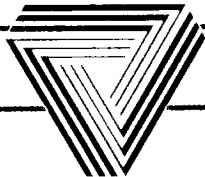


VISICALC®

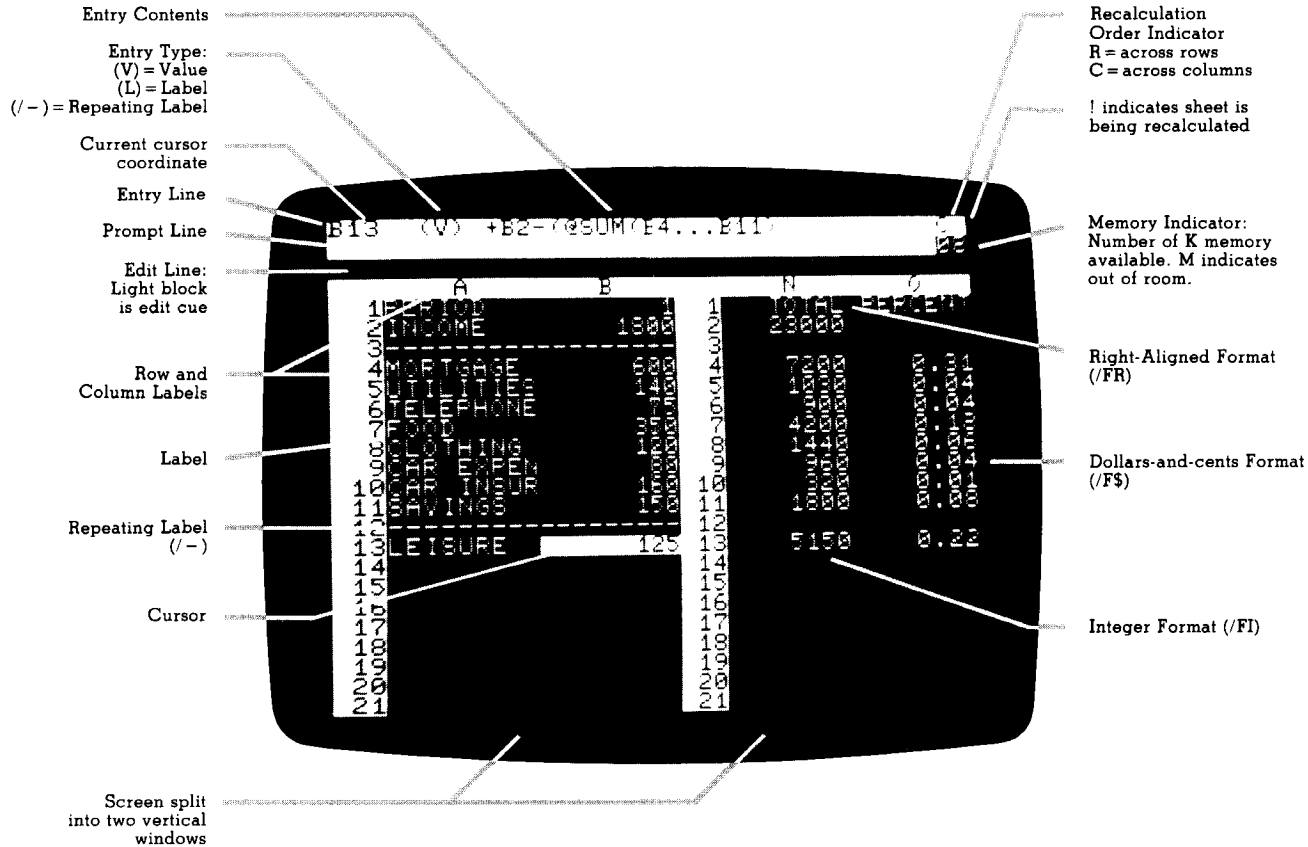
FOR THE COMMODORE PET™/CBM™
2001 AND 8032 PERSONAL COMPUTER

Program Created and Written by
SOFTWARE ARTS, INC.

Distributed Exclusively by



VISICORP™
PERSONAL SOFTWARE™



MOVING THE CURSOR

- ← ↑ ↓ Move the cursor in designated direction. Used in value entry and some commands to point to an entry position that will be selected when RETURN or a colon is pressed.
- ;
- > coord Go To Command. Cursor moves to designated coordinate

CALCULATING

- + Addition
- Subtraction
- * Multiplication
- / Division
- ^ Exponentiation
- # If the coordinate is immediately to left of edit cue, replaces coordinate with that location's current value. Otherwise places current value of cursor location on edit line.
- ! When the edit line is clear, forces recalculation of entire sheet. When formula is on the edit line, replaces formula on edit line with its current value.

EDITING

- DEL Deletes character to left of edit cue on edit line. If edit cue is at beginning of edit line, cancels command entry and clears prompt line.
- STOP Cancels command, clearing edit line and prompt line; stops printing or disk storage operation in progress.

LABELS

Start with any letter or ". The initial quotation mark does not appear on the edit line. Defines the entry as a label with the numeric value of zero. Labels are left-aligned in the entry position. Correct typing errors while entering with DEL.

VALUES

Start with a digit (0 through 9), plus (+), minus (-), open parenthesis, period (.), number sign (#), or at sign (@). In General format, program shifts between conventional and scientific notation as required to display the calculated value to the greatest precision. If column is too narrow to display the number in scientific notation, greater-than signs (>) fill the entry position.

VALUE REFERENCES

Entry position coordinate used as element in a formula. Value references are allowed wherever numbers are allowed. To start a value entry with a value reference, begin with +.

FILE NAMES

A file name consists of up to 16 characters and must begin with a letter or a number. It can include letters, numbers, the space character, underscore, slash, and dollar sign. The following characters are not allowed: " # * ? ; : or , . The last characters of the file name should be one of the designators: .VC for VisiCalc files, .PRF for print files, or .DIF for DIF files.

The following file name qualifiers can be added to the file name. The drive specification precedes the file name. The other qualifiers follow the file name, and must be separated by commas from the file name and from each other.

- Drive Number—0: or 1:
- File Format—S (sequential), U (user), or P (program)
- Device Type—TD (disk), TP (PET printer), or TA (ASCII printer)
- Character Code—CP (PET codes), or CA (ASCII codes)
- IEEE Address—a valid IEEE-Bus address

A file name can be given in the VisiCalc program by:

- Typing the entire file name for the file.
- Scrolling the name from the current directory with the →.
- Typing a disk drive specification and pressing RETURN, then scrolling file names with the →.

A file name may be edited before pressing RETURN by:

- Using the DEL key to delete single characters.
- Typing additional characters to add to the name.

Provide common formulas for use in values. Each function begins with @ followed by the name of the function; most functions also require an expression in parentheses (the argument). An argument includes the values (formulas and numbers) upon which the function calculates.

The arguments may be:

- v* Any valid VisiCalc value.
- list* Any combination of values and ranges separated by commas.
- range* A portion of a row or column specified by its beginning coordinate, a period (displayed as an ellipsis), and its final coordinate.
- @ABS(*v*) Absolute value of *v*.
- @AVERAGE Average of the non-blank (*list*) entries in *list*. Maximum of 255 entries in *list*.
- @COUNT(*list*) Number of non-blank entries in *list*. Maximum of 255 entries in *list*.
- @EXP(*v*) Natural exponent of *v*.
- @INT(*v*) Integer portion of *v*.
- @LN(*v*) Natural logarithm of *v*.
- @LOG10(*v*) Base 10 logarithm of *v*.
- @LOOKUP(*v, range*) Compares *v* to the successive values in *range* and returns the corresponding value from the column or row immediately to the right or below the entries in *range*.
- @MAX(*list*) Maximum value in *list*.
- @MIN(*list*) Minimum value in *list*.
- @NPV(*dr, range*) Net present value of the cash flow in *range*, discounted at the rate specified in the expression *dr* (discount rate).
- @SQRT(*v*) Square root of *v*.
- @SUM(*list*) Sum of the values in *list*.

COMMANDS

TRIGONOMETRIC FUNCTIONS

All angles are in radians.

@ACOS(<i>v</i>)	Arccosine of <i>v</i> .
@ASIN(<i>v</i>)	Arcsine of <i>v</i> .
@ATAN(<i>v</i>)	Arctangent of <i>v</i> .
@COS(<i>v</i>)	Cosine of <i>v</i> .
@SIN(<i>v</i>)	Sine of <i>v</i> .
@TAN(<i>v</i>)	Tangent of <i>v</i> .

FUNCTIONS WITHOUT ARGUMENTS

@ERROR	Makes all expressions referencing the value display ERROR.
@NA	Makes all expressions referencing the value display NA.
@PI	3.1415926536.

/B	Blank	Erases the highlighted entry position. RETURN or arrow key completes command.	/M	Move	Moves an entire row or column to another position on the sheet. The first coordinate on the edit line designates the row or column to be moved. The final coordinate specifies where the row or column is to be moved. RETURN completes command.
/C	Clear	Clears the worksheet, restores the General format and single window. Y completes command, any other key cancels.	/P		See "Printing."
/D	Delete	Deletes the entire row (/DR) or column (/DC) on which the cursor rests.	/R		See "Replicating."
/F	Format	Sets local format for the highlighted entry position but does not affect contents in memory. Remains until changed or the worksheet is cleared.	/S		See "Storing."
/FD		Default—Resets to the global format.	/T	Titles	Fixes rows and columns in place on the screen so they remain in view when the window is scrolled. The position of the cursor determines which column(s) and/or row(s) to be fixed. The Go To command (>) moves the cursor into a fixed area.
/FG		General—Maximum precision.	/TH		Horizontal—Fixes rows at and above the cursor.
/FI		Integer.	/TV		Vertical—Fixes columns at and to the left of the cursor.
/FL		Left-aligned.	/TB		Both—Fixes columns and rows.
/FR		Right-aligned	/TN		None—Unfixes all rows and columns.
/F\$		Dollars-and-cents (two decimal places).	/V	Version	Displays the copyright notice and version number.
/F*		Graph—Replaces value with asterisks equal to its integer value.	/W	Window	Splits the screen vertically or horizontally at the current cursor position. The semicolon (;) moves the cursor from one window to the other. Global commands affect only the window containing the cursor.
/G	Global	Affects entire window or sheet.	/WH		Horizontal—Splits the screen just above the row with the cursor.
/GC		Column—Sets column width of all columns to specified number (3 to 37). RETURN completes command.	/WV		Vertical—Splits the screen just to the left of the column with the cursor.
/GF		Format—Sets display format for all columns not specifically formatted. See /F for format specifications.	/WS		Synchronized scrolling—Split windows scroll together.
/GO		Order of Recalculation—Specifies whether the worksheet is to be recalculated down the columns (/GOC) or across the rows (/GOR).	/WU		Unsynchronized scrolling—Cancels synchronized scrolling.
/GR		Recalculation priority—Sets recalculation to automatic (/GRA) or manual (/GRM). Typing ! causes recalculation.	/-	Repeating Label	Fills the entry position with the designated character(s).
/I	Insert	Inserts a new blank row (/IR) or column (/IC) at the cursor position.			

PRINTING

The Print command sends a contiguous rectangular portion of the worksheet to a printer or to diskette. Formulas are not sent.

To print all or part of a VisiCalc sheet:

1. Place the cursor on the upper-left coordinate of the rectangular area to be printed and type /P.
2. Type A to send to an ASCII printer. Type P to send to a PET printer. Type F to send to diskette file.
3. Type + to send a carriage return. With an ASCII printer, type - to turn off the line feed automatically sent by the VisiCalc program. Type & to restore the line feed.
4. To send setup strings, type ", the strings, then RETURN. The setup codes must be reentered each time the Print command is used. Invalid codes sent to the printer give no error indication.
5. Enter lower-right coordinate of the rectangle to be printed, either by typing it or pointing the cursor to it, and press RETURN.

REPLICATING

The Replicate command copies the entry contents of the source range (the position(s) to be copied) into the target range (the position(s) to which it will be copied.)

A range is a portion of a row or column specified by its beginning coordinate, a period (shown as ...), and its final coordinate.

A colon separates the source range from the target range and is entered by typing either colon or RETURN.

	Source	Target
To copy one entry once	coordinate	: coordinate
To copy one entry several times	coordinate	: range in one row or column
To copy a row or column once	row or column range	: starting coordinate
To copy a row several times	row range	: range in one column
To copy a column several times	column range	: range in one row

RETURN completes command.

If the source range includes reference to other locations, indicate how each reference is to be treated:

N	No Change	Copies the reference as it appears in the source entry.
R	Relative	Changes the reference so that it is relative to the target position.

STORING

The Storage command writes a file to diskette, reads a saved file from diskette, writes and reads files in the DIF™ format, deletes files from a diskette, initializes diskettes, and quits the VisiCalc program. File names can be displayed from the diskette by pressing the right arrow key when prompted for the file name.

/SL	Load	Reads a file previously saved with /SS. The file is loaded over the current sheet. New entries replace old ones. Any entries that are not replaced remain the same. To load a file into an empty worksheet, clear with /C before loading new file.
/SS	Save	Saves the information on the worksheet on diskette under the specified file name. To print formulas and formats, type /SS,TP to send to a printer or /SS,TA to send to an ASCII device
/SD	Delete file	Deletes the specified file from the diskette.
/SI	Initialize diskettes	Initializes storage diskettes completely erasing anything already on the diskette.
/SQ	Quit	Quits the VisiCalc program.
/S#S		Writes the specified area of worksheet to diskette as a file in the DIF™ format. R or RETURN saves by rows, C saves by columns.
/S#L		Loads a file in the DIF™ format. R or RETURN loads the information by rows, C loads by columns.