

HEWLETT-PACKARD

HP-75

REFERENCE MANUAL





HP-75
Reference Manual

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Introduction

This reference manual was designed to be your principal reference tool after you have learned to use and program your HP-75. It is compact enough to go virtually anywhere your computer can go, yet comprehensive enough to provide most of the information you might need for routine use of the HP-75.

The reference manual is divided into four sections, each with a different purpose:

- Section 1, *Operating the HP-75*, contains information about the operation of the computer and its systems. The topics in this section are presented in the same order as in part I and II of the owner's manual, and each topic contains the principal facts relating to the operation covered by the topic. Refer to this section when you need information about some aspect of the computer's operation.
- Section 2, *Programming Concepts*, contains information about writing and running programs. The topics in this section are presented in the same order as in part III of the owner's manual. Each topic lists, and briefly defines, the instructions used to implement the programming concepts covered by the topic. Refer to this section when you need general information about a programming concept.
- Section 3, *HP-75 Instruction Set*, is the heart of the reference manual and contains a complete dictionary of every operator, function, statement, and command in the HP-75 instruction set. Refer to this section when you need detailed information about a particular HP-75 instruction.
- Section 4, *Reference Tables*, provides detailed information about the character set, error conditions, system memory requirements, display escape codes, machine defaults, and keyword abbreviations.

Throughout this manual you will find bold-type page numbers inside parentheses. These page numbers refer to the page in the owner's manual where the principal coverage of the operation, concept, or instruction is located, and they provide a way to access the more complete coverage of certain topics that the owner's manual provides.

Operating the HP-75

Keyboard and Display Control

Key Functions

Typewriter Keys

- [A]** through **[Z]** Letters.
- [0]** through **[9]** Digits.
- []** Space.
- [.]** Period. Used as a decimal point in numbers and as the final character in abbreviations.
- [+]** **[-]** **[*]** **[/]** **[^]** Arithmetic symbols: addition (plus), subtraction (minus), multiplication (asterisk), division (slash), exponentiation (circumflex), and integer division (back slash).
- [\]** **[CTL]** **[/]**
- [,]** Comma. Used to separate items in commands, statements, and functions.
- [(]** Parentheses. Used to key in numeric expressions.
- [!]** Exclamation mark. Used for end-of-line comments in program statements and for appointment notes.
- ["]** Double and single quotation marks. Used to enclose filenames and other literal strings.
- [#]** Number sign. Used to specify file numbers of BASIC files in `ASSIGN #`, `PRINT #`, `RESTORE #`, and `READ #` statements and to assign timer numbers in `ON TIMER #` and `OFF TIMER #` statements. Also used for inequality in relational tests.
- [\$]** Dollar sign. Used to specify string variables and string functions.
- [&]** Ampersand. Used to concatenate, or join, string expressions.
- [[]]** Opening and closing brackets. Used to dimension string variables and to specify substrings.
- [@]** Commercial at. Used to form multistatement program lines.
- [;]** Semicolon. Used to separate items in `PRINT`, `DISP`, `INPUT`, `PRINT #`, and `READ #` statements.
- [=]** Equals. Used to assign variable values and to test for equality.
- [<]** Less-than. Used in relational tests.
- [>]** Greater-than. The BASIC prompt for programs and command appointments. Also used in relational tests.
- [:]** Colon. The text-editing prompt. Also used to delimit device codes.

- %** Percent sign.
- ?** Question mark. The default prompt for the `INPUT` statement.

Editing Keys

- SHIFT** Shift. Causes keys to perform their shifted functions. In uppercase mode, causes the letter keys to display lowercase letters.
- CTL** Control. Used to generate special display characters and to form a variety of keystroke combinations.
- LOCK** Lock. Used when locking the keyboard in uppercase letters or when enabling the numeric keypad.
- ← →** Left-arrow and right-arrow. Move the cursor across the display. If necessary, cause the display to scroll.
- ↑ ↓** Up-arrow and down-arrow. Move the display up and down through BASIC, text, and appointment files and through the system and mass storage catalogs.
- I/R** Insert/Replace. Exchanges the replace cursor (■) with the insert cursor (⊕).
- CLR** Clear. Clears the display.
- BACK** Backspace. Backspaces the cursor and erases the character there.
- DEL** Delete. Deletes a character and left-shifts the trailing characters in the display line.
- TAB** Tab. Moves the cursor across `TIME` and `APPT` mode display fields.

System Keys

The system keys and the **↑** and **↓** keys send a carriage-return/line-feed to the display and `DISPLAY IS` devices before performing their designated functions.

- ATTN** Attention. Turns on the HP-75; interrupts programs, listings, auto line-numbering, card reader operations, and HP-IL operations. Acknowledges due appointments.
- TIME** Time. Switches the HP-75 to `TIME` mode.
- APPT** Appointment. Switches the HP-75 to `APPT` mode. Causes unacknowledged appointments to be displayed.
- EDIT** Edit. Switches the HP-75 to `EDIT` mode.
- FET** Fetch. In `EDIT` mode, functions as a typing aid for `FETCH` command.
- RTN** Return. Causes an expression, statement, or command in the display to be evaluated, stored, or executed.
- RUN** Run. Runs the current BASIC program in `EDIT` mode. Processes due appointments in `APPT` mode.

Keystroke Combinations

System Keystrokes

- SHIFT** **CTL** **CLR** Causes the HP-75 to perform a system reset.*
- SHIFT** **ATTN** Causes the HP-75 to turn off the display and to disable all keys except **ATTN**.
- SHIFT** **LOCK** Locks the HP-75 in uppercase. Pressing **LOCK** again restores the unshifted keys.
- CTL** **LOCK** Enables the numeric keypad. Pressing **LOCK** again restores the normal keyboard.
- SHIFT** **FET** Displays the most recent **ERROR**, **WARNING**, card reader, trace, or **HP-IL** message for as long as the **FET** key is pressed. The message is cleared after **CLR**, **ATTN**, **TIME**, **APPT**, **EDIT**, **FET**, **↑**, **↓**, **RTN**, or **RUN** is pressed.
- SHIFT** **RUN** Single-steps through a program, beginning from the current line.

Editing Keystrokes

- SHIFT** **↑** Moves the file pointer to the first line of the current file, to the first entry in a **CAT ALL** or mass storage catalog listing, or to the first appointment in **APPT** mode.
- SHIFT** **↓** Moves the file pointer to the last line of the current file, to the last entry in a **CAT ALL** or mass storage catalog listing, or to the last appointment in **APPT** mode.
- CTL** **FET** In **EDIT** mode, brings the last entry to the display and makes it available for editing. The entry is displayed intact, so long as no other keys have been pressed since the last **RTN**. The following commands use the input buffer, causing your last entry to be lost: **FETCH**, **FETCH KEY**, **LIST**, **LOCK**, **PLIST**, and **TRANSFORM**.
- SHIFT** **DEL** In **EDIT** and **TIME** modes, deletes from the cursor to the end-of-line. In **APPT** mode, deletes the currently displayed appointment or replaces it with an edited appointment.
- SHIFT** **TAB** In **APPT** and **TIME** modes, shifts the cursor leftwards across the display fields, the opposite direction of **TAB** alone.
- SHIFT** **←** Shifts the cursor to the beginning of the display line.
- SHIFT** **→** Shifts the cursor to the end of the display line.
- CTL** **←** Left-shifts the cursor 32 positions or to the beginning of the display line, whichever distance is shorter.
- CTL** **→** Right-shifts the cursor 32 positions or to the end of the display line, whichever distance is shorter.

Display Character Keystroke

- SHIFT** **I/R** Causes the next key or keystroke combination to display the character associated with it regardless of key redefinitions.

* **SHIFT** **CTL** **M**, **↑**, **↓**, **Ⓚ**, and **I/R** also cause a system reset if held for one second or longer.

Escape Keystroke

CTL **BACK** Generates decimal code 27 (ESC) as the initial character of escape code sequences.

The HP-75 responds to 12 escape codes. (Refer to the table of display escape codes in the reference table section.)

Display Control

CTL **FET** Recalls input buffer to display for editing.

DELAY Controls display rate of messages and output.

MARGIN Determines character position where end-of-line signal appears.

PWIDTH Sets line length of output to printer devices.

SHIFT **I/R** Causes next key or keystroke pressed to display character associated with it.

WIDTH Sets line length of output to display devices.

Character Manipulation Functions

CHR# Returns the character associated with the specified decimal character code.

NUM Returns the decimal character code of the specified character.

Syntax Guidelines

The following syntax conventions are used throughout this manual:

DOT MATRIX TYPE Words in dot matrix (like **LIST**) may be entered in lowercase or uppercase letters.

italic type Items in italic are the parameters you supply.

' ', "" Filenames and other character strings can be enclosed by single or double quotes and can be entered in lowercase or uppercase letters.

[] This type of brackets enclose optional parameters.

... An ellipsis indicates that the optional item may be repeated.

stacked items When two or more items are placed one above the other, one and only one of them may be used.

or When two or more items are separated by "or", one or more instances of either or both items may be included.

File Manipulations

File Types

| | |
|----|---------------------------|
| E | BASIC file. |
| PE | Private BASIC file. |
| T | Text file. |
| A | Appointment file. |
| L | LEX file. |
| I | Interchange or LIF1 file. |
| ? | Unknown file. |

File Specifiers

File specifiers name and describe the characteristics of files.

Definitions:

| | |
|--------------------|--|
| <i>filename</i> | A string expression which evaluates to a string of one to eight characters. The first character must be a letter or a period; the remaining characters can be letters or digits. |
| <i>device code</i> | A string expression which evaluates to one or two letters, a letter and a digit, or a digit and a letter. |
| <i>password</i> | A string expression which evaluates to one to four letters or digits. |

| File Specifier Syntax | |
|-----------------------------|--|
| File Type | Specifiers |
| Files in Memory | ' <i>filename</i> ' APPT KEYS |
| Card File Specifier | CARD ' :CARD' ' :PCRD' ' <i>filename</i> :CARD' ' <i>filename</i> :PCRD' ' <i>filename</i> :CARD/ <i>password</i> ' ' <i>filename</i> :PCRD/ <i>password</i> ' |
| Mass Storage File Specifier | ' <i>filename</i> : <i>device code</i> ' ' <i>filename</i> : <i>device code</i> / <i>password</i> ' |

Note: Although a filename, device code, password, or complete file specifier can be any string expression, they are shown throughout this manual only as string constants, and therefore are enclosed in quotes. File specifiers that are, for example, string variables or substrings do not require quotes.

File Parameters

Line numbers must be unsigned integers, 0 through 9999.

Increment values and file numbers must round to integers, 1 through 9999.

File specifiers may be specified by string variables and expressions.

File Management Commands

| For the Current File Only | For Any BASIC File in Memory | For Any Text File in Memory |
|--|---|--|
| AUTO DELETE FETCH MERGE NAME RENUMBER | CALL CAT COPY EDIT LIST PLIST PURGE RENAME RUN TRANSFORM | CAT COPY EDIT LIST PLIST PURGE RENAME TRANSFORM |

Executing COPY, DELETE, MERGE, NAME, PURGE, RENAME, or TRANSFORM on an initialized BASIC file will deallocate the program.

Operators and Functions

Precedence of Operators (89)

The table below lists HP-75 operators in their order of precedence. Expressions are evaluated from left to right for operators at the same level.

Performed first.

()
functions.
^
NOT
*, /, DIV or \ (\square / \square)
+, -
=, >, >=, <, <=, <> or #
AND
OR, EXOR

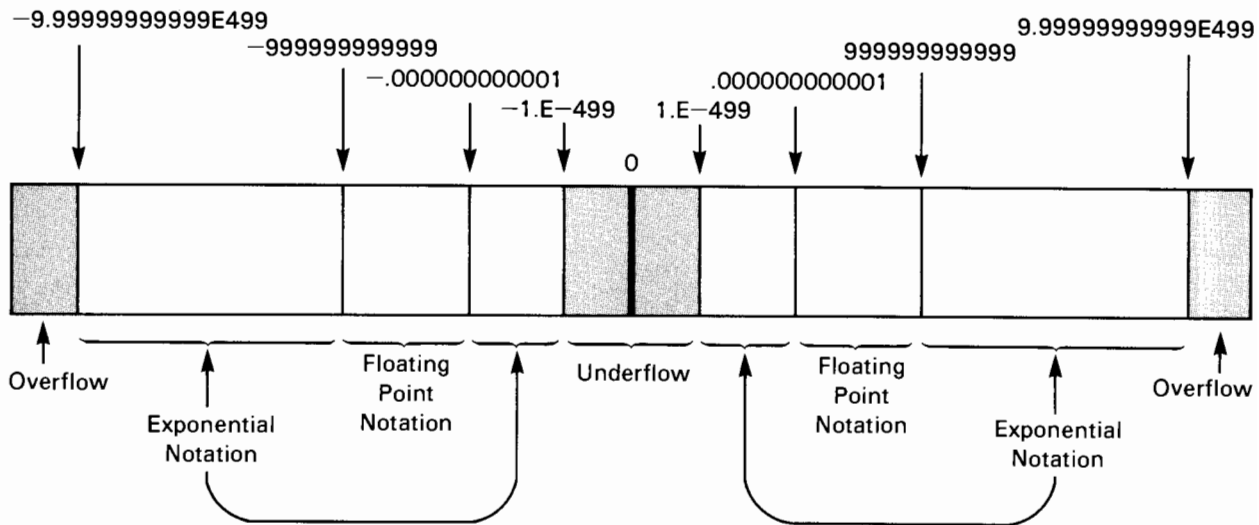
Performed last.

Nested parentheses are evaluated from the inside out.

Numeric Precision (73)

| Type | Precision | Maximum Value |
|---------|-----------|--|
| REAL | 12 digits | $\pm 9.9999999999 \times 10^{\pm 499}$ |
| SHORT | 5 digits | $\pm 9.9999 \times 10^{\pm 99}$ |
| INTEGER | 5 digits | ± 99999 |

Range of Numbers (76)



Variables (78)

Simple Numeric Variables

Identifier: *Letter* [*digit*]

Default type: REAL. SHORT or INTEGER may be declared.

Numeric Array Variables

Identifier: *Letter* [*digit*] (*subscript* [, *subscript*])

Simple numeric and numeric array variables can have identical identifiers. One or two dimensions may be specified.

Default type: REAL. SHORT or INTEGER may be declared.

Default lower bound: 0. OPTION BASE 1 produces lower bound 1.

Default upper bound: 10. Upper bound can be specified by DIM, REAL, SHORT, or INTEGER declarations.

Entire arrays may be referenced in PRINT # and READ # statements by specifying the array name with parentheses and no subscripts, for example C(,).

Numeric Functions

Numeric function parameters x and y can be any numeric expression.

Number Alteration Functions (82)

ABS(x)

IP(x)

FP(x)

INT(x)

FLOOR(x)

CEIL(x)

General Mathematical Functions (83)

| | | |
|-----------|-----------|-----|
| SQR(x) | MAX(x, y) | PI |
| MOD(x, y) | MIN(x, y) | INF |
| SGN(x) | RND(x, y) | EPS |

Logarithmic Functions (84)

| | | |
|--------|--------|----------|
| LOG(x) | EXP(x) | LOG10(x) |
|--------|--------|----------|

Trigonometric Commands (85)

OPTION ANGLE DEGREES
OPTION ANGLE RADIANS

Trigonometric Functions (85)

| | | |
|---------|-------------|--------|
| SIN(x) | TAN(x) | SEC(x) |
| ASIN(x) | ATN(x) | CSC(x) |
| COS(x) | ANGLE(x, y) | RAD(x) |
| ACOS(x) | COT(x) | DEG(x) |

Numeric Expressions (87)

A numeric expression can take any of the following forms:

- A numeric constant.
- A numeric variable.
- A numeric function.
- Any of the above combined by one or more operators (arithmetic, relational, or logical) or pairs of parentheses.

**TIME Mode Operations (92)**

| | |
|--------|---|
| SET | Sets the clock. |
| ADJUST | Adjusts the clock setting. |
| EXACT | Calibrates the clock (EXACT-ADJUST-EXACT). |
| RESET | Clears speed adjustment factor. |
| STATS | Specifies DMY-MDY and AM/PM-24 hour formats, YEAR-EXTD appointment calendar, and time accuracy. |

APPT Mode Operations (100)

- Alarm Types: 0 Beep suppressed.
- 1 Short chirp.
 - 2 Long, low tone.
 - 3 Two-tone pattern, repeated three times.
 - 4 Series of high tones.
 - 5 Long, low tone followed by long, high tone.
 - 6 Series of eight siren sounds.
 - 7 Repeating type 2 alarm.
 - 8 Repeating type 4 alarm.
 - 9 Repeating type 6 alarm.

Appointment Types: N (normal)

A (acknowledge/reschedule)

R (reschedule)

| | |
|--|--|
| ! or > | Specifies message or command field. |
| ATTN | Acknowledges due appointments. |
| SHIFT DEL | Deletes appointments. |
| SHIFT APPT | Displays extended appointment information. |
| SHIFT ATTN | Turns HP-75 off, processing due appointments. |
| COPY <i>appt</i> TO ' <i>file specifier</i> ' | Copies <i>appt</i> file from memory to a magnetic card or mass storage. |
| COPY ' <i>file specifier</i> ' TO <i>appt</i> | Merges an <i>appt</i> type file from a magnetic card or mass storage with the <i>appt</i> file in memory. |

Card Reader Operations (114)

| | |
|---|--|
| CAT CARD | Displays a card file catalog entry. |
| COPY [' <i>filename</i> '] TO ' <i>card file specifier</i> ' | Copies a file from memory to card. |
| COPY ' <i>card file specifier</i> ' TO ' <i>filename</i> ' | Copies a file from card to memory. |
| PROTECT | Write-protects a card file. |
| UNPROTECT | Removes the write-protection from a card file. |

HP-IL Operations (124)

| | |
|-----------------------------------|----------------------------------|
| ASSIGN IO | Assigns the devices on the loop. |
| DISPLAY IS ' <i>device code</i> ' | Declares display devices. |
| PRINTER IS ' <i>device code</i> ' | Declares printer devices. |
| CLEAR LOOP | Resets loop devices. |
| OFF IO | Turns off loop communications. |
| RESTORE IO | Restores loop communications. |
| INITIALIZE ' <i>device code</i> ' | Initializes mass storage medium. |

| | |
|--|--|
| CAT ' :device code ' | Catalogs mass storage medium. |
| COPY ['filename '] TO 'file specifier ' | Copies a file from memory to mass storage. |
| COPY 'file specifier ' TO 'filename ' | Copies a file from mass storage to memory. |
| RENAME 'file specifier ' TO 'filename ' | Renames a mass storage file. |
| PURGE 'file specifier ' | Purges a mass storage file. |
| PACK ' :device code ' | Packs a mass storage medium. |

Key Redefinitions (142)

| | |
|-----------------------------------|--|
| FETCH KEY 'key ' | Fetches the definition of the specified key or keystroke. |
| DEF KEY 'key ', 'key def' [;] | Defines the key or keystroke. |
| SHIFT I/R | Displays the key (or keystroke) display character. |
| EDIT KEYS | Edits the <code>keys</code> file. |
| RENAME KEYS TO 'filename ' | Renames the <code>keys</code> file and disables key redefinitions. |
| RENAME 'filename ' TO KEYS | Renames a <code>keys</code> type file to <code>keys</code> and enables the key redefinitions it contains. |
| COPY KEYS TO 'file specifier ' | Copies the <code>keys</code> file to a magnetic card or mass storage. |
| COPY 'file specifier ' TO KEYS | Copies a <code>keys</code> type file from a magnetic card or mass storage to memory and enables the key definitions it contains. |
| PURGE KEYS | Purges the <code>keys</code> file and eliminates all the key definitions it contains. |

Programming Concepts

Running Programs (158)

| | |
|-----------------|---|
| RUN, RUN | Begins program execution. |
| ATTN | Interrupts program execution. |
| CONT | Restarts program execution after ATTN or STOP. |

Editing Programs (159)

| | |
|-------------|---|
| LIST, PLIST | Lists program file to display or printer. |
| FETCH | Fetches specific lines of program file. |

Fundamental Statements (165)

| | |
|------------------|--|
| LET | Assigns values to variables. |
| END | Terminates program and deallocates the program. |
| STOP | Interrupts program execution without deallocation. |
| WAIT | Interrupts program execution for a specified period of time. |
| REM, ! | Delimits program remarks. |
| DISP, PRINT, TAB | Display or print information. |
| INPUT | Allows input of data from the keyboard. |

Branches, Loops, and Subroutines (176)

| | |
|------------------|---|
| GOTO | Unconditionally branches to a line number. |
| IF...THEN...ELSE | Tests condition and branches. |
| FOR-NEXT, STEP | Repeatedly executes a series of statements a predetermined number of times. |
| GOSUB-RETURN | Branches to a series of statements and returns. |
| ON...GOTO | Branches to the line number determined by the value of the included expression. |
| ON...GOSUB | Branches to the subroutine determined by the value of the included expression. |
| POP | Bypasses a pending subroutine return. |

Program Timers (186)

| | |
|------------------|---|
| ON TIMER # | Sets a program timer. |
| OFF TIMER # | Disables a program timer. |
| ON TIMER # GOTO | Branches to a statement when a timer goes off. |
| ON TIMER # GOSUB | Branches to a subroutine when a timer goes off. |

Arrays (192)

| | |
|------------------------------|---|
| OPTION BASE | Defines the lower bound of all arrays in a program. |
| DIM, REAL, SHORT, INTEGER | Declare and dimension arrays. |

Strings

String Variables (196)

String Identifier: *letter* [*digit*] #

Dimensioning a String: DIM *string identifier* [*subscript*]

Default size of a string variable is 32 characters.

Substring Identifier: *letter* [*digit*] # [*subscript* [, *subscript*]]

Two subscripts separated by a comma specify beginning and ending character positions, respectively. A single subscript specifies a beginning character—the substring extends to the end of the string.

String Expressions (196)

A string expression can take any of the following forms:

- A string constant.
- A string variable.
- A substring.
- A string function.
- A string expression consisting of any concatenation of the above using the & operator.

String Functions (198)

The parameters *s*# and *t*# can be any string expression.

| | |
|-----------------------------------|----------------------------|
| LEN(<i>s</i> #) | UPRC#(<i>s</i> #) |
| POS(<i>s</i> #, <i>t</i> #) | KEY# |
| VAL(<i>s</i> #) | CAT#(<i>file number</i>) |
| STR#(<i>numeric expression</i>) | |

User Defined Functions (205)

| | |
|---------|--|
| DEF FN | Defines a single-line user-defined function or the first line of a multiline function. |
| LET FN | Assigns a value to the function in a multiline function. |
| END DEF | Labels the end of a multiline function. |

Storing and Retrieving Data

Within a Program (210)

| | |
|---------|---|
| DATA | Statement Contains numeric or string constants for use by READ. |
| READ | Assigns values from DATA statements to variables. |
| RESTORE | Resets the data pointer to the first or specified DATA statement in the file. |

From Data Files (216)

| | |
|-----------|--|
| ASSIGN # | Associates a file number with a file name. |
| PRINT # | Stores data items in a data file. |
| READ # | Retrieves data items from a data file. |
| RESTORE # | Resets the data pointer to the first or specified line of a data file. |

Program Calls (230)

| | |
|------|--|
| CALL | Calls a program from within another program. Execution returns to the calling program at the line after the CALL statement when the called program ends. |
|------|--|

Local and Global Declarations (233)

A *global* declaration is an HP-75 setting that remains in effect until:

- The setting is changed by a new declaration, executed either from the keyboard or from a running program.
- The HP-75 is reset.

A *local* declaration affects only keyboard calculations or the program in which the declaration occurs.

| Local | Global |
|-----------------------|---------------------------------|
| DATA | ALARM OFF,ALARM ON |
| DEF FN,LET FN,END DEF | ASSIGN IO,OFF IO,RESTORE IO |
| DIM | ASSIGN # |
| INTEGER,SHORT,REAL | BEEP OFF,BEEP ON |
| IMAGE | DEFAULT OFF,DEFAULT ON |
| LET | DEF KEY |
| OFF ERROR,ON ERROR | DELAY |
| ON TIMER # | DISPLAY IS,PRINTER IS |
| OPTION BASE | ENDLINE |
| | LOCK |
| | MARGIN |
| | OFF TIMER # |
| | OPTION ANGLE DEGREES |
| | OPTION ANGLE RADIANS |
| | STANDBY ON,STANDBY OFF |
| | TRACE FLOW,TRACE VARS,TRACE OFF |
| | WIDTH,PWIDTH |

Formatting Output (238)

- IMAGE** Specifies the output format for `DISP USING` and `PRINT USING` statements.
- DISP USING** Displays information according to the specified `IMAGE` statement or the included format string.
- PRINT USING** Prints information according to the specified `IMAGE` statement or the included format string.

Debugging Operations (252)

- TRACE FLOW** Traces program flow. Shows all branches in program execution.
- TRACE VARS** Traces variables. Shows all changes in values of variables.
- TRACE OFF** Turns off all trace operations.
- ON ERROR** Initiates user-defined error trapping.
- OFF ERROR** Disables user-defined error trapping.
- ERRN** Displays error number of last error.
- ERRL** Displays line number where last error occurred.

HP-75 Instruction Set

Operators

Arithmetic Operators (69)

| | |
|--|----------------------------------|
| $\boxed{+}$ | Floating point addition. |
| $\boxed{-}$ | Floating point subtraction. |
| $\boxed{*}$ | Floating point multiplication. |
| $\boxed{/}$ | Floating point division. |
| $\boxed{\text{CTL}} \boxed{/}$ or $\boxed{\text{DIV}}$ | Integer division (no remainder). |
| $\boxed{\wedge}$ | Exponentiation. |

Relational Operators (82)

| | |
|-------------------------------|---------------------------|
| $\boxed{=}$ | Equal to. |
| $\boxed{<}$ | Less than. |
| $\boxed{<=}$ | Less than or equal to. |
| $\boxed{>}$ | Greater than. |
| $\boxed{>=}$ | Greater than or equal to. |
| $\boxed{< >}$ or $\boxed{\#}$ | Not equal to. |

Logical Operators (88)

Logical operators are used with numeric expressions to return Boolean values. If an expression evaluates to 0 it is false; if it evaluates to a nonzero value it is true. For all numeric expressions A and B :

| | |
|---------------------|---|
| $A \text{ AND } B$ | Is true if and only if both A and B are true. |
| $A \text{ OR } B$ | Is true if A or B or both are true. |
| $A \text{ EXOR } B$ | Is true if A is true or B is true but not both. |
| $\text{NOT } A$ | Is true if A is false. |

| A | B | A AND B | A OR B | A EXOR B | NOT A |
|---|---|---------|--------|----------|-------|
| T | T | T | T | F | F |
| T | F | F | T | T | F |
| F | T | F | T | T | T |
| F | F | F | F | F | T |

Functions

In the following tables, X and Y specify any two numeric expressions and $S\#$ and $T\#$ specify any two string expressions.

Where an abbreviation exists for the function name, it is shown in parentheses following the function description.

Numeric Functions

Given the appropriate number of arguments (zero or more) and type of arguments (numeric or string expressions), each numeric function returns a single numeric constant.

| | |
|-------------|---|
| ABS(X) | Absolute value of X. (82) |
| ACOS(X) | Arccosine of X, in Quadrant I or II (abbreviation: <code>ac</code>). (86) |
| ANGLE(X, Y) | Arctangent of Y/X, in proper quadrant. That is, returns the angle θ formed between the x-axis and the point (x,y), such that $-\pi < \theta \leq \pi$ (abbreviation: <code>ang</code>). (86) |
| ASIN(X) | Arcsine of X, in Quadrant I or IV. (86) |
| ATN(X) | Arctangent of X, in Quadrant I or IV. (86) |
| CEIL(X) | Smallest integer \geq X (abbreviation: <code>ce</code>). (82) |
| COS(X) | Cosine of X. (86) |
| COT(X) | Cotangent of X. (86) |
| CSC(X) | Cosecant of X. (86) |
| DATE | The date in <code>yyddd</code> format based on the clock setting. (98) |
| DEG(X) | Radian-to-degree conversion of X. (86) |
| EPS | Smallest machine number (<code>1.E-499</code>). (83) |
| ERRL | The line number of the most recent error or warning. (260) |
| ERRN | The identification number of the most recent error or warning (abbreviation: <code>er</code>). (260) |
| EXP(X) | e^X . (84) |
| FLOOR(X) | Same as INT(X) (abbreviation: <code>fl</code>). (82) |
| FP(X) | Fractional part of X. (82) |
| INF | Largest machine number (<code>9.999999999999999E499</code>). (83) |
| INT(X) | Largest integer \leq X. (82) |
| IP(X) | Integer part of X. (82) |
| LEN(S#) | The length of string S#. (198) |
| LOG(X) | Natural logarithm of X, $X > 0$. (84) |
| LOG10(X) | Log to the base 10 of X, $X > 0$ (abbreviation: <code>lo</code>). (84) |
| MAX(X, Y) | If $X > Y$ then X, else Y. (83) |
| MEM | The number of bytes of available memory. (47) |
| MIN(X, Y) | If $X < Y$ then X, else Y. (83) |

| | |
|-------------|--|
| MOD(X, Y) | X modulo Y: $X - Y * \text{INT}(X/Y)$. (83) |
| NUM(S#) | The decimal code of the first character of S#. (41) |
| PI | 3.14159265359. (83) |
| POS(S#, T#) | Searches string S# for the first occurrence of T#. Returns the starting position if found; 0 if not. (198) |
| RAD(X) | Degree-to-radian conversion of X. (86) |
| RES | The last numeric result to be displayed or printed. (71) |
| RMD(X, Y) | Remainder of X/Y: $X - Y * \text{IP}(X/Y)$. (83) |
| RND | Next number, R, in sequence of pseudo-random numbers, $0 \leq R < 1$. (83) |
| SEC(X) | Secant of X. (86) |
| SGN(X) | The sign of X: -1 if $X < 0$, 0 if $X = 0$, 1 if $X > 0$. (83) |
| SIN(X) | Sine of X. (86) |
| SQR(X) | Positive square root of X. (83) |
| TAN(X) | Tangent of X. (86) |
| TIME | The number of seconds since midnight of the current day. (98) |
| VAL(S#) | Returns the numeric value of a string composed of digits, decimal point, and/or exponent. (198) |

String Functions

String functions return zero or more characters of information.

| | |
|-----------|--|
| CAT#(X) | The catalog entry of the specified file, 32 characters in length. Files are numbered in order of their appearance in the system catalog. CAT#(0) returns the catalog of the current EDIT file. For $X < 0$, CAT#(X) returns the catalog of the currently initialized BASIC file, if any (abbreviation: c.). (198) |
| CHR#(X) | The character whose decimal code is MOD(X, 256) (abbreviation: ch.). (41) |
| DATE# | The date in a <i>yy/mm/dd</i> format. (98) |
| KEY# | The display character of the currently depressed key or keystroke combination. Returns the null string if no key is depressed (abbreviation: k.). (198) |
| STR#(X) | The string information contained in the digits, decimal point, sign, and exponent of X. (198) |
| TIME# | The time in a <i>hh:mm:ss</i> format, using 24-hour notation (abbreviation: ti.). (98) |
| UPRC#(S#) | Converts S# to all uppercase letters (abbreviation: up r.). (198) |
| VER# | A six-character string indicating the operating system version. (267) |

Print Function

TAB(X) Causes the following DISP or PRINT item to be output beginning at column X, where column 1 is the left margin. (167)

Basic Statements and Commands

In the list that follows, the shortest abbreviation for each keyword is shown in parentheses following the keyword. The word "none" in the parentheses indicates that no abbreviation exists for that keyword.

The bold number in parentheses at the far right on the keyword line is the principal page reference for that keyword in the owner's manual. (This is the same page reference given in the Instruction set Index inside the back cover of the owner's manual.)

ALARM (a1.) (106)

```
ALARM OFF
```

Causes the HP-75 to ignore due appointments.

- Global Declaration.

```
ALARM ON
```

Restores the normal handling of due appointments. All appointments that came due after the last ALARM OFF will come due immediately.

- Global declaration.

ASSIGN # (as.#) (216)

```
ASSIGN # file number TO 'filename' [ , BASIC ]
                                     [ , TEXT ]
```

```
100 ASSIGN # 14 TO 'DART'
110 ASSIGN # V8 TO 'RATE',TEXT
```

Assigns the specified file number to the named data file and sets the corresponding data pointer to the first line of the file. A new file is created if the named file doesn't exist. If the file type is not specified, the default is BASIC.

- Global declaration.

(219)

```
ASSIGN # file number TO *
                                     ''
                                     '*'
```

```
120 ASSIGN # 14 TO *
130 ASSIGN # V8 TO ''
```

Ends the association between the specified file pointer and a file. Reclaims the memory required by the assignment.

- Global declaration.

ASSIGN IO (a s . .)

(126)

```
ASSIGN IO [' :device code [, :device code...']
```

```
ASSIGN IO
140 ASSIGN IO ':TV,:CA'
```

Initiates interactive assignments of device codes to peripherals or assigns them as specified in the optional device code list. Devices are assigned according to their order on the loop.

- Global declaration.

AUTO (a .)

(51)

```
AUTO [beginning line number [, increment value]]
```

```
auto
auto 500
auto 5,5
```

Causes the computer to begin automatic line numbering of text or BASIC files; numbering begins at *beginning line number* and increases by *increment*. Cancel by pressing **ATTN**. Defaults are current line plus 10 and increment value 10.

BEEP (be .)

(30)

```
BEEP [frequency in Hz [, duration in seconds]]
```

```
150 BEEP
160 BEEP 400,1.5
170 BEEP W/(2*PI),T/60
```

Causes a tone to sound at the specified *frequency* for the specified *duration in seconds*. Defaults to 1400 Hz and 0.1 seconds.

```
BEEP OFF
```

Disables the beeper until a **BEEP ON** command is executed. Alarm types 6 and 9 will still sound.

- Global declaration.

```
BEEP ON
```

Restores beeper operation after a **BEEP OFF** command.

- Global declaration.

BYE (b .)

(29)

```
BYE
```

Turns the HP-75 off.

CALL (none) (230)

```
CALL 'filename'
```

```
188 CALL 'PART2'
```

Causes program execution to branch to the specified program. Execution returns to the calling program when an **END** is reached during execution of the called program.

CAT ALL (C..) (49)

```
CAT ALL
```

Accesses the complete system catalog.

CAT (none) (49)

```
CAT APPT
```

Displays the catalog entry of the `appt` file.

(117)

```
CAT CARD
```

Displays the catalog information recorded on a card track.

(134)

```
CAT ':device code'
```

```
cat ':C2'
```

Accesses the catalog of the medium in the specified mass storage device.

```
CAT ['filename']
```

```
cat
cat 'names'
190 CAT F1#
```

Displays the catalog entry of the current BASIC or text file or the specified file in memory.

(134)

```
CAT 'mass storage file specifier'
```

```
cat 'testdata:c2'
200 CAT T1# & ':C2'
```

Displays the catalog entry of the specified mass storage file.

(144)

CAT KEYS

Displays the catalog entry of the keys file.

CLEAR (c1.)

(131)

CLEAR ':device code [, :device code...]'

210 CLEAR ':TP, :TV'

Resets specified HP-IL devices to their initial states. (Refer to peripheral owner's manuals for initial state conditions.)

CLEAR LOOP (c1.1.)

(131)

CLEAR LOOP

Resets all HP-IL devices on the loop to their initial states.

CLEAR VARS (c1..)

(81)

CLEAR VARS

Clears the values of all calculator and program variables and reclaims the memory required for them.

CONT (none)

(159)

CONT [*line number*]cont
cont 550

Continues execution of the current program at the next statement or at the beginning of the specified line.

COPY (co.)

(118/135)

| | | | |
|------|----------------|----|-------------------------------|
| COPY | ['filename'] | TO | 'filename' |
| | APPT | | CARD |
| | KEYS | | 'card file specifier' |
| | | | 'mass storage file specifier' |

```

copy to card
copy 'oldfile' to 'newfile'
copy appt to 'app10:ca'
220 COPY 'FILE6' TO ':PCRD'
copy 'file5' to 'file5:tp'
230 COPY F1# TO F2#

```

Copies the specified file in memory to the specified destination. If the source file is not specified, copies the current file.

(119)

```
COPY CARD          TO 'filename'
   'card file specifier' APPT
                        KEYS
```

```
copy card to 'ditto'
240 COPY 'DATE:PCRD' TO 'NEWS'
```

Copies the specified source card file to the specified destination filename in memory.

(135)

```
COPY 'mass storage file specifier' TO APPT
                                       KEYS
                                       'filename'
                                       'mass storage file specifier'
```

```
copy 'app10:ca' to appt
copy 'file5:tp' to 'file5'
250 COPY 'RECORD5:CA' TO 'BUFFER'
260 COPY F1# & ':C1' TO F1# & ':C2'
```



Copies the specified source mass storage file to the specified destination file in memory or on mass storage.

DATA (da.)

(210)

```
DATA number or text [, number or text ... ]
```

```
270 DATA 6, 72.3, dollars, 1E44, 'pounds'
```

Provides numeric and quoted or unquoted strings from which READ statements can obtain values for numeric and string variables. DATA statements can be located anywhere in the program. Data items are read from left to right within a DATA statement and from the lowest-numbered to highest-numbered DATA statement in the program.

- Local declaration.
- Not executable from the keyboard.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- Must be the only instruction on the line.

DEFAULT (defa.)

(89)

```
DEFAULT OFF
```

Cancels the use of default values for improper mathematical expressions. Program execution is halted and an error message is returned when errors 1 through 8 are encountered. (Refer to Error Conditions, section 4.)

- Global declaration.

```
DEFAULT ON
```

Restores the use of default values for improper mathematical expressions. Errors 1 through 8 produce warning messages and program execution continues.

- Global declaration.

DEF FN (none)

(205)

```
DEF FN numeric variable name [parameter [, parameter...]] = numeric expression
DEF FN string variable name [parameter [, parameter...]] = string expression
```

```
280 FNA (A1, C4) = A1 * TAN(C4)
290 DEF FNB (X) = SQR(X^2+3*X+1)
300 DEF FNC# = CHR#(X4)
```

Completely defines a single-line user-defined function. Parameters can be any combination of simple numeric or string variables and are local to the function definition.

- Local declaration.
- Not executable from the keyboard.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- Must be the only instruction on the line.

(207)

```
DEF FN numeric variable name [parameter [, parameter...]]
DEF FN string variable name [parameter [, parameter...]]
```

```
310 DEF FNA (B1, B2)
320 DEF FNC# (N1, R#)
```

Defines the beginning of a multiline user-defined function. Parameters can be any combination of simple numeric or string variables and are local to the function defined. Multiline functions can return string variables up to 32 characters long.

- Local declaration.
- Not executable from the keyboard.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.

(207)

```
[LET] FN numeric variable name = numeric expression
[LET] FN string variable name = string expression
```

```
330 LET FNA = M
340 FNC# = 'length'
```

In multiline user-defined functions, assigns to the function a value which is passed back to the program. There must be at least one LET FN statement in every multiline function.

- Not executable from the keyboard.

(207)

```
END DEF
```

Defines the end of a multiline user-defined function.

- Local declaration.
- Not executable from the keyboard.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- Must be the last statement on a line.

DEF KEY (d..)

(143)

```
DEF KEY 'key display character', 'key definition' [:]
```

```
def key '~', 'cont';
def key 'j', 'CLEARLOOP'
```

Redefines the key or keystroke combination specified by *key display character* as either a typing aid (; included) or an immediate-execute key (; omitted).

- Global declaration.

DELAY (d.)

(39)

```
DELAY numeric expression
```

```
delay 3
350 DELAY 0
```

Specifies the length of time, in seconds, that the computer will wait between display lines—accurate to tenths of a second. The range of *numeric expression* is 0 to 2^{26} seconds.

- Global declaration.

DELETE (dele.)

(59)

```
DELETE [beginning line number [, ending line number]]
```

```
delete 120
350 DELETE 250, 280
```

Deletes the specified line or block of lines from the current BASIC or text file. DELETE by itself deletes the pending line. If no *ending line number* is specified, the line number specified by *beginning line number* is deleted.

DIM (none)

(194)

```
DIM item [, item...]
```

```
370 DIM X(20), Y1(5,10), Z#[80]
```

Declares the maximum length for string variables and declares the upper bounds for one- and two-dimensional numeric arrays. A string variable name must be followed by the length in brackets; a numeric array name must be followed by the maximum subscript values in parentheses (separated by a comma if the array is two-dimensional).

- Local declaration.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- Must be the last statement on the line.
- Must occur before any references to dimensioned variables.

DISP (di.)

(166)

```
DISP [display list][:]
```

```
380 DISP X,Y(3,3),Z#[5,10]
390 DISP F7(I2+2,I2+2);' units ',X*Y;A#
```

Evaluates the items in the *display list* and outputs their values to the HP-75 display and any DISPLAY IS devices. Use semicolons as item separators for compact spacing; use commas to produce display fields of 21 characters. A terminating comma or semicolon will suppress the CR/LF that is normally output following the last item. DISP with an empty *display list* outputs a blank line.

DISPLAY IS (di..)

(128)

```
DISPLAY IS *
      ''
```

Cancels all display device assignments. The HP-75 display becomes the only display device.

- Local declaration.

(128)

```
DISPLAY IS ':device code [, :device code...]
```

```
display is ':p2,1tv'
```

Designates specified HP-IL peripherals as display devices.

- Global declaration.

DISP USING (di.us.)

(238)

```
DISP USING line number      [:disp using list]
          'image format string'
```

```
400 DISP USING 540; 'NAME',A#,I(J)
410 DISP USING 550
420 DISP USING 560; C, B, M, K
430 DISP USING '3A, 2X, 4D.DD'; T#, K
```

Sends listed items to display devices according to the included image format string or the format string in the IMAGE statement specified by the *line number*.

EDIT (e./e.ba./e.t.)

(62)

```
EDIT [ 'filename' [ , BASIC
      [ , TEXT ] ]
      BASIC
      TEXT
```



```
edit
edit 'datefile',text
edit basic
```

Moves the file pointer to the first line of a new work file or the specified file. When a new file is created the file type is either the same as the current file or as specified. Displays the catalog entry of the file. Used to create new files.

EDIT KEYS (e.keys) (151)

```
EDIT KEYS
```

Moves the file pointer to the first line of the keys file.

END (none) (165)

```
END
```

Terminates program execution and deallocates the program.

- Not executable from the keyboard.

END DEF (end d.) (207)

```
END DEF
```

Refer to DEF FN.

ENDLINE (en.) (140)

```
ENDLINE [0-3 character string expression]
```

```
440 ENDLINE CHR$(13)&CHR$(10)&CHR$(10)
450 ENDLINE ''
460 ENDLINE
```

Defines the end-of-line characters (up to 3) sent to PRINTER IS devices. ENDLINE with a null string (' ') specifies that output will be in a continuous string with no end-of-line delimiters. ENDLINE by itself restores normal CR/LF end-of-line.

- Global declaration.

FETCH (f. / **FET**) (53)

```
FETCH [line number
      search string [, line number]]
```

```
fetch 45
fetch 'int'
fetch 'call',250
```

Fetches the pending line, the specified line, the next line that contains the search string, or—beginning at the specified line—the next line containing the search string. The search string may be any string expression.

(146)

```
FETCH KEY 'single character string expression'
```

```
fetch key 'M'
fetch key chr$(255)
```

Recalls the current definition of the specified key or keystroke combination and makes it available for editing.

FOR (none)

(179)

```
FOR loop counter = initial value TO final value [STEP increment value]
```

```
470 FOR I=1 TO 15 @ DISP I; X5 @ NEXT I
480 FOR J=2*K TO 15*K STEP K
```

Defines the beginning of a FOR-NEXT loop. The *loop counter* must be a simple numeric variable; the *initial*, *final*, and optional *increment values* may be any numeric expression. The optional STEP parameter specifies the amount by which the *loop counter* is incremented when the loop's NEXT statement is executed.

- Not executable from the keyboard (unless the entire FOR-NEXT loop is contained on one line).
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.

GOSUB (gos.)

(182)

```
GOSUB line number
```

```
490 GOSUB 1700
```

Causes program execution to branch to the subroutine beginning at the specified line number.

- Not executable from the keyboard.

GOTO (g.)

(176)

```
GOTO
```

```
500 GOTO 2000
```

Causes program execution to branch to the specified line number.

- Not executable from the keyboard.
- Instructions following this one on a line will never be executed.

IF...THEN...ELSE (none...th...el.)

(177)

```
IF expression THEN [ line number
                    allowable statement...
                    or
                    command... ] ELSE [ line number
                    allowable statement...
                    or
                    command... ]
```

```
510 IF X4 THEN 2350 ELSE RESTORE @ GOTO 200
520 IF M1#[5,6]='LF' THEN C=10 ELSE C=0
530 IF X<Y THEN M1=X @ M2=Y ELSE M1=Y @ M2=X
```

Provides conditional branching. When the *expression* evaluates to a nonzero value (true), the THEN part of the statement is executed. Program execution branches to the line number specified or continues with the instructions listed after THEN. When the *expression* evaluates to zero (false), program execution continues at the next line of the program or, if the optional ELSE part is present, the program branches to the statement specified or continues with the instructions listed after ELSE.

- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- Must be the last instruction on the line.
- The following statements are not allowed after THEN or ELSE:

```
FOR          END DEF    ON TIMER
NEXT        IF          OPTION BASE
DATA       IMAGE      REAL
DEF FN     INTEGER    SHORT
DIM        ON ERROR
```



IMAGE (im.)

(238)

```
IMAGE image format string
```

```
540 IMAGE 4A, 3X, 10A, 5D.3D
550 IMAGE 2X, 'RESULTS'//
560 IMAGE DDDcDDD.DDD, 2x, zzz.d, 3x, 2(*****.dd)
```

Specifies the output format for DISP USING and PRINT USING statements. The *image format string* consists of one or more field specifiers separated by commas or slashes.

| Image Symbol | Type of Output | Comments | May be Repliated |
|--------------|----------------------|---|------------------|
| x, X | Blank | Specifies a blank between items. | Yes |
| '', "" | Literal text | Used to delimit string items in format strings or entire specifiers in DISP USING and PRINT USING statements. | no |
| a, A | Character | Specifies a character position; text is left-justified. | yes |
| d, D | Digit | Specifies a digit position to left or right of radix symbol; leading blanks and trailing zeros. | yes |
| z, Z | Digit | Specifies digit position to left of radix; leading zeros. | yes |
| * | Digit | Specifies digit position to left of radix; leading asterisks. | yes |
| ±, S | Sign | Specifies sign, + or -. | no |
| m, M | Sign | Specifies sign, blank or -. | no |
| e, E | Exponential notation | Outputs numeric with exponent E, sign, and three digits. | no |
| . | Decimal point radix | Outputs a decimal point as radix in that position. | no |
| r, R | Comma radix | Outputs a comma as radix in that position. | no |
| c, C | Comma separator | Outputs a comma as a digit separator in the specified position. | no |
| p, P | Period separator | Outputs a period as a digit separator in the specified position. | no |
| () | Field | Allows enclosed image specifiers to be replicated. | yes |
| k, K | Compacted item | Causes both strings and numerics to be output with no leading or trailing blanks. | no |
| / | CR/LF | Causes a carriage-return/line-feed; may also delimit items. | yes |

- Local declaration.
- Not executable from the keyboard.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- Must be the only instruction on the line.

INITIALIZE (ini.)

(132)

```
INITIALIZE ' :device code' [, number of file entries]
```

```
570 INITIALIZE ' :CA', 300
initialize ' :T1'
```

Prepares the medium in the specified mass storage device to store information and allows the medium to store either 128 files or the specified number of files (up to 453).

INPUT (i.)

(168)

```
INPUT variable [, variable...]
INPUT 'prompt' ; variable [, variable...]
INPUT 'prompt' , prompt string expression ; variable [, variable...]
```

```
580 INPUT U3, A#
590 INPUT 'Price';P1
600 INPUT 'Your Name',N#;N#
```

Allows assignments to variables from the keyboard during program execution. The optional second prompt can be overwritten and is read as input.

INTEGER (int.)

(194)

```
INTEGER numeric variable (<subscripts>)[, numeric variable (<subscripts>)...]
```

```
610 INTEGER S, D(3,5), K(50)
```

Dimensions and reserves memory for integer precision numeric variables. Valid for both simple and array variables.

- Local declaration.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- Must be the last instruction on the line.
- If used, must occur before any references to declared variables.

LET (none)

(165)

```
[LET] simple variable [, simple variable...] = numeric expression
[LET] string variable [, string variable...] = string expression
```

```
620 LET X,Y(8) = Z^2-3*Z+8
630 A#[5,9] = CHR$(K)&' ip$'
```

Assigns a value to one or more variables.

- Local declaration.

LET FN (l.e..) (207)

```
[LET] FN numeric variable name = numeric expression
[LET] FN string variable name = string expression
```

Refer to DEF FN.

LIST (l.) (56)

```
LIST ['filename'] [, beginning line number [, ending line number]]
      KEYS
```

```
640 LIST 200,400
650 LIST 'DROP',150
```

Lists one or more lines of the current or specified file on the display or DISPLAY IS devices.

LIST IO (l..) (127)

```
LIST IO
```

Lists the device codes of the currently assigned HP-IL devices on the display or DISPLAY IS devices.

LOCK (none) (28)

```
LOCK 'password'
```

```
lock 'gandalf'
```

Locks the HP-75 against use without the specified password. LOCK '' cancels the use of a password.

- Global declaration.

MARGIN (ma.) (40)

```
MARGIN number of characters
```

```
margin 25
660 MARGIN LEN(B#)-5
```

Sets the character position at which a beep sounds to signal the end of a line of input.

- Global declaration.

MERGE (m.) (60)

```
MERGE 'filename' [, beginning line number [, ending line number]]
```

```
merge 'program2'
670 MERGE 'TEST',150,200
```

Merges the specified number of lines from the specified file into the current BASIC or text file. (File types must agree.) If no *ending line number* is specified, the file is merged from the *beginning line number* to the end-of-file. If neither line number is specified, the entire file is merged.

NAME (n.) (64)

```
NAME 'filename'
```

```
name 'newname'
```

Renames the current file and creates another workfile of the same type (BASIC or text).

NEXT (n.e.) (179)

```
NEXT loop counter
```

```
680 NEXT J
```

Defines the end of a FOR-NEXT loop. Execution is returned to the corresponding FOR statement and the *loop counter* is incremented (by 1 or by the STEP value).

- Not executable from the keyboard.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.

OFF ERROR (o.f.e.) (259)

```
OFF ERROR
```

Cancels the current ON ERROR declaration.

- Local declaration.
- Not executable from the keyboard.

OFF IO (none) (130)

```
OFF IO
```

Suspends HP-IL communications, but device code assignments are retained in memory.

- Global declaration.

OFF TIMER # (o.f.t.#) (187)

```
OFF TIMER # timer number
```

```
690 OFF TIMER # 22
700 OFF TIMER # J7
```

Disables the specified timer.

- Global declaration.
- Not executable from the keyboard.

ON ERROR (o.e.) (258)

```
ON ERROR [allowable statement...] or [command...]
```

```
710 ON ERROR GOSUB 500
720 ON ERROR X2=X2-1 @ RESTORE @ OFF ERROR
```

Specifies the sequence of execution when an error condition occurs, without halting execution.

- Local declaration.
- Not executable from the keyboard.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- The following statements are not allowed after ON ERROR.

| | | |
|--------|----------|-------------|
| FOR | END DEF | ON TIMER |
| NEXT | IF | OPTION BASE |
| DATA | IMAGE | REAL |
| DEF FN | INTEGER | SHORT |
| DIM | ON ERROR | |

ON...GOSUB (none) (183)

ON...GOTO (none) (182)

```
ON numeric expression GOSUB line number [ , line number... ]
ON numeric expression GOTO line number [ , line number... ]
```

```
730 ON F9 GOSUB 3100,3200,3300,3400
740 ON MOD(N5,5) GOTO 3650,3660,3670,3680,3690
```

Causes branching to a statement or subroutine specified in the statement list, based on the value of the expression. The expression must evaluate to values which round to: 1, 2, 3, ..., n.

- Not executable from the keyboard.
- Instructions following ON...GOTO on a line will never be executed.

ON TIMER # (o. t. i.) (186)

```
ON TIMER # timer number , seconds [ allowable statement... ] or [ command... ]
```

```
750 ON TIMER #21, 3600 RESTORE @ GOSUB 450
760 ON TIMER #K2, 60*M9 DISP 'time' @ BEEP
```

Sets the specified timer (*timer number*) and its interrupt interval (*seconds*) and specifies the sequence of execution when the interrupt occurs.

- Local declaration.
- Not executable from the keyboard.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- The following statements are not allowed after ON TIMER.

| | | |
|--------|----------|-------------|
| FOR | END DEF | ON TIMER |
| NEXT | IF | OPTION BASE |
| DATA | IMAGE | REAL |
| DEF FN | INTEGER | SHORT |
| DIM | ON ERROR | |

OPTION ANGLE (*op.a.d./op.a.r.*)

(85)

```
OPTION ANGLE DEGREES
              RADIANS
```

Sets the trigonometric mode to *degrees* or *radians*.

- Global declaration.

OPTION BASE (*op.b.*)

(193)

```
OPTION BASE 0
              1
```

Specifies the lower bound for numeric arrays.

- Local declaration.
- Not executable from the keyboard.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- If used, must occur before any references to array variables.
- Only one OPTION BASE statement is allowed in a program.

PACK (*pa.*)

(137)

```
PACK ' :device code '
```

```
pack ' :CA'
```

Packs the medium on the specified mass storage device.

PLIST (*pl.*)

(56)

```
PLIST [ ' filename ' ] [ , beginning line number [ , ending line number ] ]
      KEYS
```

```
770 PLIST F1$
plist 'names'
```

Lists one or more lines of the current or specified file, either BASIC or text. Listing is sent to all PRINTER IS devices or to the display if no PRINTER IS devices are assigned.

POP (*p.*)

(183)

```
POP
```

Cancels the pending return from the most recent GOSUB statement.

- Not executable from the keyboard.

PRINT (*pr.*)

(167)

```
PRINT [print list][:]
```



```
780 PRINT B4#;
790 PRINT 16,T2(4*I),H5#[2,5]
```

Sends listed items to PRINTER IS devices or to the display if no PRINTER IS devices are assigned. PRINT with no print list outputs a blank line.

PRINT # (pri.#) (217)

```
PRINT #file number [, line number] ; expression [, expression ...]
```

```
800 PRINT #6; H#, 'days', 05
810 PRINT #J7, I+1; D#&E#, 120
```

Prints the listed items to the specified file at the next or specified line.

(221)

```
PRINT #file number , line number
```

Moves the file pointer, in the file specified by *file number*, to the specified DATA statement, *deletes* the line, but leaves the file pointer positioned at that line.

- Not executable from the keyboard.

PRINTER IS (pri..) (128)

```
PRINTER IS ' ; device code [, ; device code ...]'
```

```
820 PRINTER IS ' ; PR'
```

Designates the specified device as a printer device.

- Global declaration.

(129)

```
PRINTER IS *
''
```

Cancels all printer device assignments.

- Global declaration.

PRINT USING (pri.us.) (238)

```
PRINT USING line number ; [print list]
image format string
```

```
830 PRINT USING 540; 'data', D1#, X5
840 PRINT USING "'new sample' / 10 ('-')";
```

Sends listed items to PRINTER IS devices according to the included *image format string* or the format string in the IMAGE statement specified by *line number*.

PROTECT (P.P.)

(121)

```
PROTECT
```

Protects a magnetic card from being overwritten.

PURGE (P.U.)

(50/137)

```
PURGE [ ' filename '
        KEYS
        APPT
        ' file specifier ' ]
```

```
850 purge 'TEMP:CA'
purge appt
purge 'file12'
```

Erases the current or specified file from memory or the specified file from a mass storage medium and reclaims the space occupied by that file.

PUT (none)

(204)

```
PUT one-character string expression
```

```
860 PUT CHR$(172)
```

Simulates the pressing of the corresponding key or keystroke combination. Stores the character code of the *one-character string expression* in the key waiting buffer.

PWIDTH (P.W.)

(39)

```
PWIDTH number of characters
```

```
870 PWIDTH 10*I
pwidth 24
```

Sets the line length for PRINT and PLIST instructions.

- Global declaration.

RANDOMIZE (R.A.)

(83)

```
RANDOMIZE [numeric expression]
```

```
880 RANDOMIZE
890 RANDOMIZE 7^(9*Z2)
```

Computes a new random number seed using the system clock reading or the specified numeric expression.

- Global declaration.

READ (none)

(211)

```
READ variable name [, variable name ...]
```

```
900 READ R#,M3(7)
910 READ V(,)
```

Assigns numeric or string constants in DATA statements to the listed variables. Array variables without subscripts inside the parentheses will have values assigned to all elements of the array.

- Not executable from the keyboard.

READ # (r, #) (219)

```
READ # file number [, line number ]; variable [, variable ...]
```

```
920 READ #2,10*X; S4$,M
930 READ #I+1; A,B( )
```

Assigns the constants in the next or specified DATA statement, in the data file specified by *file number*, to the listed variables.

- Not executable from the keyboard.



(221)

```
READ # file number , line number
```

Moves the file pointer, in the data file specified by *file number*, to the beginning of the specified DATA statement.

- Not executable from the keyboard.

REAL (re.) (194)

```
REAL numeric variable [( subscripts )][, numeric variable [( subscripts )]...]
```

```
940 REAL X,H7(30),Q5(15,15)
```

Dimensions and reserves memory for real (full-precision) variables. Valid for both simple and array variables.

- Local declaration.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- Must be the last instruction on the line.
- If used, must occur before any references to the declared variables.

REM (none) (166)

```
REM [character [character ...]]
!
```

```
950 REM -DOW subroutine
960 ! Wait loop.
970 LET L = L + 1 !Increment line count.
```

Provides for documenting program listings. All characters that follow the REM statement are treated as comments. The ! may also be used as a comment delimiter. REM must be at the beginning of the line; ! can go anywhere in the line (all characters following ! are treated as comments).

RENAME (ren.)

(59)

```
RENAME['old filename'] TO 'new filename'
```

```
980 RENAME TO 'OLDDATA'
990 RENAME 'THISFILE' TO 'THATFILE'
rename keys to 'keyfil3'
```

Changes the name of the current or specified file in memory.

(137)

```
RENAME 'file specifier' TO 'file specifier'
                           'filename'
RENAME 'filename' TO 'file specifier'
```

```
1000 RENAME 'FILE20:CA' TO 'FILE30'
rename 'namefile' to 'newnames:tp'
```

Changes the name of the specified mass storage file.

RENUMBER (renu.)

(57)

```
RENUMBER[beginning line number [, increment value [, from old line number
[, through old line number]]]]
```

```
1010 RENUMBER
renumber 100,5
renumber 100,5,10,250
```

Renumbers all or the specified portion of the current BASIC or text file.

RESTORE (res.)

(213)

```
RESTORE[line number]
```

```
1020 RESTORE
1030 RESTORE 250
```

Resets the data pointer to the beginning of the specified or lowest-numbered DATA statement in the BASIC file in which the RESTORE statement is located.

- Not executable from the keyboard.

RESTORE # (res.#)

(221)

```
RESTORE #file number[, line number]
```

```
1040 RESTORE #3
1050 RESTORE #I+1,L-100
```

Moves the data pointer in the data file specified by *file number* to the beginning of the specified or lowest-numbered DATA statement in the file.

- Not executable from the keyboard.

RESTORE IO (*res. .*) (130)

```
RESTORE IO
```

Restores HP-IL communications subsequent to OFF IO and certain loop errors. Assumes the loop configuration is the same as in the last ASSIGN IO declaration.

- Global declaration.

RETURN (*ret. .*) (182)

```
RETURN
```

Causes the program to branch from the current subroutine to the statement following the branching statement that referenced the subroutine.

- Not executable from the keyboard.
- Instructions following this one on a line will never be executed.

RUN (*none*) (158)

```
RUN [ line number  
      'filename' [, line number] ]
```

```
run 150  
run 'money',1000
```

Causes execution, of the current or specified program, to begin at the first or specified *line number*.

SHORT (*sh. .*) (194)

```
SHORT numeric variable [ (subscripts) ] [, numeric variable [ (subscripts) ] ...]
```

```
1060 SHORT B(4,4),D8,C(3)
```

Dimensions and reserves memory for short precision numeric variables. Valid for both simple and array variables.

- Local declaration.
- Not allowed after THEN, ELSE, ON ERROR, or ON TIMER.
- Must be the last instruction on the line.
- If used, must occur before any references to declared variables.

STANDBY (*st. .*) (29)

```
STANDBY OFF
```

Sets the HP-75 to turn off after 5 minutes of inactivity and to limit the number of unsuccessful attempts to communicate with HP-IL devices.

- Global declaration.

```
STANDBY ON
```

Sets the HP-75 to stay on indefinitely and to wait indefinitely for HP-IL devices to respond.

- Global declaration.

STOP (none)

(165)

```
STOP
```

Interrupts program execution without deallocating the program.

- Not executable from the keyboard.
- Instructions following this one on a line will never be executed.

TRACE FLOW (t..)

(252)

```
TRACE FLOW
```

Sets the HP-75 to display the source and destination line numbers of each branch in program execution.

- Global declaration.

TRACE OFF (tr.o.)

(253)

```
TRACE OFF
```

Cancels all trace operations.

- Global declaration.

TRACE VARS (tr.v.)

(253)

```
TRACE VARS
```

Sets the HP-75 to display the line number and variable name (and the values of numeric variables) each time the value of a variable changes.

- Global declaration.

TRANSFORM (tr.)

(275)

```
TRANSFORM[ 'filename' ] INTO BASIC
                                TEXT
                                LIF1
```

```
transform into basic
1070 TRANSFORM 'DATA10' INTO LIF1
```

Transforms one type of file in memory (BASIC, text, or interchange) into another.

UNPROTECT (w.)

(121)

```
UNPROTECT
```

Removes the write-protection from a magnetic card.

WAIT (w.a.)

(166)

```
WAIT number of seconds
```

```
1080 WAIT 2  
1090 WAIT M/60
```

Delays program execution for the specified time.

WIDTH (w.)

(39)

```
WIDTH number of characters
```

```
width 32  
1100 WIDTH 2*B2
```

Sets the line length for DISP and LIST instructions.

- Global declaration.

Reference Tables

Character Set

The `CHR#` function returns the display character of a given decimal code, 0 through 255. Arguments are rounded to integer values and converted to the proper range (modulo 256). An underlined display character has a decimal code 128 larger than its non-underlined equivalent.

The `NUM` function returns the decimal code of the first character of a given character string.

Characters whose decimal codes are 32 through 126 are standard printable characters as defined by the American Standard Code for Information Interchange (ASCII). Refer to the HP-IL peripheral owner's manuals to determine the response of individual peripherals to decimal codes 0 through 31 and 127 through 255. To avoid unexpected device behavior during program listings, use the `CHR#()` function to represent special characters (e.g., the form-feed, or FF, character) rather than the display character itself (e.g., use `CHR#(12)` instead of `μ`).

An asterisk (*) indicates that `[SHIFT] [I/R]` must first be pressed in order to display the character associated with the key or keystroke combination. Where no keystroke sequence is shown, the display character can only be displayed by using the `CHR#` command.

| Decimal Code | Display Character | Keystrokes | Decimal Code | Display Character | Keystrokes |
|--------------|-------------------|---------------|--------------|-------------------|------------|
| 0 | Δ | CTL space bar | 128 | <u>Δ</u> | * ATTN |
| 1 | ␣ | CTL A | 129 | <u>␣</u> | * TIME |
| 2 | ␢ | CTL B | 130 | <u>␢</u> | * APPT |
| 3 | ␣ | CTL C | 131 | <u>␣</u> | * EDIT |
| 4 | ␣ | CTL D | 132 | <u>␣</u> | * ↑ |
| 5 | ␣ | CTL E | 133 | <u>␣</u> | * ↓ |
| 6 | ␣ | CTL F | 134 | <u>␣</u> | * ← |
| 7 | ␣ | CTL G | 135 | <u>␣</u> | * → |
| 8 | BS | CTL H | 136 | <u>␣</u> | * I/R |
| 9 | ␣ | CTL I | 137 | <u>␣</u> | * FET |
| 10 | LF | CTL J | 138 | <u>␣</u> | * DEL |
| 11 | ␣ | CTL K | 139 | <u>␣</u> | * CLR |
| 12 | μ | CTL L | 140 | <u>␣</u> | * LOCK |
| 13 | CR | CTL M | 141 | <u>␣</u> | * RUN |
| 14 | ␣ | CTL N | 142 | <u>␣</u> | * TAB |
| 15 | ␣ | CTL O | 143 | <u>␣</u> | |
| 16 | ␣ | CTL P | 144 | <u>␣</u> | |
| 17 | ␣ | CTL Q | 145 | <u>␣</u> | |
| 18 | ␣ | CTL R | 146 | <u>␣</u> | |

| Decimal Code | Display Character | Keystrokes |
|--------------|-------------------|------------|
| 19 | € | CTL S |
| 20 | π | CTL T |
| 21 | ∫ | CTL U |
| 22 | ∑ | CTL V |
| 23 | ∅ | CTL W |
| 24 | ∞ | CTL X |
| 25 | ∅ | CTL Y |
| 26 | ∅ | CTL Z |
| 27 | ESC | CTL BACK |
| 28 | ⌘ | CTL + |
| 29 | # | CTL = |
| 30 | ⌘ | CTL ; |
| 31 | ⌘ | CTL 8 |
| 32 | | space bar |
| 33 | | SHIFT 1 |
| 34 | # | SHIFT 2 |
| 35 | # | SHIFT 3 |
| 36 | # | SHIFT 4 |
| 37 | % | SHIFT 5 |
| 38 | & | SHIFT 6 |
| 39 | ' | SHIFT 7 |
| 40 | < | SHIFT 8 |
| 41 | > | SHIFT 9 |
| 42 | * | * |
| 43 | + | + |
| 44 | , | , |
| 45 | - | - |
| 46 | . | . |
| 47 | / | / |
| 48 | 0 | 0 |
| 49 | 1 | 1 |
| 50 | 2 | 2 |
| 51 | 3 | 3 |
| 52 | 4 | 4 |
| 53 | 5 | 5 |
| 54 | 6 | 6 |
| 55 | 7 | 7 |
| 56 | 8 | 8 |
| 57 | 9 | 9 |
| 58 | : | SHIFT ; |
| 59 | : | : |
| 60 | < | SHIFT , |

| Decimal Code | Display Character | Keystrokes |
|--------------|-------------------|--------------|
| 147 | € | |
| 148 | π | |
| 149 | ∫ | |
| 150 | ∑ | |
| 151 | ∅ | |
| 152 | ∞ | |
| 153 | ∅ | |
| 154 | ∅ | |
| 155 | ⌘ | |
| 156 | # | |
| 157 | ⌘ | |
| 158 | ⌘ | |
| 159 | ⌘ | |
| 160 | | * SHIFT ATTN |
| 161 | | * SHIFT TIME |
| 162 | # | * SHIFT APPT |
| 163 | # | * SHIFT EDIT |
| 164 | # | * SHIFT ↑ |
| 165 | % | * SHIFT ↓ |
| 166 | & | * SHIFT ← |
| 167 | ' | * SHIFT → |
| 168 | < | * SHIFT I/R |
| 169 | > | * SHIFT FET |
| 170 | * | * SHIFT DEL |
| 171 | + | * SHIFT CLR |
| 172 | , | * SHIFT LOCK |
| 173 | - | * SHIFT RUN |
| 174 | . | * SHIFT TAB |
| 175 | / | |
| 176 | 0 | * CTL 0 |
| 177 | 1 | * CTL 1 |
| 178 | 2 | * CTL 2 |
| 179 | 3 | * CTL 3 |
| 180 | 4 | * CTL 4 |
| 181 | 5 | * CTL 5 |
| 182 | 6 | * CTL 6 |
| 183 | 7 | |
| 184 | 8 | |
| 185 | 9 | |
| 186 | : | |
| 187 | : | |
| 188 | < | |



| Decimal Code | Display Character | Keystrokes |
|--------------|-------------------|-------------|
| 61 | = | [=] |
| 62 | > | [SHIFT] [.] |
| 63 | ?/ | [SHIFT] [/] |
| 64 | @ | [SHIFT] [+] |
| 65 | A | [SHIFT] [A] |
| 66 | B | [SHIFT] [B] |
| 67 | C | [SHIFT] [C] |
| 68 | D | [SHIFT] [D] |
| 69 | E | [SHIFT] [E] |
| 70 | F | [SHIFT] [F] |
| 71 | G | [SHIFT] [G] |
| 72 | H | [SHIFT] [H] |
| 73 | I | [SHIFT] [I] |
| 74 | J | [SHIFT] [J] |
| 75 | K | [SHIFT] [K] |
| 76 | L | [SHIFT] [L] |
| 77 | M | [SHIFT] [M] |
| 78 | N | [SHIFT] [N] |
| 79 | O | [SHIFT] [O] |
| 80 | P | [SHIFT] [P] |
| 81 | Q | [SHIFT] [Q] |
| 82 | R | [SHIFT] [R] |
| 83 | S | [SHIFT] [S] |
| 84 | T | [SHIFT] [T] |
| 85 | U | [SHIFT] [U] |
| 86 | V | [SHIFT] [V] |
| 87 | W | [SHIFT] [W] |
| 88 | X | [SHIFT] [X] |
| 89 | Y | [SHIFT] [Y] |
| 90 | Z | [SHIFT] [Z] |
| 91 | [| [SHIFT] [O] |
| 92 | \ | [CTL] [/] |
| 93 |] | [SHIFT] [-] |
| 94 | ^ | [SHIFT] [*] |
| 95 | _ | [CTL] [-] |
| 96 | ~ | [CTL] [7] |
| 97 | a | [A] |
| 98 | b | [B] |
| 99 | c | [C] |
| 100 | d | [D] |
| 101 | e | [E] |
| 102 | f | [F] |
| 103 | g | [G] |

| Decimal Code | Display Character | Keystrokes |
|--------------|-------------------|------------------------|
| 189 | = | |
| 190 | > | |
| 191 | ?/ | |
| 192 | @ | * [CTL] [ATTN] |
| 193 | A | * [CTL] [TIME] |
| 194 | B | * [CTL] [APPT] |
| 195 | C | * [CTL] [EDIT] |
| 196 | D | * [CTL] [↑] |
| 197 | E | * [CTL] [↓] |
| 198 | F | * [CTL] [←] |
| 199 | G | * [CTL] [→] |
| 200 | H | * [CTL] [I/R] |
| 201 | I | * [CTL] [FET] |
| 202 | J | * [CTL] [DEL] |
| 203 | K | * [CTL] [CLR] |
| 204 | L | * [CTL] [LOCK] |
| 205 | M | * [CTL] [RUN] |
| 206 | N | * [CTL] [TAB] |
| 207 | O | |
| 208 | P | |
| 209 | Q | |
| 210 | R | |
| 211 | S | |
| 212 | T | |
| 213 | U | |
| 214 | V | |
| 215 | W | |
| 216 | X | |
| 217 | Y | |
| 218 | Z | |
| 219 | [| |
| 220 | \ | |
| 221 |] | |
| 222 | ^ | |
| 223 | _ | |
| 224 | ~ | * [SHIFT] [CTL] [ATTN] |
| 225 | a | * [SHIFT] [CTL] [TIME] |
| 226 | b | * [SHIFT] [CTL] [APPT] |
| 227 | c | * [SHIFT] [CTL] [EDIT] |
| 228 | d | * [SHIFT] [CTL] [↑] |
| 229 | e | * [SHIFT] [CTL] [↓] |
| 230 | f | * [SHIFT] [CTL] [←] |
| 231 | g | * [SHIFT] [CTL] [→] |

| Decimal Code | Display Character | Keystrokes | Decimal Code | Display Character | Keystrokes |
|--------------|-------------------|-------------|--------------|-------------------|------------------------|
| 104 | h | [H] | 232 | h | * [SHIFT] [CTL] [I/R] |
| 105 | i | [I] | 233 | i | * [SHIFT] [CTL] [FET] |
| 106 | j | [J] | 234 | j | * [SHIFT] [CTL] [DEL] |
| 107 | k | [K] | 235 | k | |
| 108 | l | [L] | 236 | l | * [SHIFT] [CTL] [LOCK] |
| 109 | m | [M] | 237 | m | * [SHIFT] [CTL] [RUN] |
| 110 | n | [N] | 238 | n | * [SHIFT] [CTL] [TAB] |
| 111 | o | [O] | 239 | o | |
| 112 | p | [P] | 240 | p | |
| 113 | q | [Q] | 241 | q | |
| 114 | r | [R] | 242 | r | |
| 115 | s | [S] | 243 | s | |
| 116 | t | [T] | 244 | t | |
| 117 | u | [U] | 245 | u | |
| 118 | v | [V] | 246 | v | |
| 119 | w | [W] | 247 | w | |
| 120 | x | [X] | 248 | x | |
| 121 | y | [Y] | 249 | y | |
| 122 | z | [Z] | 250 | z | |
| 123 | [| [CTL] [,] | 251 | [| |
| 124 | = | [SHIFT] [=] | 252 | = | |
| 125 |] | [CTL]] | 253 |] | |
| 126 | ~ | [CTL] [*] | 254 | ~ | BYE† |
| 127 | [| [CTL] [9] | 255 | [| * [SHIFT] [CTL] [CLR] |

Error Conditions Occurrences

When an error occurs, the HP-75 sounds the beep, lights the **ERROR** annunciator, and displays an **ERROR** or **WARNING** message according to the current **DELAY** rate. If the error occurs during program execution, the line number of the statement that caused the error is also displayed. Pressing [SHIFT] [FET] displays the message again for as long as the [FET] key is held down. Typing **errn** [RTN] returns the identification number of the error or warning. Pressing [CLR], [ATTN], [TIME], [APPT], [EDIT], [FET], [↑], [↓], [RTN], or [RUN] turns off the **ERROR** annunciator and clears the message.

A **WARNING** condition causes the HP-75 to supply default values and allows execution to continue (unless **ON ERROR** has been declared). An **ERROR** condition interrupts program execution at the statement that caused the error. If the interrupted program is also the current file, then the file pointer will be set to the line in which the error occurred; pressing [FET] and then [RTN] fetches the line to the display. The program remains initialized until you edit any line or run another program.

† When decimal code 254 is assigned to a key, pressing the redefined key will execute the **BYE** command. Using **CHR#** to display character 254 will cause the **~** character to be displayed.

| System Errors (14 through 18) | |
|-------------------------------|---|
| Number | Message and Condition |
| 14 | <p>Low batteries Replace battery pack or plug in the ac adapter/recharger.</p> |
| 15 | <p>system error The HP-75 may require a reset.</p> |
| 16 | <p>not enough memory</p> <ul style="list-style-type: none"> • Not enough available memory exists to copy a card or tape file to memory. • A file or program requires too much memory. <p>Possible solutions:</p> <ul style="list-style-type: none"> • Delete one or more lines from the current file. • Execute CLEAR VARS to clear calculator variables. • Lessen the precisions or reduce the dimensions of program variables. • Purge one or more files from memory. • Execute ASSIGN # TO *, specifying any unused data file pointers. • Execute CATALOG then press <input type="button" value="↑"/> or <input type="button" value="↓"/> until you see a file that can be purged, then press <input type="button" value="EDIT"/> and execute PURGE. • Execute ASSIGN IO * to clear HP-IL loop. |
| 17 | <p>RAM is invalid</p> <ul style="list-style-type: none"> • Indicates a defective circuit. Unit may require service. • Indicates memory lost. |
| 18 | <p>ROM missing Missing a necessary plug-in ROM or LEX file.</p> |

| Card Reader Warnings (19 through 26) | |
|--------------------------------------|---|
| Number | Message and Condition |
| 19 | <p>write protected Attempting to copy to a write-protected card. Execute UNPROTECT first.</p> |
| 20 | <p>not this file A track does not belong to the same file that is being copied to memory.</p> |
| 21 | <p>verify failed The same track requires two more passes through the card reader, once to write to the track and once more to verify. Clean the card first.</p> |
| 22 | <p>unknown card The information on the track is not recognized by the HP-75.</p> |
| 23 | <p>bad read/write A failure to read a track or write to the track properly. Clean the card and try again.</p> |
| 24 | <p>pulled too fast Pull the card through the card reader more slowly.</p> |
| 25 | <p>pulled too slow Pull the card through the card reader faster.</p> |
| 26 | <p>wrong name The file specifier in a COPY command doesn't match the name of the card file.</p> |

Program Errors (27 through 54)

| Number | Message and Condition |
|--------|---|
| 27 | invalid subscript <ul style="list-style-type: none"> • An array subscript is out of bounds. • A string variable substring is out-of-bounds. |
| 28 | record overflow A random PRINT # statement tried to force the data pointer past the end of line. |
| 29 | ON ERROR overflow An ON ERROR routine was requested to handle error 49—GOSUB overflow. Rather than create another subroutine and add to the problem, the HP-75 halts execution and displays this message. |
| 30 | OPTION BASE <ul style="list-style-type: none"> • Out of range OPTION BASE specified. • OPTION BASE statement appears after an array variable reference. • Multiple OPTION BASE statements in one program. |
| 31 | CONT before RUN CONT is executed or SHIFT RUN is pressed before a program has been initialized or after a program has been deallocated. |
| 32 | missing line <ul style="list-style-type: none"> • Missing a line that is referenced in a GOTO or GOSUB statement. • Missing a line that is referenced is a DISP USING or PRINT USING statement. |
| 33 | data type A READ or READ # statement tried to read string information into a numeric variable. |
| 34 | no data <ul style="list-style-type: none"> • A READ or serial READ # statement tried to read past the end of file. • A RESTORE or RESTORE # statement was executed when there was no data in the file. • A RESTORE, RESTORE #, random READ # statement, or random PRINT # statement specified an existing but non-DATA line in a BASIC file. • A RESTORE # or READ # statement specified a nonexistent line in a text file. |
| 35 | DIM exist var Declaring the precision or dimension of a simple numeric variable, string variable, or numeric array variable that has appeared previously in the program. |
| 36 | Invalid DIM Dimensioning an array improperly after an OPTION BASE declaration. |
| 37 | duplicate FN The same function name appears in two or more DEF FN statements. |
| 38 | no END DEF A multiple-line user-defined function is missing the END DEF statement. |
| 39 | FN missing Attempting to branch into the middle of a multiple-line user-defined function. |

| Program Errors (27 through 54) (continued) | |
|---|---|
| Number | Message and Condition |
| 40 | FN parameter <ul style="list-style-type: none"> • Mismatch occurred between the formal parameter list in the function definition and the actual parameter list in the main program. • Attempting to use a user-defined function that isn't defined. |
| 41 | FN calls itself A user-defined function is defined in terms of itself. |
| 42 | string too long <ul style="list-style-type: none"> • Attempting to assign too many characters to a string variable. • Printing a string longer than 251 characters to a BASIC file or longer than 255 characters to a text file. Causes a warning and truncation of the string. |
| 43* | numeric input <ul style="list-style-type: none"> • Attempting to supply characters in response to an INPUT statement. • Pressing RTN before enough values have been supplied for all the numeric variables in the input List. |
| 44* | too many inputs Too many items entered in response to an INPUT statement. |
| 45 | missing ASSIGN# Executing a PRINT #, READ #, or RESTORE # statement without first assigning a file number. |
| 46 | missing NEXT Missing the NEXT statement of a FOR-NEXT loop. |
| 47 | no matching FOR A NEXT statement is encountered with no corresponding FOR statement. May be caused by an incorrectly nested loop. |
| 48 | FOR overflow FOR nesting exceeds 255 levels. |
| 49 | GOSUB overflow GOSUB nesting exceeds 255 levels. |
| 50 | RETURN w/o GOSUB A RETURN statement was encountered with no pending subroutine condition. |
| 51 | PRINT# to runfile A program referenced itself in a PRINT # statement. |
| 52 | invalid IMAGE At least one of the specifiers in an IMAGE, DISP USING, or PRINT USING statement is improper. May be caused by an invalid character in the image string. |
| 53 | invalid USING One of the specifiers in an IMAGE, DISP USING, or PRINT USING statement cannot represent an item to be displayed or printed. |
| 54 | invalid TAB TAB argument rounds to a value less than 1. A warning condition occurs and a value of 1 is supplied. |

* An INPUT error will cause the HP-75 to prompt again for input. If an ON ERROR declaration is in effect at the time of an INPUT error, then as many values as possible will be assigned to the INPUT variables and the ON ERROR instruction will be performed.

| HP-IL Errors (55 through 61) | |
|------------------------------|--|
| Number | Message and Condition |
| 55 | <p>ASSIGN IO needed</p> <p>Executing DISPLAY IS, PRINTER IS, LIST IO, OFF IO, or RESTORE IO without first assigning the devices on the loop.</p> |
| 56 | <p>no loop response</p> <p>The HP-IL loop is connected, but no devices responded to the ASSIGN IO command.</p> |
| 57 | <p>bad transmission</p> <ul style="list-style-type: none"> • Hardware error. • Pressing ATTN during a loop transmission. |
| 58 | <p>loop timeout</p> <ul style="list-style-type: none"> • An intentional or accidental disconnection occurred or power was lost to a peripheral during a loop transmission. • During STANDBY OFF, a device took longer than 10 seconds to process a single HP-IL instruction. <p>Make sure the devices are properly connected and powered and then execute RESTORE IO. If the disconnection was intentional, connect an HP-IL cable between in and out connectors on the HP-75 and execute OFF IO. Execute STANDBY ON if a device needs longer than 10 seconds to respond to a command.</p> |
| 59 | <p>too many names</p> <ul style="list-style-type: none"> • More names than devices in an ASSIGN IO command. Causes a warning; as many devices as exist will be assigned. • More device names in memory than connected devices in the loop were found after a RESTORE IO command. Causes an error; no devices are assigned. Connect the original devices and reexecute RESTORE IO, or execute a new ASSIGN IO. |
| 60 | <p>RESTORE IO needed</p> <p>The HP-75 tried to issue an HP-IL instruction after an OFF IO command.</p> |
| 61 | <p>>31 devices</p> <p>More than 31 devices, including the HP-75, have been connected in the HP-IL loop.</p> |

| File and Device Errors (62 through 69) | |
|--|---|
| Number | Message and Condition |
| 62 | <p>file not found</p> <p>The specified file doesn't exist in memory or on mass storage medium.</p> |
| 63 | <p>invalid filespec</p> <ul style="list-style-type: none"> • Invalid name for a file in memory. Restricted to one to eight characters—first character a letter or period, remaining characters letters or digits.. • Invalid name for a mass storage or card file. Restricted to one to eight letters or digits; the first character must be a letter (periods aren't allowed). • Invalid HP-IL device code. Restricted to one or two letters or one letter and one digit. • A TRANSFORM INTO LIF1 command was executed from a work file. • A display device code is used in a mass storage command. |
| 64 | <p>duplicate name</p> <ul style="list-style-type: none"> • Duplicate filename. A file already exists in memory or on a mass storage medium by that name. • Duplicate device code in an ASSIGN IO declaration. If ASSIGN IO devices are being assigned one by one from the keyboard, causes a warning; the HP-75 prompts for another device code. |

| File and device Errors (62 through 69) (continued) | |
|---|---|
| Number | Message and Condition |
| 65 | <p>access restricted</p> <ul style="list-style-type: none"> • Attempting to run an appointment, text, LEX, or LIF1 file. • Attempting to EDIT, LIST, COPY, or RENAME a private BASIC file. • Attempting to PRINT # to or READ # from a private BASIC LEX or LIF1 file. • Attempting to PRINT # a numeric value to a text file. • Attempting to duplicate an unknown (?) file on mass storage. |
| 66 | <p>invalid password</p> <ul style="list-style-type: none"> • The password for a mass storage or card file must be correctly specified in order to copy the file. • A password is specified when copying a LIF1 file or a file not created by the HP-75 to or from a mass storage medium. Causes a warning; the copy is allowed, but no password is attached to the destination file. |
| 67 | <p>line too long</p> <ul style="list-style-type: none"> • A line listed or fetched from a file contains more than three display windows of information. Causes a warning, and the first 94 characters of the line are displayed. If [RTN] is pressed, the fetched line will be truncated at the 94th character, if possible; otherwise, a syntax error will be reported. • Fetching a key definition that exceeds 80 characters. Only the first 80 characters of the definition will be displayed. • Attempting to transform a LIF1 file with excessively long lines into text or BASIC—produces this as a warning and inserts ! ? immediately after the line number. |
| 68 | <p>wrong file type</p> <ul style="list-style-type: none"> • Attempting to rename a non-text file to keys. • Attempting to rename a non-appointment file to appt. • Attempting to merge one file into a file of a different type. • Attempting to copy an unknown (?) mass storage file to memory. • Attempting to copy a text, appointment, LEX, or LIF1 file to a private file; causes a warning and allows a non-private copy to be made. |
| 69 | <p>workfile name?</p> <p>Attempting to edit another file while editing a non-empty, unnamed workfile. NAME, RENAME, or PURGE the workfile before executing the EDIT command or pressing the [EDIT] key during a CAT ALL.</p> |

| Time Mode Warning (70) | |
|-------------------------------|--|
| Number | Message and Condition |
| 70 | <p>time adjust bad</p> <p>Attempting to adjust the clock speed by more than $\pm 10\%$. Causes a warning; the adjustment factor is left at its current setting, and a new adjustment period is begun.</p> |

APPT Mode Errors (71 through 77)

| Number | Message and Condition |
|--------|--|
| 71 | <p>duplicate APPT Attempting to enter a duplicate appointment. Appointments must differ by at least one character.</p> |
| 72 | <p>day/date mismatch The day-of-week and the date don't agree.</p> |
| 73 | <p>bad day field Misspelling the day-of-week.</p> |
| 74 | <p>bad date field Out-of-range parameter specified for the month, day, or year. May be caused by an illegal character in the Mo, Dy, or Yr fields.</p> |
| 75 | <p>bad time field Out-of-range parameter specified for the hour or minute. May be caused by an illegal character in the Hr, Mn, or AM fields.</p> |
| 76 | <p>bad rep field</p> <ul style="list-style-type: none"> • Invalid Rept (repeating) template caused by an out-of-range parameter or an illegal character. • Pressing a system key while the Rept template is displayed. |
| 77 | <p>bad alarm spec</p> <ul style="list-style-type: none"> • Invalid alarm type. Must be a digit, 0 through 9. • Invalid appointment type. Must be H, A, or R. |

Syntax Errors (78 through 91)

| Number | Message and Condition |
|--------|--|
| 78 | <p>syntax</p> <ul style="list-style-type: none"> • Incorrect spacing or characters in line. Cursor is positioned to character where error was detected. • A line not understood during a TRANSFORM INTO BASIC operation. The error is reported after the entire file has been transformed; unrecognized lines are transformed into program remarks beginning with ! ?. |
| 79 | <p>; expected Missing a semicolon between parameters.</p> |
| 80 | <p>) expected Missing a right parenthesis in an expression.</p> |
| 81 | <p>comma expected Missing a comma between parameters.</p> |
| 82 | <p>string expected Unsuccessful attempt to evaluate the expression as a character string.</p> |
| 83 | <p>missing TO The keyword TO with no embedded blanks must be typed in the command.</p> |
| 84 | <p>extra characters Extra characters appear at the end of the line. May be caused by mistyping an instruction if it is interpreted as a different instruction.</p> |

| Syntax Errors (78 through 91) (continued) | |
|--|---|
| Number | Message and Condition |
| 85 | <p><code>expr too big</code> Expression is too big for the HP-75 to evaluate. May be caused by too many nested pairs of parentheses or too many operations in one expression.</p> |
| 86 | <p><code>illegal context</code> Statement is not allowed after <code>THEN, ELSE, ON TIMER #, or ON ERROR.</code></p> |
| 87 | <p><code>bad expression</code></p> <ul style="list-style-type: none"> • A syntax error in an expression; e.g., too many operators between operands. • Attempting to transform a LIF1 file with missing line numbers into text or BASIC. The file remains a LIF1 file. |
| 88 | <p><code>bad statement</code></p> <ul style="list-style-type: none"> • An incorrect abbreviation. • An incomplete statement. • Attempting to execute a program only statement (e.g., <code>GOTO</code>) from the keyboard. |
| 89 | <p><code>bad parameter</code></p> <ul style="list-style-type: none"> • Using the wrong type of parameter; e.g., using a string argument for a function that takes a numeric argument. • Entering out-of-range parameter, illegal characters, or too many parameters. |
| 90 | <p><code>bad line number</code></p> <ul style="list-style-type: none"> • Attempting an improper renumbering operation. Causes a warning; default line numbering occurs for the specified portion of the file. • A <code>PRINT #</code> statement attempts to create a line number greater than 9999. Causes an error; no printing is done and the data pointer is left at the end of file. • Attempting to specify a starting line number greater than 9999 in an <code>AUTO</code> command. |
| 91 | <p><code>missing parameter</code> Omitting a necessary parameter from a function, statement, or command.</p> |
| Mass Memory Errors (92 through 97) | |
| Number | Message and Condition |
| 92 | <p><code>dev not mass mem</code> A non-mass storage device was requested to perform a mass storage operation.</p> |
| 93 | <p><code>mass mem error</code> The mass storage device is experiencing difficulty, perhaps due to low batteries.</p> |
| 94 | <p><code>no medium</code> Load a medium into the mass storage device.</p> |
| 95 | <p><code>medium full</code> The medium in the mass storage device has no room for other files. Purge one or more files, pack the medium, or load another medium.</p> |
| 96 | <p><code>invalid medium</code> The mass storage device cannot read from or write to the medium. May be caused by an unformatted medium; execute an <code>INITIALIZE</code> command for the device. May be caused by a physically damaged or defective medium. May also be caused by dirty recording heads; clean the heads as directed in the peripheral manual.</p> |
| 97 | <p><code>invalid pack</code> Interrupting a <code>PACK</code> operation. The medium may need to be reformatted with an <code>INITIALIZE</code> command.</p> |



| | | | |
|-------------------|----|-------------------|----|
| bad alarm spec | 77 | missing parameter | 91 |
| bad date field | 74 | missing TO | 83 |
| bad day field | 73 | | |
| bad expression | 87 | neg^non-integer | 9 |
| bad line number | 90 | no data | 34 |
| bad parameter | 89 | no END DEF | 38 |
| bad read/write | 23 | no loop response | 56 |
| bad rep field | 76 | no matching FOR | 47 |
| bad statement | 88 | no medium | 94 |
| bad time field | 75 | no value | 7 |
| bad transmission | 57 | not enough memory | 16 |
| | | not this file | 20 |
| comma expected | 81 | num too large | 2 |
| CONT before RUN | 31 | num too small | 1 |
| COT or CSC inf | 3 | numeric input | 43 |
| | | | |
| data type | 33 | ON ERROR overflow | 29 |
| day/date mismatch | 72 | OPTION BASE | 30 |
| dev not mass mem | 92 | | |
| | | PRINT# to runfile | 51 |
| DIM exist var | 35 | pulled too fast | 24 |
| duplicate APPT | 71 | pulled too slow | 25 |
| | | | |
| duplicate FN | 37 | | |
| duplicate name | 64 | RAM is invalid | 17 |
| | | record overflow | 28 |
| expr too big | 85 | RESTORE IO needed | 60 |
| extra characters | 84 | RETURN w/o GOSUB | 50 |
| | | ROM missing | 18 |
| file not found | 62 | | |
| FN calls itself | 41 | SQR(neg number) | 10 |
| FN missing | 39 | string expected | 82 |
| FN parameter | 40 | string too long | 42 |
| FOR overflow | 48 | syntax | 78 |
| | | system error | 15 |
| GOSUB overflow | 49 | | |
| | | TAN or SEC inf | 4 |
| illegal context | 86 | time adjust bad | 70 |
| invalid DIM | 36 | too many inputs | 44 |
| invalid filespec | 63 | too many names | 59 |
| invalid IMAGE | 52 | | |
| invalid medium | 96 | unknown card | 22 |
| | | | |
| invalid pack | 97 | verify failed | 21 |
| invalid password | 66 | | |
| invalid subscript | 27 | workfile name? | 69 |
| invalid TAB | 54 | write protected | 19 |
| invalid USING | 53 | wrong file type | 68 |
| | | wrong name | 26 |
| line too long | 67 | | |
| LOG(neg number) | 13 | /zero | 8 |
| LOG(0) | 12 | 0^neg | 5 |
| loop timeout | 58 | 0^0 | 6 |
| low batteries | 14 | >31 devices | 61 |
| mass mem error | 93 |) expected | 80 |
| | | ; expected | 79 |

System Memory Requirements

To determine the size of an initialized program, first interrupt execution (press `ATTN`) and determine available memory (type `MEM RTN`). Then deallocate the program by performing a line edit. The amount of additional memory that becomes available plus the size of the deallocated file (as indicated in the catalog entry) is the total size.

| Item | Memory Required |
|---|--|
| Appointments | 15 bytes for the appointment file <i>plus</i> 7 bytes/appointment <i>plus</i> 1 byte/character in the Note field <i>plus</i> 5 bytes/repeating appointment. |
| Data items | 5 bytes/DATA statement <i>plus</i> 4 bytes/integer <i>plus</i> 9 bytes/real <i>plus</i> 2 bytes/item <i>plus</i> 1 byte/character in strings. |
| Data pointers | 15 bytes/data pointer created by an ASSIGN # statement. |
| Files (BASIC and text) | 15 bytes/file <i>plus</i> 3 bytes/line <i>plus</i> 1-3 bytes/keyword (BASIC) or 1 byte/character (text). |
| Files (LEX and interchange) | Refer to the catalog entry for the file. |
| HP-IL assignments | 7 bytes/device declared in an ASSIGN IO command. |
| Key redefinitions | 3 bytes/redefinition <i>plus</i> 1 byte/character in the the key definition string <i>plus</i> 1 byte for final semicolon. |
| Mass storage commands (CAT, COPY, PURGE, RENAME) | 43 bytes/command. |
| Mass storage devices | 105 bytes/device. |
| PACK command | 256 bytes <i>plus</i> 6 bytes/file. |
| Plug-in ROMs | Refer to the ROM owner's manual for the number of bytes of system RAM used by the ROM. |
| Program calls | 30 bytes/CALL statement <i>plus</i> 2 bytes/calling program variable <i>plus</i> the number of bytes required by the variables' sizes or precisions. |
| Timers | 63 bytes/timer set by an ON TIMER statement <i>plus</i> one or more bytes per timer instruction. |
| TRANSFORM command | A maximum of 255 bytes while the transformation is occurring. |
| Variables (both calculator variables and initialized program variables) | |
| Simple numeric variables | |
| REAL | 12 bytes/variable |
| SHORT | 8 bytes/variable |
| INTEGER | 7 bytes/variable |
| Numeric array variables | 10 bytes/array variable <i>plus</i> |
| REAL | 8 bytes/element |
| SHORT | 4 bytes/element |
| INTEGER | 3 bytes/element |
| String variables | 8 bytes/variable <i>plus</i> dim length. |

Display Escape Codes

ESC represents the escape character, decimal code 27. Displaying `ESC`—that is, `CTL BACK`—or displaying `CHR#(27)` sends an escape character to the HP-75 display and other DISPLAY IS devices. Printing `CHR#` sends an escape character to PRINTER IS devices.

The HP-75 display and most HP-IL devices have special responses to predefined *escape codes*, that is, to display or print instructions which contain sequences formed by the escape character and the characters immediately following. A given escape code may be ignored by one device while interpreted by another device as a machine instruction. For example, an ESC C is ignored by the HP 82162A Thermal Printer but causes the HP 82163 Video Interface to move the cursor one position to the right. An ESC C may be sent to the HP-75 display and other display devices using `DISP CHR#(27)&'C'`, for example.

The HP-75 display responds to 12 escape codes. Other escape sequences used in DISP or PRINT statements are ignored by the display.

The 32 display window positions are identified as 0 through 31.

| Escape Code | Instruction | Description |
|-----------------|-------------------------------------|--|
| ESC C | Cursor Right* | Moves the cursor one position to the right. |
| ESC D | Cursor Left* | Moves the cursor one position to the left. |
| ESC E | Clear All* | Moves the cursor to column 0 and clears the display. |
| ESC G | Cursor Return | Moves the cursor to column 0. |
| ESC H | Cursor Home* | Moves the cursor to column 0. |
| ESC J | Clear From Cursor* | Clears the display from cursor location. |
| ESC K | Clear to End of Line | Clears the display from the cursor location: |
| ESC O | Delete Character With Wraparound | Deletes the character at the cursor location and left-shifts all trailing characters with wraparound. |
| ESC P | Delete Character | Deletes the character at the cursor location and left-shifts all trailing characters. |
| ESC < | Cursor Off* | Turns off the cursor. |
| ESC > | Cursor On* | Turns on the cursor. |
| ESC % <i>cr</i> | Cursor to Address* | Moves the cursor to the display position (0 through 31) specified by the decimal code of the first display character modulo 32. The decimal code of the second character is used by the video interface as a row parameter, but is ignored by the HP-75. For example, <code>DISP CHR#(27);'%';CHR#(16);CHR#(8);'here'</code> positions the cursor to column 16 (and row 8 of the video interface) and displays <code>here</code> , beginning from that location. |

An asterisk (*) indicates that the HP 82163 Video Interface responds similarly when declared a DISPLAY IS device. Refer also to the owner's manual for the video interface.

Type a semicolon after an escape code to suppress the carriage-return/line-feed that normally terminates a DISP or PRINT statement.

In addition, pressing **CTL** **↑** sends an ESC T (roll up one line) to DISPLAY IS devices and pressing **CTL** **↓** sends an ESC S (roll down one line) to DISPLAY IS devices. The HP-75 display window ignores these characters.

Machine Defaults

| Condition | After a machine reset or after the battery pack is first installed. | After turning on following a timeout period. |
|-------------------------|---|---|
| ALARM | ON | Previous setting. |
| ASSIGN ID | No HP-IL assignments. | Previous HP-IL assignments. |
| ASSIGN # | No file number assignments. | Previous file number assignments. |
| BEEP | ON | Previous setting. |
| CTL FET | Set-time template. | Blank line. |
| DEFAULT | ON | Previous setting. |
| DEF KEY | Identity assignments | Previous key definitions. |
| DELAY | 1 second. | Previous setting. |
| DISPLAY IS | *(That is, the HP-75 display.) | Previous display devices. |
| ENDLINE | CR/LF | Previous setting. |
| ERRL | 0 | Previous error line. |
| ERRN | 0 | Previous error number. |
| EXACT | EXACT marks cleared. | EXACT marks unchanged. |
| FETCH | Line 0 of workfile. | Previously pending line. |
| Files | BASIC workfile (0 bytes, time and date of clock setting.) | Previous BASIC files, text files, appointment files, keys files, LEX files, LIF1 files. |
| Keyboard | Unshifted. | Previous keyboard mode. |
| LOCK | No password. | Previous password. |
| MARGIN | 91 | Previous setting. |
| Mode | TIME | EDIT |
| PRINTER IS | *(The HP-75 display.) | Previous printer devices. |
| PWIDTH | 32 columns. | Previous setting. |
| RES | 0 | Last numeric result. |
| RND | .529199358633 | Next number in sequence. |
| SHIFT FET | Blank display. | Blank display. |
| STANDBY | OFF | Previous setting. |
| STATS template | MDY, ~, AM, YEAR | Previous settings. |
| TIME display | Set-time values. | Current time. |
| Trigonometric mode. | OPTION ANGLE RADIANS | Previous setting. |
| Variables: | | |
| calculator | None. | Previous assignments. |
| program | None. | Previous assignments if allocated program. |
| WIDTH | 32 columns. | Previous setting. |

Abbreviations

The following are the shortest distinct abbreviations recognized by the HP-75. Longer abbreviations are allowed, providing that the period doesn't match the final character of the keyword. Abbreviations may not contain embedded blanks.

The HP-75 supplies the complete spelling of keywords when listing and fetching lines.

| Keyword | Abbreviation | Keyword | Abbreviation |
|--------------------------|--------------|----------------------|--------------|
| ACOS() | ac.() | IMAGE | im. |
| ALARM OFF | al.off | INITIALIZE | ini. |
| ALARM ON | al.on | INPUT | i. |
| ANGLE() | ang.() | INTEGER | int. |
| ASSIGN # | as.# | KEY# | k. |
| ASSIGN IO | as.. | LIST | l. |
| AUTO | a. | LIST IO | l.. |
| BEEP | be. | LET FN | le.. |
| BEEP OFF | be.off | LOG10() | lo.() |
| BEEP ON | be.on | MARGIN | ma. |
| BYE | b. | MERGE | m. |
| CAT#() | c.() | NAME | n. |
| CAT ALL | c.. | NEXT | ne. |
| CEIL() | ce.() | OFF ERROR | of.e. |
| CHR#() | ch.() | OFF TIMER # | of.t.# |
| CLEAR <i>device code</i> | cl.';dc' | ON ERROR | o.. |
| CLEAR LOOP | cl.l. | ON TIMER # | o.t.# |
| CLEAR VARS | cl.. | OPTION ANGLE DEGREES | op.a.d. |
| COPY | co. | OPTION ANGLE RADIANS | op.a.r. |
| DATA | da. | OPTION BASE | op.. |
| DEFAULT OFF | defa.off | PACK | pa. |
| DEFAULT ON | defa.on | PLIST | pl. |
| DEF KEY | d.. | POP | p. |
| DELAY | d. | PRINT | pri. |
| DELETE | dele. | PRINT # | pri.# |
| DISP | di. | PRINTER IS | pri.. |
| DISPLAY IS | di.. | PRINT USING | pri.us. |
| DISP USING | di.us. | PROTECT | pr. |
| EDIT | e. | PURGE | pu. |
| EDIT BASIC | e.ba. | PWIDTH | pw. |
| EDIT TEXT | e.t. | RANDOMIZE | ra. |
| ELSE | el. | READ # | r.# |
| END DEF | end d. | REAL | re. |
| ENDLINE | en. | RENAME | ren. |
| ERRN | er. | RENUMBER | renu. |
| FETCH | f. | RESTORE | res. |
| FETCH KEY | f.. | RESTORE # | res.# |
| FLOOR() | fl.() | RESTORE IO | res.. |
| GOSUB | gos. | RETURN | ret. |
| GOTO | g. | RUN | r. |

| Keyword | Abbreviation |
|-------------|--------------|
| SHORT | sh. |
| STANDBY OFF | s.off |
| STANDBY ON | s.on |
| THEN | th. |
| TIME# | ti. |
| TRACE FLOW | t.f. |
| TRACE OFF | tr.o. |
| TRACE VARS | tr.v. |
| TRANSFORM | tr. |

| Keyword | Abbreviation |
|-----------|--------------|
| UNPROTECT | u. |
| UPRC#() | up.() |
| VER# | v. |
| WAIT | wa. |
| WIDTH | w. |



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