
WorkBook71

QUICK REFERENCE GUIDE





WorkBook71

System Requirements	2
WB WorkBook71 Spreadsheet editor . . .	3
TED Text Editor	7
RPN Calculator	9
PRINTWB File Printer	12
Basic Commands	14
REPORT Formatter/Data Base	16
PORTER	23
FINDER Data Search	24
SORTWB File Sorter	25
Character Codes	26
Utilities	28

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2 System Requirements

Program Memory Usage

WB	1100	REPORT	1100-1300
TED	600	RPN	250+120
PRINTWB	800	FINDER	1200
PORTER	1200	SORTWB	800-3000

Memory Used in Files

File header (all files):	18.5
WB File:	$(\text{Cell Len}+4)*(\text{Cols}*\text{Rows}+2)$
WorkBook71 Cell:	total chars+4
Line in Text File:	total chars+2

WB SPREADSHEET EDITOR

Uses approximately 1100 bytes of RAM while running. Enter name of WB Data file in RAM or Disc or a new file name. If a new file then WB asks for the number of cols, rows, and maximum number of characters a single cell can contain.

When through editing a cell, any command key ends input and calculates and enters the cell into the file. If you wish to calculate the formula then remain in that cell, press **RUN**. It is not necessary to press **RUN** or **ENDLINE** to enter data in a cell. **RUN** also is used to edit a cell while in Browse level.

Prompts for col or row and formulas can use default or user labels or a combination. User labels may be entered abbreviated to just a letter or two. Cell references in formulas are enclosed in brackets with a comma separating col and row reference.

Example: [3,4]

In command level hold down a key to see what it does. Release key within one second to perform function, hold down longer than one second to cancel. Begin formula cells with plus (+) and the formula follows an "@". Result cells begin with equals (=). Any other first character means a text cell. Change cell types by changing first character.

Each formula is calculated after it is entered, recalculate the whole file by pressing **f-CALC**.

If no monitor is being used set the col width to 1 to make horizontal movement faster.

Cell Types

First char "=" Number Cell

First char "+" Formula Cell

Any other means a Text Cell

WB EDIT LEVEL

- ON (enter command level)
- f-ON (exit)

4 WB Spreadsheet Editor

- RUN (edit cell)
Edit cell or calculate formula in cell.
- UP ARROW
Move up one row, stay in current col.
- DOWN ARROW
Move down one row, stay in current col.
- g-UP ARROW
Move up to first row in current col.
- g-DOWN ARROW
Move down to last row in current col.
- ENDLINE (enter data)
Move down one row in current col. If at last row then move to top of next col.
- g-ON (view)
View contents of a cell.
- f-SST "search for string"
If found, becomes current cell. Upper or lowercase treated the same. Specify by col or rows, from start of file or current position.
- g-CMDS "browse/edit toggle"
Sets Flag 1 for browse level.
- f-CALC "recalculate"
Calculates cells in column order. Enter range of cells; takes from a few seconds to several minutes. When using Disc based files only calc range of cells which need it to save media/battery wear.
calc from: 1,1
calc to: 8,8
- f-CONT (continue)
Rebuild display on monitor if active.

WB COMMAND LEVEL

- LEFT ARROW
Move left one col, stay in current row.
- RIGHT ARROW
Move right one col in current row.
- g-LEFT ARROW
Move to first col in current row.
- g-RIGHT ARROW
Move to last col in current row.

WB BROWSE LEVEL

- A "add col/row"
WB file MUST be in RAM, will not work with Disc based files. New col or row is added to end of file.
- C "copy cell to range"
Cell, including format, is copied by cols to range specified.
copy cell: 1,1
start cell: 1,1
last cell: 1,1
- D "delete col/row"
Specified col or row is lost, all other data moves up one col or row and last col or row in file is blank.
- E "exit"
- F "fix precision"
Number of decimals to display in cells. Default is global (whole file) setting. Set cell or global setting. Cells can be set for 0-9 or G.
fix:Global/Cell
(0-9,G): G

6 WB Spreadsheet Editor

- G "goto cell"
Enter col,row coordinate of cell.
- I "insert col/row"
Moves all cols or rows down to insert blank col or row. If data at end of file then it is lost. See the A (add) command.
- L "write/assign labels"
If label Text file not found then asks:
New/Load
Press C or R to edit labels; ON returns to Command Level. RUN cancels but does not update labels in display. Should exit through Command Level.
Col/Row
A maximum of 5 characters per label, no spaces, cannot begin with a number. Go back to "Col/Row" prompt by pressing ATTN. The arrow keys are active.
- P "call program"
If the program is not in computer will try to load it from Disc then purge it when it terminates.
- U "user/# label toggle"
Flag 0 set if user labels active.
- V "video on/off toggle"
Enable or disable monitor updating when cells are changed or window moves. The current edit cell is still displayed.
- W "column width"
Width Cols are displayed on monitor. No effect on number of chars in cell.

TED TEXT EDITOR

Uses approximately 500 bytes of RAM while running. A maximum of 96 characters per line in the Text file. Files must be in RAM, Disc based files do not work. It is not necessary to press **ENDLINE** to enter the text into the file.

Supports a monitor if one is active. Minimum file size is one screen when a monitor is used.

- ON (enter command level)
- ENDLINE
Move to beginning of next line down.
- RUN (remain in current cell)
- UP ARROW (move up one line)
- DOWN ARROW (move down one line)
- g-UP ARROW (move up one screen)
- g-DOWN ARROW (move down one screen)
- f-SST "search for string"
If found the cursor is placed on the first character. Specify from start of file or from current position.
Abs/Rel
search for:
- f-CONT (continue)
Rebuild display on monitor if active.

TED COMMAND LEVEL

- B "delete blank lines"
Delete all lines which are blank or contain only spaces.

● D "delete lines"

Delete lines, including the current line, regardless of if they are blank or contain text.

● E "exit"

● G "goto line"

● I "insert blank lines"

New lines are added after current line.

● M "merge file"

Merge another Text file. Data from that file follows the current edit line.

● P "call program"

May call itself to edit another file or another part of current file. Called program must not shorten this Text file.

● S "search&replace"

Search for a string and replace each occurrence of that string within the specified range of lines with new Text. Upper and lowercase are treated as different characters. One occurrence of the string per line will be checked. If the resulting line is over 96 characters the change will not be made.

search for:

new text:

lines:0,14

● T "truncate to width"

Shorten all lines to the display width. Lines will be split between words, the remaining Text will be inserted on a new line after that line.

● V "video on/off toggle"

Enable or disable formatted display. Monitor, if available, remains active.

RPN CALCULATOR

Press a key to view its operation. Hold key down for over one second and it will cancel. Release the key before one second to perform the function. Uses 250 bytes while it runs.

The 4-level stack and 10 registers are maintained in the SDATA file called "RPNDATA". Be sure to exit the calculator by pressing E. Register math operations work with View, Store, and Recall.

Operations allowed are +, -, *, /, %, ^ and can be used with registers 0-9 as well as X, Y, Z, T, and L.

Example: [V] [*] [L]

ON (suspend)

Temporarily suspend the RPN calculator. Use E to exit the program.

f-ON (turn off computer)

RPN Calculator continues when you turn your 71 back on.

ENDLINE "enter^"

UP ARROW "roll up"

DOWN ARROW "roll down"

LEFT ARROW "back"

Deletes rightmost character from number in X register.

RUN

g-CMDS "cmd stack"

Enables the command stack. Results of the formula are returned to X register when you press ENDLINE.

f-LC "clr"

Clears all registers to zero.

f- -LINE "clx"

Clears X register to zero.

10 RPN Calculator

f-CALC "calc mode"
Enters Calc mode. Can use register variables X,Y,Z,T,L in Calc mode. Press **f-CALC** then **f-COMT** to return to RPN. Results of the last formula are returned in X.

g-ERRM (error message)

C "chs"
Change sign of X register. $X=-X$.

D "div"

E "exit"

F "fix"
Set number format Fix precision. 0-8 for precision, Fix9 sets floating point.

I "int"

L "last X"

M "mod"

P "pi"

R "recall"
Recall register to X register.

S "store"
Store (copy) contents of X to register.

U "frac"
Returns fractional part of X to X.

V
f-VIEW "view"
View contents of a register.

X "X<>Y"
Exchange contents of X and Y registers.

L/R "1/"
Returns the reciprocal of X to X.

f-FACT "factorial"

f-MEAN "log 10"

f-SDEV "X^2"

f-SQR "sqrt"
Square root of X to X.

f-SIN "sin"

f-COS "cos"

f-TAN "tan"

f-EXP "exp"
Natural antilog.

f-ASIN "asin"
Arcsine.

f-ACOS "atan"
Arctangent.

f-LOG "ln"
Natural log.

f- ^ "^"
Y^X.

%, +, -, *, /

Prints formatted WorkBook71 files or an unformatted listing of cells. Be sure your printer is connected and turned on before running this program.

The utility programs share a common start routine. They will ask you for a file name then, if it is not in RAM, will offer to load it from Disc to RAM or use it directly from Disc (as a Virtual file). The second prompt will not be displayed if it is not necessary. You may include a device specifier with the file name such as ":TAPE".

print WB file:

Load/Virt

Once the file is assigned, the following prompts will affect how data is printed.

start col,row: 1,1
last col,row: 6,8

At these two prompts enter the range of cells within the file to print. Press ENDLINE without changing either prompt to print entire file.

print labels Y/N

This prompt gives you the option to print without Labels. The file is normally printed with Labels; User labels will be used if the Label file is in the computer.

format Y/N

For an unformatted listing of cells press N at this prompt. Otherwise the file will be printed in a grid of Cols and Rows.

col width: 8

Enter how wide you would like each Col to be printed. The default is the width being used when displaying on a monitor. You can change this setting as needed without affecting the actual WorkBook file or how it is displayed on a monitor.

printer width: 96

Enter maximum number of characters your printer can print per line. This determines how many Cols will be printed on single page. If the entire file will not fit within the printer width specified then it will be printed in sections.

printer set-up:

Enter anything, up to one full line. This will be printed at top of the printed page. The Escape character may be entered by using the "^". Printer escape codes are helpful to set your printer in, for example, condensed type, to fit more on one line.

14 BASIC Commands

CALL pgmname ! call a sub-program
CAT filename ! single file catalog
CAT ALL ! system catalog
CHARSET "" ! eliminate alternate chars
CLAIM PORT <#> ! reclaim ported RAM
CLFSL ! close all open data files
COPY filename TO filename
COPY filename:tape
COPY filename TO :tape
DATE\$! display current date
DEF KEY <keycode> , <BASIC statements>
DELAY <time> , <scroll rate>
DESTROY <variable list>
DESTROY ALL ! eliminate all variables
DISPLAY IS :display ! assign display
DTH\$(number) ! decimal to Hex
EDIT filename ! edit a Basic file
ENDALL ! end all suspended programs
FETCH <line#> ! find BASIC file line
FETCH KEY <keycode> ! see key assignment
FIX <0-15> ! set number display format
FREE PORT(#) ! set aside ported RAM

HTD("hex") ! hex to decimal
INITIALIZE :tape,<#files> ! format tape
LIST filename ! list file to display
MEM ! display unused memory
OFF IO ! disable HP-IL Loop
PLIST filename ! print file on printer
PRINTER IS :printer ! assign printer
PURGE filename ! eliminate a file
PWIDTH <#> ! printer line length
RENAME filename TO filename
RESTORE IO ! enable HP-IL activity
RUN pgmname ! run pgm as current file
SECURE filename
SHOW PORT ! see ported RAM & ROM
STARTUP <any BASIC statements>
STD ! standard number display format
TIME\$! display current time
TRANSFORM filename INTO BASIC
TRANSFORM filename INTO TEXT
TVIS ! address of display device
UNSECURE filename
WIDTH <#> ! line width for data display

REPORT FORMATTER/DATA BASE

This is a Report Generator and Text Formatter which reads Text and WB files prints a formatted report.

Uses 1100-1300 bytes of RAM while running. Lines beginning with an exclamation point (!) are ignored. The Fixed space character is chr\$(126), the " ".

Commands may be anywhere on the line and must be preceded by the command character. If a number is required by the command then other commands or text may follow without spaces separating them. When a word (such as a file name) is required then a space or another command must precede any following text. If an expression (formula) is required then it must be followed by a space or another command or be the last item on the line.

Basically, the only restriction is that formulas or file names must be followed by a space (or another command) to separate them from following text.

```

-      ^TA45^text...      ^TAtext...
-      ^FN<expr> text...  ^FN<EXPR>^BE
-      text... ^MA12 68^DObold^CS^PAtext...

```

PAGE CONTROL

- ^AD (ADvance to a new page)
Stops printing on current line. Advances paper to a new page.
- ^CE (CEnter mode)
Starts a new line. Centers all that follows between margins.
- ^CO (COpy mode)
Starts a new line. Copies all data as it appears in Text file.

- `^FI` (FIll mode)

Starts a new line. Enters fill mode where lines are printed with as many whole words as will fit.

- `^JU` (right JUstify mode)

Starts a new line. As with fill mode but right border also justified.

- `^MA` (set MArgins)

`^ma10 70 text...`

Set left and right margins.

- `^PA` (start a new PAragraph)

`^pa5text...`

Causes a paragraph break. Optionally specify spaces to indent.

- `^PL` (set Page Length)

`^pl66 6 6 text...`

Sets number of lines, top margin and bottom margin. Will advance to new page if used after printing has started.

- `^PN` (Page Numbering)

Print page numbers. Specify start number or 0 (zero) or - (minus) to halt page numbering.

- `^SK` (SKip number of lines)

Skip (print blank lines) as specified. Enter new value or will use value last entered with this command.

- `^SP` (set SPacing between lines)

Sets single or multiple spacing between printed lines.

- `^TA` (TAB)

Enter column to TAB or uses value entered last time command was used.

PRINTER CONTROL

- **^CC** (enter Control Code)
^ccABC text...

Accumulates next non-space characters as a printer control code.

- **^CH** (CHaracter code)
^ch254text...

Enters the ASCII code for the specified number as a printer control code..

- **^EC** (Escape Code)
^echJ text...

Accumulates next non-space characters with escape code preceding each. A space or the end of the line must follow the code. Example shows <esc>H <esc>J

DISTRIBUTION LISTS

- **^DL** (assign Distribution List)
Assign (open) the Distribution List Text File. Will print one copy of report for each line in the file.

- **^DR** (Distribution list Recall)
^Dear ^dr1 text...
Read a field from current line in the list. Specify a field number.

- **^FD** (dist Field Delimiter)
^fd, text...
Specify the single character which separates fields in the Distribution List file.

LOGICAL/FLOW

- **^AI** (Advance If)
^ai3 text...
If the number is greater than the number of lines left on the current page then advances to new page.

- **^DN** (move Down in Text file)
`^dn5 text...`
 Ignore specified number of lines in main or merge file.
- **^GO** (GOto line)
`^go10 text...`
 Interprets data remaining on current line then moves to specified record in main or merge file.
- **^IF** (IF)
`^if <expr> cmds & text...`
 If the result of the expression is true then interpret rest of line else ignore whole line. Any command syntax or data may follow on the line.

SUNDRY COMMANDS

- **^BE** (BEep)
- **^CS** (Clear monitor Screen)
- **^CM** (set CoMmand character)
`^cm. text...`
 Change command character.
- **^DA** (enters todays DATE)
- **^GR** (GRaph)
`^gr <expr> text...`
 Accumulates a star graph.
- **^ME** (MErge a text file)
 Suspend printing main file, begin using merge file. Main file continues when merge file ends.
- **^NF** (change to New main File)
 Stops reading current main file, changes to new file after reading the rest of current line.

- **^SZ** (set maximum line size)
^sz132 512 text...

Two parameters are maximum printer line length and maximum source file line length. Default values are 132 each. If only one parameter then only the printer line length is changed.

- **^ZZ** (fill line with repeating chars)
^zz - text...

Fills one complete line with repeating series of characters.

EXTENSION COMMANDS

- **^CA** (CALL sub-program)

Calls a sub-program without parameter passing.

- **^DO** (DO a command extension)
^do filename this is passed...

Calls a sub-program with parameter passing. Uses the remaining contents of the line.

- **^US** (USE an extension)

Calls a sub-program passing the end of the line and open Text and WB files.

DATA BASE / WORKBOOK71 COMMANDS

- **^CP** (CoPy one file to another)
^cp file1 file2 text...

Copies from file1 to file2. Device specifier may be used with or instead of file names. Both parameters are required.

- **^CW** (Col Width of wb cells)
^cw8text...

Set column width for merging Workbook71 files using the "**^WM**" command, for formatted numbers using the "**^WC**" and "**^FN**" commands.

- **^DI** (Display line of text)
`^di this will be displayed`
 Displays remainder of line without printing it.
- **^FN** (Format Number)
`^fn <expr> text...`
 Calculates expression and returns it right justified to col width. Observes current fix (**^FX**) and col width (**^CW**) settings.
- **^FX** (Fix setting)
`^fx4text...`
 Specify number of decimal places for results of formulas.
- **^IN** (INput)
`^in this is a prompt`
 Displays the remainder of the line then does an INPUT, returning the results to the data being interpreted.
- **^LD** (LoaD file)
`^ld filename text...`
 Copies a file from :MASSMEM to main RAM.
- **^PU** (PURge file)
 Purges specified file.
- **^SV** (SaVe file to mass storage)
`^sv filename text...`
 Copies specified file to :MASSMEM.
- **^WA** (Workbook Assign)
`^wa filename text...`
 Opens a Workbook71 file for use with formulas, printing or data recall/storage.

- `^WC` (recall Workbook Cell)
`^wc col,row text...`

Recalls a cell as formatted for display or printing. Uses the col width of the Workbook71 file unless you specify a col width using the "`^CW`" command. Uses fixed spaces, be sure line width is as wide or wider than the col width.

- `^WF` (Workbook Formula)
`^wf <expr> text...`

Calculates expression and returns results to printout.

- `^WM` (Workbook Merge)
`^wf col1,row1 col2,row2 N`

Prints Workbook71 Data file within report. Enter the upper left cell coordinate then lower right cells. If you do not wish to have labels printed then follow with N, any other data will be interpreted as text to be printed.

- `^WR` (Workbook Recall)
`^wr col,row text...`

Recall cell contents. Formulas are deleted.

- `^WS` (Workbook Store)
`^ws col,row placed in cell`

Store value or results of next command in Workbook spreadsheet cell. Entire remaining portion of this line is placed in the cell. If first char is the command character then that command will be interpreted and the results placed in the cell.

Used to move files between Text and WorkBook71 DATA formats. In the WB file, cells are in separate records, however, Text files often contain several different records on the same line; a comma or other character separates these records and is called a field delimiter. Be sure you know what field delimiter will be used before running PORTER.

Once the source file is assigned you have the following options:

output:

Specify a new WorkBook71 file name or Text file. If the Text file exists, data will be added to the end.

field delimited: Y/N

If the Text file (source or destination) uses a field delimiter then press Y and the next prompt will ask you for the character.

field delimiter: `

The default is the "`"; use this character or change it as needed.

using:Cols/Rows

Specify the direction of the transfer. That is, a Col will represent a line of Text, or a Row will represent a line.

delete formulas:Y/N

If the source is a WorkBook file then you have the option of deleting any formulas. For most use press Y.

Search WorkBook71 DATA file and return results in a Text file. In a Data Base, a list is stored in a Col and each Row represents a field, so an entire Col will be copied to a line in the Text file. Once the file is assigned, the following prompts will be displayed.

output file:

Enter a Text file name or a new name.

output rows: 1,8

Specify the range of Rows for output.

field separator: `

Enter the field delimiter character to be placed between cells in the output Text file.

Search Strings

There are types of comparisons available. Press ENDLINE without any input to go on to the next type. Up to 12 of each type may be used with up to 8 characters per comparison.

The first is a simple comparison; if the string is found within the specified field (Row) then the comparison is true. Comparisons are made without concern for upper/lower case. Search from the beginning or end of a line with a "/", such as "/Los" or use "/92024/" for an exact match. At the second prompt for each comparison enter the field (Row).

strings mandatory: Y/N

Displayed if you are using search strings. If all strings MUST be in ALL fields press Y.

< or > Comparisons

This second comparison is less than or greater than. "<STRING" means if the cell contents are smaller than "STRING". ">STRING" is the opposite. Comparisons are made with the same number of characters.

Exception Strings

Using Exception strings is the same as search strings except, of course, if the string is found, the column will not be added to the output.

Sorts a WorkBook71 DATA file using a single word in a single ROW in each Col in the file. The sort is done in an array and the output may be to a Text file or a different WorkBook file. Once the file is assigned you may choose the sort type (Bubble or Quick) and answer the following prompts.

sort on row: 1

Enter which Row is to be sorted.

range of cols: 1,6

Enter the range of Cols to sort.

max len: 5

Enter the maximum length for the word.

word#: 1

Enter which word in the Cell to read.

The final prompts are for the output file. Output may be to either WorkBook DATA or Text file.

26 Character Codes

Dec	Hex	Bin	Asc	Dec	Hex	Dec	Hex	Bin	Asc	Dec	Hex
0	0	00000000	NUL	128	80	32	20	00100000	SPC	160	A0
1	1	00000001	SOH	129	81	33	21	00100001	!	161	A1
2	2	00000010	STX	130	82	34	22	00100010	"	162	A2
3	3	00000011	ETX	131	83	35	23	00100011	#	163	A3
4	4	00000100	EOT	132	84	36	24	00100100	\$	164	A4
5	5	00000101	ENQ	133	85	37	25	00100101	%	165	A5
6	6	00000110	ACK	134	86	38	26	00100110	&	166	A6
7	7	00000111	BEL	135	87	39	27	00100111	'	167	A7
8	8	00001000	BS	136	88	40	28	00101000	(	168	A8
9	9	00001001	HT	137	89	41	29	00101001	)	169	A9
10	A	00001010	LF	138	8A	42	2A	00101010	*	170	AA
11	B	00001011	VT	139	8B	43	2B	00101011	+	171	AB
12	C	00001100	FF	140	8C	44	2C	00101100	,	172	AC
13	D	00001101	CR	141	8D	45	2D	00101101	-	173	AD
14	E	00001110	SO	142	8E	46	2E	00101110	.	174	AE
15	F	00001111	SI	143	8F	47	2F	00101111	/	175	AF
16	10	00010000	DLE	144	90	48	30	00110000	0	176	B0
17	11	00010001	DC1	145	91	49	31	00110001	1	177	B1
18	12	00010010	DC2	146	92	50	32	00110010	2	178	B2
19	13	00010011	DC3	147	93	51	33	00110011	3	179	B3
20	14	00010100	DC4	148	94	52	34	00110100	4	180	B4
21	15	00010101	NAK	149	95	53	35	00110101	5	181	B5
22	16	00010110	SYN	150	96	54	36	00110110	6	182	B6
23	17	00010111	ETB	151	97	55	37	00110111	7	183	B7
24	18	00011000	CAN	152	98	56	38	00111000	8	184	B8
25	19	00011001	EM	153	99	57	39	00111001	9	185	B9
26	1A	00011010	SUB	154	9A	58	3A	00111010	:	186	BA
27	1B	00011011	ESC	155	9B	59	3B	00111011	;	187	BB
28	1C	00011100	FS	156	9C	60	3C	00111100	<	188	BC
29	1D	00011101	GS	157	9D	61	3D	00111101	=	189	BD
30	1E	00011110	RS	158	9E	62	3E	00111110	>	190	BE
31	1F	00011111	US	159	9F	63	3F	00111111	?	191	BF

Dec	Hex	Bin	Asc	Dec	Hex	Dec	Hex	Bin	Asc	Dec	Hex
64	40	01000000	@	192	C0	96	60	01100000	`	224	E0
65	41	01000001	A	193	C1	97	61	01100001	a	225	E1
66	42	01000010	B	194	C2	98	62	01100010	b	226	E2
67	43	01000011	C	195	C3	99	63	01100011	c	227	E3
68	44	01000100	D	196	C4	100	64	01100100	d	228	E4
69	45	01000101	E	197	C5	101	65	01100101	e	229	E5
70	46	01000110	F	198	C6	102	66	01100110	f	230	E6
71	47	01000111	G	199	C7	103	67	01100111	g	231	E7
72	48	01001000	H	200	C8	104	68	01101000	h	232	E8
73	49	01001001	I	201	C9	105	69	01101001	i	233	E9
74	4A	01001010	J	202	CA	106	6A	01101010	j	234	EA
75	4B	01001011	K	203	CB	107	6B	01101011	k	235	EB
76	4C	01001100	L	204	CC	108	6C	01101100	l	236	EC
77	4D	01001101	M	205	CD	109	6D	01101101	m	237	ED
78	4E	01001110	N	206	CE	110	6E	01101110	n	238	EE
79	4F	01001111	O	207	CF	111	6F	01101111	o	239	EF
80	50	01010000	P	208	D0	112	70	01110000	p	240	F0
81	51	01010001	Q	209	D1	113	71	01110001	q	241	F1
82	52	01010010	R	210	D2	114	72	01110010	r	242	F2
83	53	01010011	S	211	D3	115	73	01110011	s	243	F3
84	54	01010100	T	212	D4	116	74	01110100	t	244	F4
85	55	01010101	U	213	D5	117	75	01110101	u	245	F5
86	56	01010110	V	214	D6	118	76	01110110	v	246	F6
87	57	01010111	W	215	D7	119	77	01110111	w	247	F7
88	58	01011000	X	216	D8	120	78	01111000	x	248	F8
89	59	01011001	Y	217	D9	121	79	01111001	y	249	F9
90	5A	01011010	Z	218	DA	122	7A	01111010	z	250	FA
91	5B	01011011	[	219	DB	123	7B	01111011	{	251	FB
92	5C	01011100	\	220	DC	124	7C	01111100	|	252	FC
93	5D	01011101	]	221	DD	125	7D	01111101	}	253	FD
94	5E	01011110	^	222	DE	126	7E	01111110	~	254	FE
95	5F	01011111	_	223	DF	127	7F	01111111	DEL	255	FF

28 Utilities

CALL CHARSET

Create the alternate character set.

CALL INCAT("filename",<var>)

Check file catalog entry. Return variable will contain one of the following.

0 Nonexistent	6 KEY
1 TEXT	7 BASIC
2 SDATA	8 FORTH
3 DATA	
4 BIN	20 Unknown type
5 LEX	21 Invalid name

CALL SORT(X\$,X,E,T)

Sorts a string array and pointer array using either Bubble or modified Quick Sort.

X\$()	String Array to sort on
X()	Pointer Array
E	Number of elements in array
T	Sort type (1=Bubble, 2=Quick)

CELVAL\$("str") ! return number from cell.
CLFSL ! statement. Close all open files
CUE\$("str",<cursor>) ! modified input. Returns term key
DELETE# <chnl>,<record> ! delete record from Text file
ECP\$! returns CHR\$(27)&"%"
FILESZR("filename") ! number of records in a Text file
FMTCEL\$("str",<wid>) ! format spreadsheet cell
HI\$("str") ! make chars alternate character set
INSERT# <chnl>,<rec>,"str" ! add rec to open Text file
NVAL("str") ! simplified VAL
NXTWORD\$("str") ! returns next non-space chars
PAK\$(<expr>) ! returns two chars from value 0-65535
REPLACE#<chnl>,<rec>,"str" ! replace Text file rec.
REVR\$("str") ! reverse order of chars
SEARCH#("str",<col>,<start rec>,<end rec>,<chnl>)
! find string in open Text file
TVIS ! find active display device on HP-IL
UNPAK("str") ! opposite of PAK\$
WTKEY\$! wait for keystroke. Return the key value.
WTRIM\$("str") ! trim leading spaces.
WTRIM\$("s1","s2") ! trim spaces and matching chars

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