONTROL





Usually interrupts whatever function the computer is performing; refer to individual program instructions.

Varies from program to program; for example, **ESC** may be used to take you from one menu to another.

Controls a variety of features when pressed simultaneously with another key.

Inserts a space where the cursor is in some programs or when you're programming. Characters may be entered by typing over the inserted space.

Moves the cursor back one space, deleting what was typed. If held down, it continues deleting characters.

Deletes character at the position of the cursor and shifts remaining characters on the line so that the space is filled.





Stops the TV display when the computer is writing on the screen; press CONTROL 1 again to continue.

Sounds a buzzer.

(For experienced programmers). Produces end-of-file (EOF) to a program reading input from the keyboard. This is just like the end-offile which happens when a disk file is being read and the end of the file is reached. End-of-file produces an error unless the program is written to **TRAP** and process the EOF.

Makes space to insert a program line or text line. INSERT

DELETE BACK SPACE SHIFT

SHIFT

SHIFT



Types upper-case char-

Deletes the text or program

line the cursor is on.

acters without getting computer out of the lower-case or other type of mode.

Shifts computer between upper-case and lower-case character modes. Also, releases computer from the CONTROL LOCK mode.



CONTROL







Returns cursor to left



RETURN

margin. Tells computer that you've finished typing or editing a line.

When used in conjunction

with **CONTROL**, these keys

move the cursor up, down,

left, and right.

Turns reverse video mode on and off. In some ATARI programs, this key is referred to as the Atari logo(八) key.

When you press any key and continue holding it down, the character repeats itself until you release the key.



There are 29 graphics characters built into the keyboard for when you want to brighten up a chart, create a work of computer art, or even do a little video doodling. Advanced programmers may find many uses for the characters. You can display graphic characters on the TV screen by pressing **CONTROL** and the keys shown below. If you want to produce a number of graphics characters, get into the CONTROL LOCK mode by pressing **CON-TROL** and **CAPS**. Get out of the CONTROL LOCK mode by pressing **CAPS** only for lower-case characters or **SHIFT CAPS** for upper-case characters. When switching from the international character mode (see next page), use this BASIC poke:

POKE 756, 224 [Press **RETURN**]

Then press **CONTROL** and the keys shown below to display graphic characters on the TV screen.





Ordinarily, when you type a draft in a foreign language that uses the same alphabet as we do, you go back to laboriously add accent marks, cedillas, and other diacritical marks by hand. You are spared that trouble with the ATARI 800XL Home Computer, which has an international character set.

International characters are available from certain software programs, or may be obtained in BASIC using the following poke:

POKE 756, 204 [Press **RETURN**] Then press **CONTROL** in combination with the keys shown below to produce international characters.





Your ATARI 800XL Home Computer has built-in ATARI BASIC Programming Language, a version of one of the most popular programming languages. You can use ATARI BASIC Programming Language for writing computer programs in any field from education to business to the arts. For more information, see the reference card packed with your computer and the book Inside ATARI BASIC, A Fast, Fun and Friendly Approach by William Carris (available from many Atari retailers and bookstores).

The following programs from this book show some of the remarkable things your computer can do. Program One demonstrates the computer's color and graphics capabilities. Program Two dramatically shows how sound adds an extra dimension. Program three is BASICally just for fun.



ATARI BASIC is available when you turn on the computer. You may override the language by holding down **OPTION** when turning on the computer or by plugging in a program cartridge. You may also exit BASIC by typing **BYE** to go to the self tests, or **DOS** to activate the Disk Operating System (when you have a disk drive connected). Press **RETURN** after each complete program statement (one or more lines of program instructions beginning with a line number). **RETURN** tells the computer that you've finished typing or editing a line.

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

If you don't type the program exactly as written here, after typing **RUN** you'll get an error message like this:



The computer is telling you there is a mistake in program line number 10. Return the cursor to that line and correct it. If the program statement is not on the screen, type LIST or LIST 10, so you can edit it. You can also correct a mistake by retyping the whole line where the mistake appears, including the program line number. The new line will replace the erroneous one. Refer to the "Keyboard Wizardry" section on page 10 for editing instructions. Program statements too long to fit on one line of your TV screen wrap around to the next line. Press **RETURN** after typing the entire program statement. Press BREAK when you want to stop the program.

## Program One

10 GRAPHICS 11 20 LL = 191 30 RL = 79 40 FOR ZEBRA = 0 TO 48 50 REM GTIA HIWAY\*FAST LANE\* 60 COLOR ZEBRA 70 PLOT RL,LL 80DRAWTO 0, 0 90 RL = RL-1 100 NEXT ZEBRA 110 GOTO 110 120 END

Type RUN, press **RETURN**, and watch it go!

#### Program Two

10 GRAPHICS 7 + 16: SETCOLOR 4, 0, 0: SETCOLOR 1, 0, 4 20 COLOR 2 30 PLOT 2, 2: DRAWTO 30, 34: DRAWTO 78, 40: DRAWTO 100, 57: DRAWTO 110, 50: DRAWTO 140, 76 40 FOR LIGSOU = 1 TO 255 50 SOUND 0, LIGSOU, 8, 10 60 IF LIGSOU = 8 THEN SETCOLOR 1,0,14 70 NEXT LIGSOU 80 SETCOLOR 1,0,0 90 FOR DE = 1 TO 200: NEXT DE 100 GOTO 10

Type RUN, press **RETURN**, and watch it go!

## Program Three

To get the arrow ) in this program, press ESCAPE, then hold down **CONTROL** and press **CLEAR**. Don't forget to close the quote.

10 PRINT "" DIM NAME\$ (20) : POSITION 2,7 20 PRINT "TYPE IN YOUR NAME AND PRESS THE RETURN KEY" 30 POSITION 4, 12: PRINT "NAME";: INPUT NAME\$ 40 GRAPHICS 2 + 1650 POSITION (20-LEN (NAME\$)) /2,4: REM CENTERS THE NAME 60 PRINT #6; NAME\$ 70 POSITION 1, 7: PRINT #6; "IS A FLASHY PERSON'': REM TYPE ''IS A FLASHY PERSON'' IN INVERSE VIDEO 80 FOR FLIP=0 TO 20 90 FOR FLASH=0 TO 14 100 SETCOLOR 0, 0, FLASH: SOUND 0, FLASH .10, 10 110 NEXT FLASH 120 FOR DELAY = 1 TO 20: NEXT DELAY 130 NEXT FLIP 140 SETCOLOR 0, 0, 14: SOUND 0, 0, 0, 0 150 FOR DELAY = 1 TO 1000: NEXT DELAY 160 SETCOLOR 0, 0, 0: SETCOLOR 2, 0, 0 170 FOR DELAY = 1 TO 800: NEXT DELAY 180 RUN 190 END

Type RUN again and press **RETURN**.



You can easily assemble a system of peripheral devices around the ATARI 800XL Home Computer to perform word processing and printing, home office functions, and information networking.

## How to Save Your Work

The software you use determines which peripherals you need. No extra equipment is necessary with some cartridges, because they plug right into the computer. However, you cannot store your work on a cartridge.

If you want to save data or use cassettes or diskettes, you must buy a program recorder or a disk drive. Otherwise, you lose your work when the computer is turned off. The low-cost ATARI 1010<sup>™</sup> Program Recorder records data—and sometimes sounds, music or words—on a cassette tape.

Or you may need an ATARI 1050<sup>™</sup> Disk Drive, which retrieves and stores data faster and more efficiently than program recorders.



## All the Data That's Fit to Print

The ATARI computer owner can select from a range of printers. The ATARI 1027<sup>™</sup> Letter-Quality Printer is a lowcost, easy-to-use device that prints on regular typing paper. It produces fully formed characters like the type from an electric typewriter. The ATARI 1025<sup>™</sup> 80-Column (dot-matrix) Printer is more expensive but

faster than the ATARI 1027, and uses typing paper or computer paper. The ATARI 1025 typeface is composed of tiny dots. For artwork or charts and graphs, the ATARI 1020<sup>TM</sup> 40-column Color Printer/ Plotter may be just the tool you need. You can draw or "plot" vibrant color graphics with the printer's four-color pens. or print different sizes of text

To correspond with a French pen pal or write a report in Spanish, you can generate international characters with these printers. Refer to your printer owner's guide for instructions.

## Bridging the Information Gap

With an ATARI **MODEM** and a telephone, you have access to computer databases, transportation and entertainment schedules, and specialized information systems such as COMPUSERVE INFOR-MATION SERVICE\* and THE SOURCE, AMERICA'S INFORMATION UTILITY.\*\* \*Registered trademark of Compuserve, Inc., an H&R Block company \*\*THE SOURCE and AMERICA'S INFORMA-TION UTILITY are service marks of Source Telecomputing Corporation, a subsidiary of The Reader's Digest Association, Inc.



## A CLEAN, SAFE COMPUTER ENVIRONMENT

Here are a few suggestions for making the space where you use your computer a pleasant place to work or play:

• Keep your computer free of dust by occasionally wiping it with a moist, lint-free cloth. • Do not use household solvents or cleansers on the computer.

• Keep liquids away from the work area.

# YOU ARE NOT ALONE

ATARI Home Computer users don't have to work or play in isolation. Most of the situations and problems you may encounter have already been met and worked out by others. Much of this experience is documented, so there is plenty of support available. The sources listed here are a few of the many aids which can guide you to new, rewarding directions for home computer use. They are available from bookstores, Atari retailers, or by writing to the addresses provided.

#### Books

ATARI BASIC Reference Manual. Specify Part Number C015307.

#### and

Technical Reference Notes. ATARI Home Computer System. Specify Part Number C016555. Available from: Atari Customer Relations P.O. Box 427 Sunnyvale, CA 94086 Mapping the Atari by Len Chadwick.

and *COMPUTE!'S FIRST BOOK OF ATARI GRAPHICS.* COMPUTE! Books, P.O. Box 5406, Greensboro, NC 27403

Computers for People by Jerry Willis and Merle Miller. dilithium Press, 11000 S.W. 11th St., Beaverton, OR 97005

Your Atari Computer by Lon Poole, Martin McNiff and Steven Cook. Osborne/McGraw Hill, 630 Bancroft Way, Berkeley, CA 94710.

Inside ATARI BASIC: A Fast, Fun, and Friendly Approach, by Bill Carris and

*Atari Games and Recreation* by Herb Kohl, Ted Kahn, and Len Lindsay.

## and

Kids and the Atari by Edward H. Carlson. Reston Publishing Co., 11480 Sunset Hill Road, Reston, VA 22090.

*The Creative Atari*. David Small, Sandy Small, and George Blank, editors. Creative Computing, P.O. Box 789-M, Morristown, NJ 07960.



ATARI Connection, The Home Computer Magazine. Get a free copy just by returning your ATARI Home Computer warranty card. You then have the option of becoming a regular subscriber. You may also write to: P.O. Box 50047, San Jose, Ca 95150.

Antic—The Atari Resource. 600 18th St., San Francisco, CA 94107.

Analog Computing, The Magazine for Atari Computer Owners. P.O. Box 23, Worcester, MA 01603.

## User's Groups

You can share information with other ATARI Home Computer Users' by joining an ATARI User's Group in your area. ATARI Users' Groups are located throughout the U.S. and around the world. To locate the group nearest you, write to the ATARI Users' Group Support Program, P.O. Box 50047, San Jose, CA 95150, or call ATARI Customer Service at (800) 538-8543. In California, call (800) 672-1404.



**Q.** I've set up my computer following the instructions in the ''Hooking It Up'' section, but when I turn the computer on, nothing happens. What do I do now?

A. If the word **READY** 

doesn't appear when you turn on your computer, retrace your steps. Make sure that all cords and cables are plugged securely and that power is coming into the system. The red Power ON/OFF light located on the lower right side of the kevboard should be on. Try adjusting the fine-tuning knob on your TV. If you still don't get the proper display, or if the words **MEMORY TEST** appear on the TV screen, your computer may need service. For the location of the nearest factory authorized ATARI Service<sup>SM</sup> center, contact your ATARI retailer or call ATARI Customer Service toll-free (800) 538-8543 [In California, call (800) 672-1404].

**Q.** What do I do if the red Power ON/OFF light comes on, but the TV picture is distorted?

**A.** There are a number of things you should check:

\* Make sure that the RF cable is plugged into the TV Switch Box, and that the Switch Box selector is turned to **COMPUTER** or *GAME*.

\* The TV must receive a 300-OHM ( $300 \Omega$ ) signal from the Switch Box to work properly with the computer. See if you have followed the instructions in the section ''Installing the TV Switch Box.''

\* Make sure the TV Channel Switch on the computer is turned to the same number as the channel selector on your TV set.

\* Try a different cartridge in the Cartridge Slot to determine if the software is working. Make sure the cartridge is pressed down firmly to the bottom of the slot.

**Q.** When I press the **HELP** key nothing happens. Why not?

**A. HELP** is designed to work with specific programs where it gives access to helpful information when you need assistance. If the computer doesn't respond, the program you are using is probably not set up for use with **HELP**. **Q.** I just tried the computer's built-in ATARI BASIC. I typed in a program, but it won't run. Why not?

A. Make sure you pressed **RETURN** after each program statement before typing RUN. When you press **RETURN** you are telling the computer that you are entering information.

Another common mistake is confusing zeros with the capital letter O. Though they look similar, the computer treats them differently.

If you encounter further problems, consult the "Exploring ATARI BASIC" section or one of the books in the "You Are Not Alone" section in this guide.



Like any electrical appliance, this ATARI Home Computer uses and produces radio frequency energy. If it is not installed and used properly according to the instructions in this guide, the equipment may cause interference with your radio or television reception.

If you believe this equipment is causing interference with your radio or television reception, try turning the equipment off and on. If the interference problem stops when the equipment is turned off. then the equipment is probably causing the interference. With the equipment turned on, you may be able to correct the problem by trying one or more of the following measures:

• Reorient the radio or television antenna.

• Reposition the equipment in relation to the radio or television set.

• Move the equipment away from the radio or television.

• Plug the equipment into a different wall outlet so the equipment and the radio or television are on different branch circuits.

If necessary, consult your ATARI Computer retailer or an experienced radio/television technician for additional suggestons.

If a cable is attached to the expansion connection, it must be a shielded cable (Atari part number CA024571 or equivalent) in order to ensure FCC compliance. Use of a non-shielded cable will void FCC certification of this device.

**WARNING:** This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. These rules are designed to provide reasonable protection against such interference when the equipment is used in a residential setting. However, there is no guarantee that interference will not occur in a particular home or residence. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer.

Operation of noncertified peripherals with this computer is likely to result in interference to radio and TV reception.

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

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