

BASIC WIZARD

by Cary Hammer

FOR THE ATARI 400/800/XL COMPUTERS

USER'S MANUAL

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I. INTRODUCTION

Thank you for your purchase of C.A.P. Software's BASIC WIZARD. Our goal in designing the program has been to make it as useful and user friendly as possible.

IMPORTANT - Please fill out the owner registration card included with this manual. C.A.P. Software cannot provide support or future update information to nonregistered owners.

TRADEMARK ACKNOWLEDGEMENTS

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II. THE PACKAGE

BASIC WIZARD is an enhancement package for the ATARI line of home computers. It is intended for use with the standard ATARI BASIC cartridge (or with built in ATARI BASIC with the 800XL and XT series computers). BASIC WIZARD requires a minimum of 32K of memory.

BASIC WIZARD affords use of a diverse set of functions, aimed at improving the editing capabilities and general functionality of the ATARI computer. The package is booted at power-up, and resides in the background of the BASIC environment, making its presence known only when the user calls upon a BASIC WIZARD function.

III. BOOTING UP BASIC WIZARD

Insert a BASIC cartridge in your computer (not required with the 800XL or XT series). Insert the BASIC WIZARD disk into your disk drive and turn on your computer. After the program loads from the disk, the BASIC WIZARD main menu is displayed. Press START to continue.

IV. BASIC WIZARD FUNCTIONS

The Quick Reference Sheet in this manual lists all BASIC WIZARD functions in alphabetical order. A detailed description of each function is given below.

1. MINI-DOS

BASIC WIZARD supplies six DOS functions directly. The MINI-DOS functions are accessed by pressing the SELECT key in conjunction with the required letter key.

a) DIRECTORY (SELECT-D) Upon selecting this function you will be prompted for the Drive Number. Enter the desired Drive Number (1-4) and press [RETURN].

b) FORMAT (SELECT-F) Upon selecting this function you will be asked for confirmation of the format operation. Enter Y [RETURN] to continue with the format. You will then be prompted for the Drive Number. Enter the desired Drive Number and press [RETURN].

c) RENAME (SELECT-R) Upon selecting this function you will be prompted for the file specification. The entry is the same as you would use to rename a file in DOS.

For example:

D1:OLD.BAS,NEW.BAS

Note that the Drive Number is entered only once as it normally is in DOS.

d) LOCK (SELECT-L) Upon selecting this function you will be prompted for the file specification. As an example, to lock all the files on Drive 2, we would enter:

D2:*.*

e) UNLOCK (SELECT-U) Upon selecting this function you will be prompted for the file specification. As an example, to unlock the file TEST.BAS on Drive 1, we would enter the following:

D1:TEST.BAS

f) ERASE (SELECT-E) Erase deletes the specified file. Upon selecting this function you will be prompted for the file specification. For example:

D1:JUNK.BAS

2. PROGRAMMED FUNCTION KEYS

The PF key feature allows the user to define keyboard macros for easy repetition of recurring character strings. Instead of retyping statements like:

```
?FRE(0)
or
SAVE"D:CHOCOMAN.BAS
or
?PEEK(195)
or
COOKTIME(I)=
```

when they occur frequently either within a program or in immediate mode, these statements can be stored for immediate recall at a single keystroke.

The PF key function is enabled by pressing the OPTION and SELECT buttons simultaneously. You are then prompted to enter the key to be used for recall of the PF sequence, followed by the sequence itself. The string is terminated by once again pressing the OPTION and SELECT buttons; thus the [RETURN] key should be used at the end of the sequence only if this key is desired as a part of the sequence.

Once the PF key has been enabled, it can be used at any time by holding down the START button while pressing

the key that has been defined. The sequence is then recalled exactly as if it were being typed from the keyboard.

Any string of up to 256 characters can be programmed into a PF key including multiple commands such as:

```
E=PEEK(195)[RETURN]IF E=12 THEN ?"NOT FOUND" [RETURN] IF  
E<>12 THEN CONT
```

Up to 64 PF keys may be enabled at any given time, as long as the total storage of the definition strings does not exceed 256 characters. If this limit is reached an error message is displayed.

3. INSERT MODE

Use of the standard ATARI INSERT key is tedious because it must be pressed once for each character to be inserted, necessitating pre-calculation of this number of characters. BASIC WIZARD, however, provides an insert mode in which insertion is performed automatically.

To enter insert mode, press the SHIFT-CTRL-INSERT key. The same key is used to exit from insert mode.

4. TYPEAHEAD

Normally, when the ATARI computer is too busy doing something else to listen to what you're typing, it will remember only the last character that was typed upon returning to the ready state. BASIC WIZARD expands this typeahead capability from one, to up to 256 characters. This, for example, means that while a BASIC program is being loaded, you can go ahead and type:

```
ENTER"D:EXTRALIN [RETURN]  
LIST 1000,2000 [RETURN]  
RUN [RETURN]  
YES [RETURN]
```

so that by the time the program finishes loading, the computer will be ready to automatically execute these four commands that, respectively, modify the program, check if the modification is right, run the program, and enter an answer to the first program prompt.

A simple way to demonstrate the typeahead feature is to run a program like:

```
10 FOR I=1 TO 400: ?I:NEXT I
```

and while it is running, type something on the keyboard. When the program has terminated, the typed sequence will appear.

5. JOYSTICK CURSOR

When performing a great deal of editing, manipulation of the cursor by use of the CTRL-ARROW keys can become tiresome (especially on an ATARI 400). BASIC WIZARD allows the option of direct cursor control through the joystick. Any joystick plugged into the SECOND slot of the computer can be used to move the cursor. In addition, the joystick trigger can be used as an alternate switch to toggle insert mode.

6. AUTOMATIC LINE NUMBERING

To enable the automatic generation of line numbers when typing in your BASIC program, press SHIFT-CTRL-# (alias SHIFT-CTRL-3). You will then be prompted for the value with which to begin numbering as well as the increment to be used for generation of each subsequent number. Once you have entered these two numbers (pressing [RETURN] after each) the first line number will be generated. As you enter each BASIC statement, numbers will continue to be generated, until you disable the function by pressing SHIFT-CTRL-# once more.

7. LINE RENUMBERING

To enable the renumbering of your Basic program, press SHIFT-CTRL-R. You will then be prompted for the starting value to begin renumbering with as well as the increment value. Enter the two numbers (pressing [RETURN] after each) and the renumbering process will start.

IMPORTANT NOTES ON RENUMBER

1) Always save your program to disk before attempting a renumber operation. That way if you make a mistake you haven't lost your program.

2) Symbolic references and references to non-existent lines will be reported by a screen display of "check line XXXX", where XXXX is the line number. An example of a symbolic reference is the following Basic line:

```
10 GOTO RETRY
```

An example of a non-existent line reference is:

```
100 GOSUB 5000
```


where there is no line 5000 in the program. Note that some non-existent line references are perfectly legal and require no action on your part (For example TRAP 40000, which turns off TRAP processing).

3) Be careful when you determine your starting line number and increment values that you don't end up with line numbers greater than 32,767 after the renumbering is done. If you do, the Basic program cannot be used and will have to be reloaded from disk and renumbered again using different start and increment values.

8. RESTORE CHARACTER

The restore character function can be used either to replace accidentally deleted characters or as a tool for moving characters from one line to another. When SHIFT-CTRL-DELETE is pressed, the most recent characters are restored, one at a time, in reverse order, up to a limit of 64.

9. COPY CHARACTER

SHIFT-CTRL-PERIOD can be used to enter characters into the deletion buffer used for the Restore Character function without actually deleting them. These characters can then be copied out to another line by using SHIFT-CTRL-DELETE.

10. BLOCK DELETE

To remove a consecutive block of code from a BASIC program, hit SHIFT-CTRL-CLEAR. The block delete function will prompt for the numbers of the first and last lines to be deleted, and will remove this range of lines, inclusive.

** NOTE **

Should you experience any trouble with this feature, it may be due to your version of ATARI BASIC. There is a bug in some versions of ATARI BASIC that will cause the computer to lock-up if a line of exactly 256 bytes long is deleted. The only recovery procedure is to turn the computer off then back on to reboot the computer.

11. CANNED STATEMENTS

A set of commonly-used statements is pre-programmed into BASIC WIZARD, each of which can be activated by pressing a SHIFT-CTRL key. These statements and the keys which generate them are:

FOR I=1 TO
(SHIFT-CTRL-F)

SAVE"D:
(SHIFT-CTRL-S)

LOAD"D:
(SHIFT-CTRL-G)

?PEEK()
(SHIFT-CTRL-P)

The parentheses can be filled with any number to print the contents of the corresponding memory location.

XYW= :?PEEK(XYW)+256*PEEK(XYW+1)
(SHIFT-CTRL-D)

The space after the equal sign can be filled with the memory location at which to do a "double peek".

FOR XYW= TO XYW+999:?XYW,PEEK(XYW):NEXTXYW
(SHIFT-CTRL-M)

The space after the equal sign can be filled with the location at which to start a memory dump.

12. ENTER PARTIAL LINE

This function, initiated with SHIFT-CTRL-RETURN, deletes all characters between the cursor and the end of the current physical line, and then enters the modified line.

13. READY ALARM

This feature is intended for use when the computer is performing a time-consuming task such as loading from an external device, or running a particularly complex program. Pressing SHIFT-CTRL-2 while this task continues will cause an extended alarm to sound upon completion of the task. This allows a user to step away from the computer while processing is being performed, and be notified when the machine has finished.

14. EXPLAIN ERROR

One of the more noteworthy drawbacks of ATARI BASIC, while certainly not a unique problem among microcomputer languages, is its reference to errors by their respective "error codes". Thus when the machine halts execution of a program with the message:

ERROR- 12 AT LINE 560

the user is forced to refer to a list of error codes in order to determine the nature of the problem. However with BASIC WIZARD, after an error occurs, pressing SHIFT-CTRL-? will print the actual error name on the current screen line. This function can be called at any time, and will always refer to the last error generated.

15. LIST ERROR

This is a handy companion to the Explain Error function. Once the type of error has been determined, a user will almost always next proceed to list out the program line that caused the problem. The List Error feature of BASIC WIZARD, activated by pressing SHIFT-CTRL-[Atari symbol], will list to the screen the line responsible for the error.

V. ADDITIONAL INFORMATION

1) TRANSFERRING BASIC WIZARD TO ANOTHER DISK- BASIC WIZARD is the AUTO RUN.SYS file on the original disk. If you wish to transfer this to another one of your disks, simply copy the file. If the disk you are copying to has a DOS other than DOS 2.0, follow the instructions for your particular DOS on creating an AUTO BOOT file (a file that loads automatically when you turn on your computer).

2) MEMORY USAGE BY BASIC WIZARD- BASIC WIZARD initially boots itself into memory location 3800(HEX) and then relocates itself to low memory and adjusts the low memory pointer to protect itself from BASIC. Although the BASIC WIZARD file on the disk may appear to be long, a considerable portion of the file is used only during the initial boot and subsequent relocation process. You may observe how much memory is available for use in your computer after BASIC WIZARD loads by doing a PRINT FRE(0) in BASIC.

3) CONFLICTS IN USING BASIC WIZARD- BASIC WIZARD uses certain machine resources (such as the vertical blank and keyboard interrupts) to perform its functions. While this causes no problems during entry or editing of a BASIC program, a conflict can arise if a BASIC program is run that contains machine language routines that use these same resources. In these cases, it will be necessary to reboot your computer without BASIC WIZARD to enable you to run the program

VI. LIMITED WARRANTY AND DISCLAIMER

C.A.P. SOFTWARE, Inc. warrants to the original consumer/purchaser that this C.A.P. SOFTWARE program diskette shall be free from defects in material or workmanship for a period of 90 days from the date of purchase. If a defect is found during this warranty period, C.A.P. SOFTWARE will replace the diskette, provided the diskette and proof of purchase is delivered or mailed, postage prepaid, to C.A.P. SOFTWARE, Inc..

This warranty shall not apply if the diskette has been misused, shows signs of excessive wear, or has been partially or totally erased or damaged in any other way by the purchaser. Any applicable implied warranties, including warranties of merchantability and fitness, are limited to 90 days from the date of purchase. Consequential or incidental damages resulting from a breach of any applicable, express or implied warranties are hereby excluded.

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Every effort has been made to ensure that this manual accurately documents this product. However, because of ongoing improvements and updating of computer software and hardware, C.A.P. Software cannot guarantee the accuracy of printed material after the date of publication and shall not accept responsibility for errors or emissions.

QUICK REFERENCE SHEET

Activate PF key: START-[key]
Auto line number: SHIFT-ctrl-#
Block delete: SHIFT-CTRL-CLEAR
Copy character: SHIFT-CTRL-PERIOD
Define PF key: OPTION-SELECT
Directory: SELECT-D
Double peek: SHIFT-CTRL-D
Enter partial line: SHIFT-CTRL-RETURN
Erase: SELECT-E
Explain error: SHIFT-CTRL-?
FOR I=1 TO SHIFT-CTRL-F
Format: SELECT-F
Insert mode: SHIFT-CTRL-INSERT
Joystick cursor: (always enabled)
Line renumber: SHIFT-CTRL-R
List error: SHIFT-CTRL-[Atari symbol]
LOAD"D: SHIFT-CTRL-G
Lock: SELECT-L
Memory dump: SHIFT-CTRL-M
?PEEK() SHIFT-CTRL-P
Ready alarm: SHIFT-CTRL-2
Rename: SELECT-R
Restore character: SHIFT-CTRL-DELETE
SAVE"D: SHIFT-CTRL-S
Typeahead: (always enabled)
Unlock: SELECT-U



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