SuperCalc

Cursor Movement

There are several ways to move the worksheet cursor to a new active cell. You can use the four arrow keys. Similarly, you can use the alternate diamond keys. Hold down the **CTRL** key while you press the **S**, **D**, **E**, or **X** key to move left, right, up or down in that order.

Alternately, you can use the = (address) command—also called the **GOTO** command—to move directly to the designated cell. The SuperCalc program will ask for the cell coordinates. When you type them, the display on your screen will change. If the designated cell is already on the display, it will show as the active cell. If not, the window will move to show the new active cell at the upper-left corner. There is a special case: if you type only = and press **RETURN**, the window will adjust to show the current active cell at the upper left.

Special Function Keys

? for help

When you use the SuperCalc program and need information about your current entry options, press **?**. The display screen will change to show you a list of entries that you can make relative to your present position within SuperCalc. This help function is available at any time and in any mode. Press any key to return to the previous display.

The ! key

The **!** command forces recalculation. In the manual-calculation mode, this command is the only way to have the program recalculate values. In the automatic mode, it provides an additional recalculation.

The ; key

; moves the worksheet cursor from one portion of a split window display to the other portion. See the **WINDOW** command.

The ESC key

The current-cell key is the **ESC** (escape) key. When you press it, the SuperCalc program puts the location of the active cell onto the entry line for you to use in a command or expression. After you press **ESC**, the arrow and alternate diamond keys control the worksheet cursor. If you move the worksheet cursor, the active cell address on the entry line changes dynamically to reflect the new location. When you press **ESC** again, the address stops changing, and the arrow and diamond keys are again available for editing.

Pressing , after the active-cell address is a special case. SuperCalc places another active-cell address after the colon. The address before the , is fixed; the address after the , is still changeable.

The new active-cell location is temporary. When you press **RETURN** to enter the command or expression, the worksheet cursor returns to the prior active-cell location. If you are entering data into a cell, it will go into that prior location.

Data Entry

SuperCalc accepts numbers, formulas, and text. Ordinary numbers can have 16 significant digits plus a decimal point. Scientific, or exponential, numbers can have 16 significant digits and a decimal point, all raised to a power of ten. The limit is the 63rd power of 10. Text can have up to 110 characters. Formulas can can have up to 110 characters and can include arithmetic expressions, relational expressions, functions, and references to cells.

Once you begin to type a command or data on the entry line, the four arrows—and the alternate diamond keys—no longer move the worksheet cursor around the worksheet. Instead, you can use them to edit information on the entry line. You can always correct your commands or data while they are on the entry line. The **EDIT** command allows you to use the edit process, and enter the changed contents into the active cell after you have committed an entry to the worksheet.

Left and right arrows (**^S** or **^D**) move the data-entry cursor without erasing an entry so you can position the cursor where you want to make the change.

Because a cell can contain 110 characters—longer than entry line can show—SuperCalc will scroll your entry during the edit process, allowing you to examine any portion of it. Wherever the cursor is, you can enter a new character to replace the old one. The cursor then moves right one location.

Each time you press the down arrow (or **^X**) it deletes a character. The cursor stays in position.

The up arrow (or **^E**) inserts a new space at the cursor location each time you press it. The cursor stays in place, and spaces fill out to the right of it. The space(s) can then be filled with additional characters.

Remember, what you see on the entry line is what is entered into the active cell. When you finish making your changes and enter the data or execute the command, SuperCalc takes everything on the entry line, not just the material to the left of the cursor.

Data-Entry Limit

Numbers: 16 significant digits, plus optional decimal point and optional sign for ordinary numbers. 16 significant digits, plus decimal point and optional sign for exponential numbers (scientific notation). These 16 digits can be raised to the 63rd power of 10.

Largest ordinary number.	9999999999999999
Smallest ordinary number.	−9999999999999999
Largest exponential number.	9.99999999999999e62
Smallest exponential number.	−9.99999999999999e62

Text: 115 characters

Example: **"Expenses, January**

Formulas: 116 characters

Example: **7+A5,9+5*E7,SUM(B1:B9), MIN(A4,D4,G4)**

Distinguishing Numbers, Text, and Formulas When Entering Data

Numbers start with digits (0–9), +, −, or a period. An entry beginning with a period is assumed to be a decimal entry beginning with zero and a decimal point.

Text starts with a quotation mark (").

Formulas can start with the same characters as numbers—0–9, +, −, or period. They can also start with an open parenthesis —(. You can put arithmetic expressions, relational expressions, functions, and references to cells within formulas.

About Numbers

Numbers are ordinarily right-justified; optionally, they're left-justified. The way numbers appear when they're displayed depends on the display format you selected, not on the way they looked when you entered them into the cell. The display format doesn't affect the content of the cell.

Display options allow you to display numbers in the following ways:

- general (ordinary numbers if they fit column display width; otherwise, exponential);
- exponential (scientific notation), rounded if necessary;
- integer (integers only; if there is a decimal number, round up or down to make it integer);
- dollar amounts, rounded to the nearest cent; .00 is appended to whole numbers;
- graphic display, using asterisks to show relative values in bar-graph form.

For any display format, if the numeric display cannot fit into the column, then >>>> fills the column.

You can widen a column to display a number or text in full by setting column width from 1 to 126.

NOTE

Text is ordinarily left-justified; optionally it is right-justified. If text is too large for the column, the text display continues into the adjoining blank cell(s) to the right. If it cannot continue into adjoining columns, it is cut off at the right.

NOTE

Ordinarily the resulting values rather than formulas are displayed; optionally, you can see the formula with the ***F*** *option in the* ***GLOBAL*** *command. The formula, however, is shown on the status line. When the formula is displayed in a cell, it can continue into adjoining blank cells as text does.*

Status, Prompt, and Entry Information

SuperCalc uses the prompt and status lines near the bottom of your screen to send you messages. You use the entry line to respond. Here is a more detailed look at some of the things you may find on those lines:

Status Line

The status line is the first of the three lines. This line displays information about the active cell. The information displayed includes: the "Current Direction" that you have been moving, the active-cell location, the active cell's specific format and protection, and the textual contents of the active cell.

Here is an example of a status line:

>A5 L$TR P Text="February

Here is what it means:

> is the current direction of the worksheet cursor, set by the last arrow key pressed. It may be >, <, v, or ^.

A5 is the active-cell location. Data entered will go into that cell. Commands that use the current column or row will use the column or row containing that cell; in the example, column A and row 5.

L$TR shows the active-cell format settings; numbers are left-justified, $ is the format, and text is right-justified. (The detailed reference for /Format gives full information on these settings).

P shows data protection of the active cell. This area is blank if the cell is unprotected.

Text="February indicates the contents of the Active Cell —in this case, text. **"Rtxt="** indicates repeating text. Numbers or formulas are shown as **"Form"**; for example, "FORM =12*B9."

SuperCalc also uses the status line to display error messages and certain informational messages. These special messages disappear and the status information reappears when you press any key.

Prompt Line

The middle of the three information lines serves a dual purpose: while you are entering a command, this line "prompts" you by outlining the choice of possible entries you may make. For example, after you have issued the **DELETE** command, the prompt line reads:

R(ow) or C(olumn)

This tells you that you must next tell the SuperCalc program whether you wish to delete a Row or a Column. If you then ask for Row, the prompt line changes to:

Enter Row Number

to ask you which row number to delete.

Whatever the prompt is, if you press ? a short but detailed explanation of your options will be displayed on the screen.

When you finish typing your command, the middle line reverts to its other function: global status. It tells you about your worksheet's current status. An example is:

```
Width: 9 Memory:29 Last Cell:J10 ? for HELP
```

This information is:

Width: 9—column width. This is the display width of the column that contains the active cell. The standard, or default, setting is 9, but you can specify a different width. You can set all columns to the same width or set different widths for different columns. If you change the default setting, the status line lists the display width that you select.

Memory: 29—available memory in kilobytes (a kilobyte is the memory sufficient to hold 1024 characters or digits). This number changes as you add data to the worksheet.

Cell: J10—this tells you the lower right-hand corner of an imaginary block that just contains all your worksheet. In other words, J is the right-most column that you have used, and 10 is the lowest row (biggest row number).

? for HELP—this reminds you that pressing ? will always give you an explanation of the options you have at that moment. If you press ?, you will receive an explanation of your choices.

/ precedes most commands. If you press it, the prompt line will change to list possible entries and the ? symbol.

As you proceed within commands, or make other possible entries, the prompt line will change to show you your current choices.

Entry Line:

This is the line where you tell SuperCalc what to do by typing your commands or data. Your experience with *Volume 3: Working with Text and Numbers* and the information in this Reference Guide will give you all the information you need to type in the desired data.

SuperCalc Command Entry

Type all SuperCalc commands with **/** and the first letter of the command. The remaining letters in the command are automatically supplied on the entry line. For example, **/ B** causes the command word BLANK to be displayed on the entry line. The prompt line lists the choices available to you for that command. When you enter **/**, the prompt line shows the possible one-letter entries. After you choose a command, the prompt line changes to show the choices available for that particular command. Whenever you wish further information about your options, you can press **?**.

Some commands exhibit a sequence of prompts and entries before the command is executed. An example is the command to copy from one location to another. If you enter one of these multilevel commands, you can back out of your current entry by using the back (left) arrow. In fact, you can back entirely out of the command, level by level, till you return to the desired level.

You can edit commands just as you do data by using the in-line editor. Remember that when you press **RETURN**, everything visible on the entry line will be executed—not just the part of the command to the left of the cursor.

A few commands effect only the current cell, column, or row. Most allow you to specify which cell, column, or row to be affected in the command line. You can type column addresses as either capital or lowercase letters; SuperCalc converts lowercase

column entries to capitals. If you want to specify the current cell, column, or row (as appropriate) in such commands, simply press the comma to enter the current location into the command line.

The current-cell key (**ESC**) can also enter the current cell, column, or row into the command line (if only the column or row is needed, the other part of the current cell location is ignored). Once you press **ESC**, you can move the active cell temporarily to a new location. Its address changes on your entry line, and you can use it in your command. By pressing **:** you can develop two cell addresses, such as B5:E5.

RETURN follows up a command, causing it to be executed. In some cases, a comma can also end a command because pressing the comma enters the last item of information needed in the command line. The command is complete, so SuperCalc executes it.

All commands consist of **/** and a single letter. SuperCalc's interpretive prompting fills out the rest of the word, and the prompt line lists the options available. These commands are summarized here and described in detail in the tutorial chapter.

Commands Involving Formulas

Some commands move formulas to new locations. It is usually desirable to adjust formulas for their new locations. For example, suppose cell D4 has the formula +B4*C4. If the contents of cells B4, C4, and D4 move to T7, T8, and T9, the formula in T9 should read +T7*T8. SuperCalc ordinarily makes such adjustments automatically.

Some commands optionally allow you to move formulas without adjustment, or query whether each cell reference for each formula should be adjusted. Some commands also have an option to move values only; formulas do not transfer, only their values move.

Commands Involving Formula Adjustments

DELETE, **INSERT**, and **MOVE** all cause automatic formula adjustment. They have no options. Deleting a column or row that contains a cell on which a formula, outside the range of the deletion depends, will cause an error.

COPY and **REPLICATE** allow formula adjustment. Adjustment is automatic, unless you specify otherwise by selecting one of the options. The options allow you to disable formula adjustments, or to choose whether SuperCalc should adjust individually for each outside reference.

LOAD adjusts formulas if you're loading the material into a worksheet location different from the one where it originated. In this case, you have the same options as in **COPY** and **REPLICATE**.

SuperCalc Commands

Data Commands

/BLANK—*blanks contents of a cell or range of cells*

Blanks the contents and clears the cell format of a cell, partial column, partial row, or block. Also clears the formatting of the cell if it has been formatted individually (that is, at the E(ntry) level; see **FORMAT**).

Prompt:

Enter Range

Formatting for a column or row is not affected, even if every cell in it is blanked. Only the **FORMAT** command can change the format for a column or row. Protected cells will be bypassed.

Examples:

/Blank, c7 <cr>

/Blank, c7:c12 <cr>

/Blank, c7:h7 <cr>

/Blank, c7:h7 <cr>

/EDIT—*transfers cell contents to entry line for editing*

The edit command lets you edit the contents of a specified cell, then place them back in the active cell. If the active cell is protected, you cannot edit.

Prompt:

From? Enter cell

Specify a cell in response to the prompt; , indicates the current or active cell. The cell contents come to the entry line, replacing the command on the line.

Edit with the in-line edit function. Use the arrow or diamond keys to move the cursor nondestructively left and right to characters you want to change. The character that will be

altered is the one above the cursor. You can replace characters one-for-one by simply typing new characters over them. You can delete characters, including blanks, by pressing the down arrow (or **^X**). You can insert blanks by pressing the up arrow (or **^E**). Then if you wish, you can replace the blanks by typing other characters over them.

Example:

The active cell contains Janaurry.

/E and **,** bring this example to the entry line. Use the left arrow to move the cursor to the second "a" in Janaurry and type **ua**. Move the cursor right to one of the "r"s in Januarry, then press the down arrow to delete it, and press **RETURN**. (Remember, pressing **RETURN** puts the entire entry into the cell no matter where the cursor is positioned.)

The active cell now contains January.

/FORMAT—*specifies format for a given portion of the worksheet*

The Format command affects the worksheet **G**(lobally); by specific **C**(olumn), **R**(ow), **E**(ntry) cell; or range (col/row:col/row), in one or more of the following ways:

I(nteger) notation, **G**(eneral format), **E**(xponential) notation to the tenth power, (**$**) dollar format, **R**(ight) or **L**(eft) justification, (*) asterisk fill relative to value. **D**(efault) is: the general display, numeric right-justified, text left-justified, and column width 9.

Prompts:

Enter Level: G(lobal), C(olumn), R(ow), or E(ntry)

Specify the portion of the worksheet to be affected; , will specify the current column or row. If you press **E**, you can specify a single cell or a range of cells; that is, a partial column or partial row. Using **E** to specify formatting at the cell level provides the highest priority of formatting.

The next prompt message you receive depends on the level of formatting you specified.

A level of **G** or **C** has this prompt:

Define Formats: (I.G.E.S.R.L.TR.TL. * .D. column width)

A level of **R** or **E** has the same prompt, except that "column width" is not included because it is not a valid choice.

You may select as many of the formats as you wish. Here is a list of the possible format choices:

I	displays numbers as integers. This rounds decimal fractions up or down to convert them to whole numbers.
E	(exponential) displays the number in scientific notation, as a power of 10. For example: 1776 is 1.77e3, 1,000,000 is 1.0e6; round if necessary.

G	(general) displays the number as an ordinary number if it fits in the column width; otherwise, it displays the number as an exponential number.
$	(dollar amount) rounds to the nearest cent and appends .00 to whole numbers. No dollar sign is displayed.
*	(graphic display for numbers) uses asterisks to show the relative sizes of numbers. Allows bar graph display.
R,L	(right-justify, left-justify) is for numbers.
TR,TL	(text right, text left-justify) is for text.
0–126	is the column width for the specified column or for the worksheet.
D	(default) resets to the next level of formatting. See note 2 below.

When your entries are contradictory, the SuperCalc program will act on the one entered last. For example, if you enter R,L,I,G, then L and G will take effect, and SuperCalc will ignore R and I.

NOTE

1. *Format does not apply to data entry. The contents of a cell remain as entered; format specifies how the contents are displayed.*

2. *Where formats differ, the order of precedence is first the cell (**E**), then row (**R**), column (**C**), and finally worksheet or global (**G**). Cell formatting overrides any format for the column or row where the cell is. Where row and column intersect, row formatting overrides. Any of these override the global settings.*

   *When the program starts up, these global format settings are in effect: general numeric display (**G**), numeric right justify (**R**), text left justify (**TL**), and a column width of 9.*

Examples:

/ Format, C, E, 12 <cr>

/ Format, R, TR, <cr>

/ Format, G, $, 11, <cr>

/ Format, E, E, <cr>

Worksheet Adjustment Commands

/DELETE—*erases data from a specified column or row*

When you type the command /**D** you are asked whether to delete a column or row.

Prompts:

R(ow), C(olumn) or F(ile)?

If you reply **R** , the prompt becomes:

Enter Row Number

You may then type a number from 1 to 254, or type , for the current row.

If you reply **C** , the prompt will be:

Enter Column Letter

You may enter a letter designation from A to BK, or type (,) for the current column.

This command deletes the contents and formatting of the specified row or column. The command will not execute if a protected cell is in that row or column.

The rest of the worksheet makes the following adjustments:

- Rows below the deleted row move up, and all row numbering adjusts. If row 4 is deleted, row 5 moves up and becomes the new row 4, and so on.

- Columns to the right of the deleted column move left. If column D is deleted, column E moves and becomes column D, and so on.

Examples:

/Delete, R,5, <cr>

/Delete, C,E, <cr>

All formulas on the worksheet are automatically adjusted as necessary. The adjustments preserve references to cell contents by giving their new location. For example:

Row 3 is deleted.
A prior reference was SUM(B2:B5)
That reference becomes SUM(B2:B4)
The contents that were at B5 are now at B4.

A reference to B3 would cause an error if column B or row 3 were deleted, because the contents vanish, and there can be no new reference to them. SuperCalc cannot assume that this is a special case, one where you want the old formula to refer to the new contents of cell B3. For example:

Cell A6 has the formula SUM(B3,F3,G3).
Column B is deleted.

Cell A6 will now display **ERROR** because the contents of B3 have vanished. To correct the error, you must correct the reference to B3 in cell A6.

/INSERT—*inserts an empty column or row where indicated*

The **INSERT** command inserts a column or row where needed. The inserted column or row replaces the specified column or row while the rest of the worksheet adjusts by reassignment of parameters.

Prompts:

R(ow) or C(olumn)?

If you reply **R** , the new prompt is:

Enter Row Number

You may select a number from 1 to 254, or type , for the current row.

If you reply **C** , the prompt is:

Enter Column Letter

You may enter a letter or letters from A to BK, or type a comma (,) for the current column.

This command inserts a new row or column of empty cells between existing rows or columns. A new row appears above the specified row; a new column appears to the left of the specified column.

The rest of the worksheet adjusts. Columns move right, rows move down. The contents of each column or row are preserved but have a new designation. The contents, if any, of the last row (254) or column (BK) are discarded. The command will not execute if that last row or column contains a protected cell.

Examples:

/Insert **R,5** <**cr**>

/Insert **C,D** <**cr**>

All formulas on the worksheet are automatically adjusted as necessary. The adjustments preserve references to cell contents by giving their new location. For example:

Row 3 is inserted.
A prior reference was SUM(B2:B5).
That reference becomes SUM(B2:B6).
The contents that were at B5 are now at B6.

A prior reference to B3 itself will become a reference to B4 when a new 3 is inserted.

/MOVE—*relocates a column or row of data*

The **MOVE** command transfers the contents from one column or row to another.

Prompts:

R(ow) or C(olumn)?

If your reply is **R** , the prompt is:

From? Enter row number

You may enter a number from 1 to 254, or type a comma (,) for the current row.

If you reply **C** , the prompt is:

From? Enter column letter

You may enter a column designation from A to BK.

After you have specified a row or column, SuperCalc will ask the destination of the move. The prompt is:

```
To? Enter column letter
```

Reply with a row or column designation, whichever is appropriate. Pressing , or the current-cell key (**ESC**) will designate the current row or column.

The **MOVE** command adjusts the worksheet without destroying any data or performing any formatting. It moves a specified column left or right and inserts it in a new location, or moves a specified row up or down and inserts it in a new location. The columns, or rows between, move to fill the old location. They move in the opposite direction of the basic move.

Examples:

/Move R,5,12 <cr>

/Move C,E,A <cr>

All formulas on the worksheet adjust automatically as necessary. The adjustments preserve references to cell contents by giving their new location. For example:

Row 3 is moved to row 5.
The former rows 4 and 5 move up to become new rows 3 and 4.
The former row 3 becomes row 5.

A prior reference was SUM(B2:B5) —That reference becomes SUM(B2:B4). The contents of B5 are now at B4.

Copying and Replicating Rows or Columns

/COPY—*duplicates data from source to destination*

The **COPY** command allows a one-to-one copy of a cell, partial column, partial row, or block to a new location. Options give a choice of formula adjustment or copying values only.

Prompts:

From? (Enter Range)

Specify a cell, partial column, partial row, or block.

The next prompt is:

TO? (Enter Cell), then Return; or "," for Options

Copy makes a one-to-one copy of the source into a destination of the same shape and size. Enter a single cell address to give the new location:

For a partial column, give the upper cell.
For a partial row, give the left cell.
For a block, give the upper left cell.

Press **RETURN**, or if you wish a choice of options for copying formulas, press the comma key.

If you press **RETURN**, then all the formulas are copied and automatically adjusted; that is, all references to other cells are adjusted for their new location, if possible.

If you press , to select options, SuperCalc will enter the cursor's location as a destination. Delete if not wanted. It will prompt you with:

N(o) Adjust. A(sk for Adjust). V(alues)

N—Copies formulas exactly as they are.

A—Allows you to choose for each reference to another cell address within a formula whether to copy it as is, or to have the SuperCalc program adjust it.

V—Copies the values only, without formulas.

When you choose the (A)sk option, each formula that qualifies for possible adjustment is displayed on the entry line. Its source and destination address are shown on the prompt line. SuperCalc positions the cursor at each cell reference on the entry line, and asks you to reply **Y** or **N**. Y means yes, automatically adjust. N means no adjustment, transfer as is.

Examples:

/Copy, **b9, c12** <**cr**>

copy cell to cell.

/Copy, **b9:b15, e9** <**cr**>

copy partial column to partial column.

/Copy, **b9:g9, h12** <**cr**>

copy partial row to partial row.

/Copy, **b9:g15, k20** <**cr**>

copy block to block.

/Copy, **b9, c12,N** <cr>

copy without adjustment.

/Copy, **b9, b15, e9, A** <cr>

copy, ask for individual choice of adjustment.

/REPLICATE—*transfers source until specified range is filled*

The **REPLICATE** command makes a one-to-many copy of a cell to a group of cells, a partial column to a group of partial columns, or a partial row to a group of partial rows. Options give a choice of formula adjustment or replicating values only.

Prompts:

From (Enter Range)

Specify a cell, partial column, or partial row, followed by a comma.

The next prompt is:

To? (Enter Range), then Return;

or "," for Options.

Replicate makes a one-to-many copy of its source into a new destination that is larger than the source:

A cell into a partial column or partial row.

A partial column into a group of partial columns. The destination address is given as the left and right cell addresses on the top

row of the destination group. The partial column will be copied once for each cell in that portion of the row.

A partial row into a group of partial rows. The destination address is given as the upper and lower cell addresses for the left column of the destination group. The partial row will be copied once for each cell in that portion of the row.

Specify the destination and press **RETURN**; then if you wish a choice of options for copying formulas, press **,**.

The options are the same as those for **COPY**. If you press **RETURN**, formulas are adjusted automatically. The options are: no adjustment (**N**), whether to adjust for values only (**A**), or leave formulas behind (**V**). (See **/COPY** above for details.)

Examples:

/Replicate, **b12,e3:e8** <**cr**>

replicates a cell into a partial column.

/Replicate, **b12,e3:j3** <**cr**>

replicates a cell into a partial row.

/Replicate, **b3:b7,d3:j3** <**cr**>

replicates a partial column into a group of partial columns. In this example, the partial column is five cells deep. The result will be a block of cells repeating that partial column seven times. The top of that block is on row 3.

/Replicate, **b3:e3, g5:g7 <cr>**

replicates a partial row into a group of partial rows. The partial row here is four cells across. The result will be a block of cells repeating the partial row three times. The left side of that block is column G.

/Replicate, **b12, e3:e8,N <cr>**

replicates without adjustment.

/Replicate, **b12, e3:j3, A <cr>**

replicates and asks for individual choice of adjustment.

NOTE

*As a special case, /**REPLICATE** can make a one-for-one copy just as /**COPY** does. /**COPY** cannot make multiple copies. /**COPY** can, however, do something that /**REPLICATE** cannot do; it can copy a block.*

Data Protection Commands

/PROTECT—*provides protection against alteration of data*

The /**PROTECT** command shields the contents and formatting of specified cells from alteration. You can't enter or edit data in protected cells.

Prompt:

Enter Range

/BLANK, **/FORMAT**, **/COPY**, **/REPLICATE**, and **/LOAD** all bypass protected cells—that is, the commands operate on surrounding cells but leave the protected cells unchanged. **/DELETE** will not work if a protected cell is in the specified row or column.

There is one exception: the **/ZAP** command overrides protection.

Examples:

/Protect,**c3** <**cr**>

/Protect,**c3:c9** <**cr**>

/Protect,**c3:g3** <**cr**>

/Protect,**c3:g9** <**cr**>

/UNPROTECT—*allows exposure of previously protected cells*

This command removes protection from a cell, partial row or block.

Prompt:

Enter Range

Allows you to change cell contents or format. There is no error if you try to remove protection from something that is not protected.

Examples:

/Unprotect,c3 <cr>

/Unprotect,c3: <cr>

/Unprotect,c3:g3 <cr>

/Unprotect,c3:g9 <cr>

LOAD, SAVE and EXECUTE Commands

/LOAD—*loads and displays part or all of a disk file*

The **/LOAD** command reads a SuperCalc data file from a diskette and loads it into memory; the worksheet displays the contents of the file. You may load all or part of a worksheet at a location you specify. Options give a choice of formula adjustment or loading values only.

Prompts:

Enter File Name (or RETURN for directory)

Enter the name of the desired file with the drive designation, unless you want the file loaded from the SuperCalc diskette. The file name must have the .CAL-type "CAL". This extension is assumed, and you do not have to enter it. Do not leave blank spaces in the file name. For example:

SALESFEB <cr>

would load the file from the SuperCalc program diskette into drive A.

B:SALESFEB <cr>

would load the file from the B disk drive.

You receive a choice of loading the entire file or a specific portion of the file. The following prompt displays:

A(ll) or P(art)?

If you reply **A**, the entire worksheet is loaded into the original location.

If you reply **P**, then further questions appear on the prompt line:

From? (Enter Range)

Specify the position of the saved worksheet that you wish to load.

To? (Enter Range) then RETURN or "," for options.

Enter the cell address at the upper left of your destination, which may be a new location for that portion of your worksheet. Press **RETURN** if you wish automatic adjustment of formulas for the new location; otherwise, press , for options. The options are: **N**(o Adjustment), **A**(sk for Adjust), or **V**(alues) only. (See /**COPY** for an explanation of these options.)

NOTE

If there are protected cells in the destination area, they will remain unchanged.

Examples:

/Load, **QUARTER3** <cr>

/Load, **B;QUARTER3** <cr>

/SAVE—*stores data from the current worksheet to disk*

The /**SAVE** command stores the worksheet contents and all settings on a disk file. Options give a choice of saving all contents or values only.

Prompts:

Enter File Name (or < RETURN > for directory)

Enter the name you have chosen for saving your worksheet. Also enter the drive designation if you do not want to write it to the disk in the default drive (A). The SuperCalc program will automatically give the file the .CAL file-type extension. You do not need to enter it as part of the file name. The next prompt is:

A(ll), V(alues) or P(art)

A specifies that all cell contents will be saved; **V** specifies that values will be saved without formulas. For either case, all of these are saved:

format settings, global options, title locking, window splitting, and active-cell location. **P** allows you to save only part of of your current worksheet. When saving part of the worksheet, you can decide whether to save the entire portion **A**; or just the values **V**.

NOTE

If you specify the name of an existing file, the program will display the following prompt:

```
File already exists:
C(hange name),B(ackup) or O(verwrite)?
```

Examples:

/Save, **WORK5** <**cr**>

/Save, **B:WORK5** <**cr**>

/XECUTE—*executes a group of commands from a disk file*

The /**Xecute** command causes the commands in a named file to be executed one after another. The /Xecute command allows you to execute a WordStar text file or SuperCalc file of command strings. When you enter /X the prompt line changes to:

Prompt:

```
Enter File Name (or  < RETURN >  for directory)
```

If you press **RETURN**, you will be given the option to display the directory (explained in the /Delete command). If you enter a file name, the SuperCalc program reads each of the commands in the specified file a character at a time. If the file is not in the proper format or a command is in error, an error message is displayed on the status line and the Xecute command is abandoned. You can terminate the command at any time with **^Z.**

NOTE

The default extension for command files is .XQT. If your file has no extension, you must still place a period after the file name.

Example:

/X TEST1 <cr>

The WordStar or SuperCalc file named TEST1 would look like this:

/ZY
/FCA,20
/LB:BALANCE,A
/GF/GM/FGD,$

Worksheet Display Commands

/TITLE—*provides method for fixing titles*

Title allows you to lock columns, rows, or both into their place on the display window. Locked information will not scroll; however, other information on the screen can scroll. Title lock uses the current row and column as the coordinates to be affected.

Prompt:

H(oriz), V(ert), B(oth), or C(lear)?

H locks the current row and all rows above it.

V locks the current column and all columns to the left of it.

B locks both the current row and column and all rows above and columns to the left.

C removes the title lock.

A replaces a prior title lock with a new one.

/WINDOW—*splits the screen into two worksheets*

The /**WINDOW** command splits the display window into two parts. Each portion can have separate format settings and options. The screen is split at the current row or column.

Prompt:

H(oriz), V(ert), C(lear Split), S(ynch), or U(nsynch)

H The screen splits horizontally; the current row moves down and a second border replaces it. The active cell moves up one cell in its column.

V The screen splits vertically; the current column moves right and a second border replaces it. The active cell moves left one cell in its row.

NOTE

In both these cases, there is an alternate active cell in the original location. You can switch between the two active cells by pressing ; as they move independently.

C Clears the split screen. The portion that was above or to the left is the primary screen; it is now displayed in full.

S Synchronizes scrolling in the two portions.

U Unsynchronizes scrolling; the two portions will scroll independently.

Within the two portions of the screen, you can set formatting and global options independently. It is possible to show the same data with different formatting and options—for example, to show the same column as values and as formulas.

When the split is cleared, the options and formats for the primary screen remain. The primary screen is the portion above or to the left.

Data Display and Printing Commands

/OUTPUT—*sends worksheet contents to the printer or disk file*

This command writes part or all of the worksheet to the printer, the terminal, or a disk text file. You can write out a partial column, partial row, or block. If you write the report to a disk file, you can use WordStar to add further information or modify formats before printing, or to include the SuperCalc report within other text.

Prompts:

D(isplay) or C(ontents) report?

The worksheet information can be written out in the way it is displayed, or as the actual cell-by-cell contents. If you choose **D**, for display, the entire worksheet is output. If you choose **C**, for contents, the following prompt appears:

Enter range

After you specify the portion of the worksheet to output, a prompt asks whether you want the data output to the printer, console, or disk. You may also change the default printer settings:

P(rinter), S(etup), C(onsole), D(isk),

Type **P** to send the data to the printer, **C** to display it on the screen, or **D** to send it to a disk

file. Type **^Z** to stop the output. If you type **S**, for setup, the following options are provided:

Select printer control:

L = Change page length (now # lines)
(Length = 0 for continuous form)
W = Change page width (now # chars)
S = Manual setup codes
P = Print report

CNTRL-Z to cancel /O command

You may change one or more of the above parameters, then type **P** to output the report, or **^Z** to cancel the entire process.

GLOBAL Options, QUIT, ZAP

/GLOBAL— *manipulates screen formatting and calculations*

The **/GLOBAL** command lets you view formulas on which values are based, change the appearance of the screen display, and specify the order and sequence of calculations.

Prompt:

F(orm),N(ext),B(order),T(ab),R(ow),
C(ol),M(an),A(uto)

If you respond to the prompt by pressing **F**, the display window will show the formulas contained in the cells instead of the values that result from the formula calculations. If formulas are currently being displayed, pressing **F** will display the values.

If you respond to the prompt by pressing **N**, the cursor will "auto-advance in the "current direction" after the data is entered into a cell. If auto-advance of the cursor is already in effect, then pressing **N** causes no auto-advance of the cursor after the data is entered into a cell.

Pressing **B** will suppress the display of the worksheet border. If you already suppressed the border display, then pressing **B** will restore the border display. ("Border" refers to the column and row designations across the top and down the left side of your display window.)

Pressing **T** activates the Tab mode, or deactivates it if SuperCalc is already in the Tab mode. In the Tab mode, advancing between cells skips all empty or protected cells. Therefore, you can never select a protected or an empty cell as the active cell in this mode.

Options **R**, **C**, **M**, and **A** concern recalculation.

R means recalculate by rows, from the top down. (Rows are recalculated left to right.)

C means recalculate by columns, from the left across. (Columns are recalculated from top down.)

A means recalculation is automatic (default).

M means recalculation occurs at your request, whenever you press the ! key.

/QUIT—*exits from SuperCalc and returns to CP/M*

The **/QUIT** command leaves SuperCalc and relinquishes control to the CP/M Plus operating system. You get a chance to save your work on diskette before the transition occurs.

Prompt:

EXIT SuperCalc? Y(es) or N(o)

If you reply **Y**, you return to CP/M as indicated by the A> prompt. If you reply **N**, you return to SuperCalc. Any other reply is ignored.

If you have work you could lose when you quit, SuperCalc gives you a chance to save the work before exiting.

Example:

/Quit <**cr**>

/ZAP—*clears the entire worksheet of data*

The **/ZAP** command clears the contents and formatting from the entire worksheet.

Prompt:

Y(es) to clear everything, else N(o)

All cells become empty. All format settings and modes of operation revert to their standard settings. Everything starts fresh, as if you had just started up the SuperCalc program.

ZAP is the only command that can override protection of cells.

NOTE

Remember, when you ZAP the worksheet, nothing remains.

Examples:

/ZAP, Y

/ZAP, N

SuperCalc Built-In Functions

ABS (value): Provides the absolute value.

AVERAGE (list): Provides the arithmetic mean of the nonblank values in the list.

COUNT (list): Returns the number of nonblank entries in the list.

ERROR, NA: Displays ERROR or NA (not available) for the cell having this function and for any cell with a formula referring to this cell.

EXP (value): Raises "e" exponentially. The value is the exponent.

OR (expression 1, expression 2): Results in "true" (value of 1) if either expression 1 or expression 2 is "true" (nonzero); otherwise, results in "false" (value of 0).

AND (expression 1, expression 2): Results in "true" (value of 1) if both expression 1 and expression 2 are "true" (nonzero); otherwise, results in "false" (value of 0).

NOT (expression): Results in "true" (value of 1) if expression is "false" (zero); otherwise, results in "false" (value of 0).

IF (exp1,exp2, exp3): If expression 1 is true, then use expression 2; otherwise, use expression 3. Expression may be combined with AND or OR NOT to form expression 1.

INT (value): Returns integer portion of value. The value is not rounded. Do not confuse this function with **/FORMAT,I** which will round off numerical entries.

LOOKUP (value, column/row range): Searches the range for the last value less than or equal to the search value given. Returns the adjacent value from the column to the right of the search column or the row below the search row. Assumes the search range is in ascending order of values.

L*n* (value), LOG 10 (value): Provides the natural log, log base 10, of the value.

MAX (list), MIN (list): Provides the maximum or minimum value in the list.

NPV (discount, column/row range): Nets the present value of a group of cash returns at the given rate of discount. The cash amounts are assumed to be projected for equal time periods, such as every year; and the discount rate is for that interval. The first cash entry is discounted once, the second twice, and so forth, and added to form the total value.

PI: Returns Pi to 16 significant digits.

SIN (value), ASIN (value), COS (value), ACOS (value), TAN (value), ATAN (value): Trigonometric calculation of the value. ASIN is arcsine, etc. Trigonometric results are give in radians.

SQRT (value): Returns the square root of the value.

SUM (list): Returns the sum of the values in the list. Here is a quick explanation of what "value," "range," and "list" mean in this context: Value is a constant, the value of a cell, or a combination of these values made by using the arithmetic operators.

Formulas and Functions

Formulas specify calculations and comparisons. Formulas use values in other cells (which may be themselves the result of formulas), constants, and built-in functions. These values are combined using arithmetic and relational operators:

+	addition
-	subtraction
*	multiplication
/	division
^	raising to a power
=	is equal to
<>	is not equal to
<	is less than
<=	is less than or equal to
>	is greater than
>=	is greater than or equal to

Examples:

Constants: **12,5.9,3.4e3**

Cell values: **A12, B19, BK54**

Combinations: **12+5.9,B19-3,7,A12*B14,(9+E5)/4**

The combinations are also called "expressions." They are evaluated from left to right; * and / are evaluated before + and -. Use parentheses to group terms in your expressions so that SuperCalc will evaluate them as you wish. Some examples follow:

5+4*3+1=18 (that is, 5+12+1)

(5+4)*3+1=28 (that is,9*3+1)

5+4*(3+1)=21 (that is, 5+4*4)

(5+4)*(3+1)=36 (that is, 9*4)

Here are some examples of functions with values:

BS(A12),SQRT(9.5*E7),LN(3.5e4),TAN(C5+E5)

Range is simply a partial column or partial row, such as B4:B12 or B4:H4. Here are some examples of functions that use both a value and a range:

LOOKUP(7,C5:J5)

LOOKUP(A4,D3:d12),

NPV(.18,D12:H12)

NPV(B4,G3:G8)

A list can have values, expressions, and ranges. Here are some examples:

SUM(A12,B9,D5)

SUM(C12:E12,H3:H7)

SUM(MAX(C12:E12)

COUNT(E3:E12,F8:J8)

AVERAGE(B7,B8:h8,C12:C20)

Sample worksheets provided on your SuperCalc disk give examples of these formulas in actual use. This material will help you understand how you can put the formulas to work; it is especially useful for **IF**, **LOOKUP**, and **NPV**.

Practical Suggestions

1. Keep your work in the upper left of the worksheet grid.
2. Keep your work in a rectangular shape. Try to avoid having long columns or rows projecting outside the basic shape.
3. Do not blank cells, protect cells, or format cells in the area below or to the right of the area that you actually need. Especially, do not put data below or to the right of the area you actually need.
4. When you have extra or interim work on the screen that you can get rid of, use the following procedure to free that space completely:

   a. /**DELETE** or /**BLANK** the material you do not need.
   b. Move the rest of the work to the upper left of the grid, and adjust it as you wish it to display.
   c. /**SAVE** your work.
   d. /**ZAP** the screen.
   e. Reload. You are now using the minimum space required for your worksheet.

Worksheet Display

A command, text, or formula too long for the entry-line information on the entry line will scroll left when it reaches the end of the line. You can enter a command, text, or formula that is too long to display in its entirety. You can then use the in-line editor to examine any part of the entry by moving the cursor to the left or right. The information will scroll to show the hidden part of the line. When you want to enter the line, press **RETURN**. SuperCalc will take the entire entry, not just the portion to the left of the cursor.

Column Width Greater Than Screen Width

You may sometimes want to make the width of a column greater than the width of the screen. In such cases, you can scroll to see all of the display. If you have a printer with a wide carriage, you can use the output command to print the full width of the information. This feature can be useful for long text notes, explanations, or graphic display of numeric values.

To See the Same Information in Different Formats

The window command lets you look at the same information simultaneously in different formats. Split the single display window into two smaller windows. After you have split the screen, you can move one window so that it shows the same information as the other. Each part of the screen can have its own format settings for entries, rows, columns, or the entire worksheet. Each can have its own GLOBAL options settings. By using this technique, you could display both values and formulas for the same cell contents.

When you set formats or GLOBAL options for a split screen, remember that the portion above or to the left of your screen is "dominant." That is, when you cancel the split, the settings that were in effect for the upper or left window will remain in effect for the entire single display window.

Building Worksheets

Combining worksheet portions to build entirely new worksheets is possible. The **/SAVE** command saves the entire worksheet, but the **/LOAD** command can load all or part of a worksheet. It can place the part loaded at any worksheet location. This means that you can construct the nucleus of a new worksheet from parts of one or more existing worksheets.

When you have a fully developed worksheet with data, you can save it both with and without data. For example, you have developed a monthly report, which you save. Then you blank all the variable contents of the report, which you save. Then you blank all the variable contents of the report and save only the information that will not change, such as: titles, formatting, the general layout of the sheet formulas, and any constant values. Next month you can load this file, fill in the new information, and save it as your current monthly report.

Using PROTECT to Build New Worksheets from Old

The **/BLANK**, **/COPY**, **/LOAD**, and **/REPLICATE** commands all bypass protected cells, leaving their contents unchanged while changing surrounding cells. You can use this capability to combine information in detail, protecting key information and then surrounding it with new information by using LOAD, COPY, or REPLICATE.

Summing a Partial Column or Partial Row

When developing a worksheet, you may often insert new columns or rows within a range covered by a SUM formula. This can be awkward. Inserting or deleting at the top or bottom of an existing column or at the left or right of an existing row can mean redoing your formula. For example, you wish to insert a new row 12 and have to change the formula SUM(C2:C12) to SUM(C2:C13).

Here is a way to avoid this difficulty. Include a header or title at the top or left and an extra cell at the bottom or right within your sum. For a column, the extra cell could have "--------- as a total line. For example:

```
                    C
 1: January Receipts
 2:                          35
 3:                         405
 .:
 .:
 .:
 9:                          38
10: ____________________________
11: SUM(C1:C10)
```

Text C1 and C10 have a zero value. Including them in the sum makes no difference. You can insert or delete rows from 2 through 9 and have the SUM formula automatically adjust to the new situation.

Security

Security includes protecting your work from accidental loss or change and protecting confidential information in your worksheet.

Protecting Your Worksheets

The CP/M Plus operating system allows you to specify files or entire disks as "read only." Designating your worksheet files this way means others can examine them or print reports from them, but cannot change or erase them.

The SuperCalc option to save values only offers another protection. Your full worksheet may have important proprietary information within its formulas or lookup tables.

After you have saved a full copy for yourself, you can save a Values-Only worksheet for others to use. In that worksheet, you may wish to remove lookup tables.

Similarly, you can use the output command to put a Values-Only copy of selected portions of your worksheet on a disk file for others to use. They can print that file or use the system text editor to include it in their own text file.

Save Your Work Often

It is important to save your work frequently while you are entering data or building worksheets. This practice insures you against losing the time and effort you have invested. It protects you against problems that are completely out of your control —such as power failures or hardware problems with your disk drive.

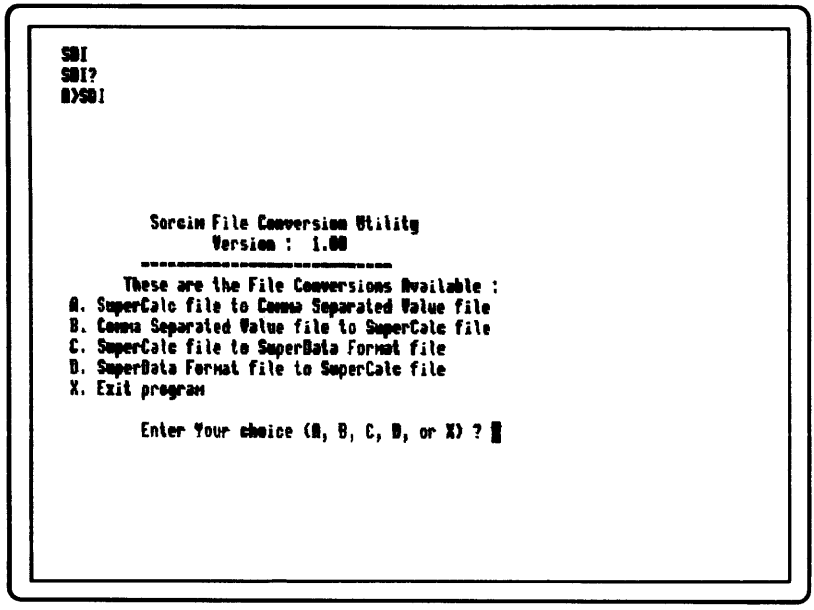
The Update option of the **/SAVE** command gives you a convenient way to do this. Every time you save your work, use the same name—for example, TRIALBAL. The first time you save your work, it is stored on the disk as TRIALBAL.CAL. The second time you save it, SuperCalc will tell you that there is a file of that name and ask you what you want to do. If you choose the Update option, your new worksheet will be saved as TRIALBAL.CAL and the earlier one will become TRIALBAL.BAK, your backup file. Whenever you use the Update option after that, SuperCalc will give you the two most recent files as filename.CAL and filename.BAK; it will erase any earlier files.

Having the backup file can be convenient; you may want to go back to that file in case a change does not work out in actual operation. You can use CP/M operations to change your file names so that filename.BAK becomes filename.CAL. Or you can directly load the file by giving its full name including the .BAK extension.

SDI—SuperData Interchange Program

SuperData Interchange (SDI) is a program that converts data files into a format which can be used by different programs. SDI will convert a SuperCalc file to either a "Comma Separated Value" (CSV) or a "SuperData Format" (SDF) file. SDI will also convert files in either of these two formats into a SuperCalc-format file.

SDI displays a menu (see following page) that allows you to select which kind of conversion you want.



You are then asked for the name of the file to be converted and the name of the file where the converted data will be stored. When you enter a file without a drive specification, the active drive is assumed. A file type of .CAL is automatically supplied for SuperCalc files, .CSV for Comma-Separated-Value files, and .SDF for SuperData Format files. The original file contents are not altered. If you select a conversion and the destination file name already exists, SDI will inform you of this and ask for your instructions:

```
FILE ALREADY EXISTS!
OKAY TO OVERWRITE THE FILE (Y/N)?
```

Any response other than Y or N will be ignored. An N response will cause the system to abandon the conversion process and redisplay the menu. A response of Y will cause the system to delete the existing file and create the new file.

It is important to note that the formulas SuperCalc can contain are not sent to the converted Comma-Separated-Value (.CSV) file. Only the values that show on the screen at the time of the conversion are sent to the file. This means that if you convert a SuperCalc-format file containing formulas to the .CSV format, and then immediately convert the .CSV file back to a SuperCalc-format file, some important information will have been lost.

Also note that if you immediately convert a SuperData-Format file that contained formulas to a SuperCalc file and then to a Comma-Separated-Value file as follows:

```
SuperCalc file (CAL)  →  SuperData Format (SDF)  →
SuperCalc file (CAL)  →  Comma Separated Value (CSV).
```

the Comma-Separated-Value file will not contain any data that was in a cell with a formula. This is because the SuperData format carries the formula and not the value associated with it. To prevent this, simply load the SuperCalc file into the SuperCalc program and resave this file to disk before doing the conversion from SuperCalc format to CSV format.

Normally, you don't want the formulas transmitted to a .CSV file. Programs that create .CSV-type files cannot use formulas as data and do not create files with formulas either.

Creating an SDF or CSV File

The SDF file itself may be created in many ways. One such way is to have a program that reads and writes the SDF (or DIF) or the CSV-format file. The information may also be generated with a BASIC program.

Another way to generate the information is with WordStar. The file created must not contain any special control characters or "high-bit" set characters. This means that the "non-document" (N) mode must be used in WordStar.

It is also possible to generate the information on a mainframe computer and download the information to your system. This data can either be written on the mainframe in the format needed, or manipulated into the proper format by an editor or BASIC program after downloading.

Comma-Separated-Value Format File Structure

The Comma-Separated-Value (CSV) format is the simplest way to present data to the SDI conversion program. This format will carry only data and no formulas or formatting characteristics. This makes the structure of the file much simpler than that of an SDF file.

CSV FILE LAYOUT

The layout of a CSV file is basically what its name states: values separated by commas. The file consists of rows of data with each row terminated by a carriage return and a line-feed character. The data items on each row are separated by commas, with the string data enclosed in quotation marks.

The file contains no other control characters except the end-of-file character, control Z (which is represented as 1A in hex or 26 in decimal).

The file should have the same number of values on each line; however, this is not a requirement. If the number of values is not the same on each line, the layout of the data when converted to a SuperCalc worksheet will be less predictable and not look as pleasing. With the same number of values on each row, the layout of the SuperCalc worksheet will be a rectangular (or square) block of data.

The numeric values must be in SuperCalc-readable form. SuperCalc will accept integers, real numbers, and exponential numbers, as shown below:

123 123.345 −123 −123.345
12E4 123E-12 −12E5

The string values are a string of characters enclosed in double quotation marks (" "). The string may contain blanks, commas, and special characters like /, *, etc., as shown below:

"This is a string." "This too!"
"123,234.45 is a string also"

The following is an example of a CSV file containing numbers and strings:

123,"John Smith","ground beef",12.45<CR>
124,"Betty Jones","top sirloin",34.54<CR>
125,"Jane Johnson","chicken",4.67<CR>

The following is an example of a CSV file containing only numbers:

123.45,456.77,4322.56,837.233,9198.0,344.94<CR>
323.45,8989.84,3939.93,39.8,3494.343,343.99<CR>

SuperData-Format File Structure

The SuperData-Format (SDF) file structure is simple in concept, but more complex in implementation. The file may contain information about the general appearance of the spreadsheet, as well as the data in the spreadsheet.

The SDF file structure is a superset of the DIF structure used with Visi-series software products. SDF incorporates the major components of a DIF file, but has added other DATA and HEADER items to enable a file to carry more information. The

original DIF specification contained only numeric and string data. In addition, the SDF structure also contains information on the formulas and formatting characteristics of the SuperCalc worksheet.

In the SDF file layout, the information on appearance is contained in the HEADER section, which describes the number of rows and columns, GLOBAL formatting, column width, etc. Once the general appearance of the spreadsheet is established, the contents of each cell is described, including special formatting instructions. This information is contained in the DATA section.

THE HEADER SECTION

The HEADER section is comprised of required and optional fields. The required fields are "TABLE" and "DATA." The DATA field must be the last field of the HEADER section. The following optional fields are also allowed between the TABLE and DATA fields: "COL-FORMAT," "ROW-FORMAT," and "GDISP-FORMAT."

Header Items

TABLE is always the first field of an SDF file. The only variable information is the contents of the TITLE.

Format	**Sample Entry**	
TABLE	TABLE	
0,version #	0,1	
"TITLE"	"BUDGET"	The title "BUDGET" is the name of the file itself.

ROW-FORMAT — The row number must be in the range 1–254 rows. As many ROW-FORMAT fields as necessary may be included in the header.

Format	Sample Entry	
ROW-FORMAT	ROW-FORMAT	
Row #,0	14,0	(row 14)
FORMAT STRING	TL$	(text left, $ formatting)

GDISP-FORMAT alters the GLOBAL format settings of the SuperCalc worksheet.

Format	Sample Entry	
GDISP-FORMAT	GDISP-FORMAT	
WIDTH,0	9,0	
STRING-FORMAT	$TL	(GLOBAL column width of 9, text left, $ format)

COL-FORMAT — The column number must be in the range 1–63 columns. This specifies the formatting of a particular column (for example, exceptions to the GLOBAL settings). As many COL-FORMAT fields as necessary may be included in the header.

Format	Sample Entry	
COL-FORMAT	COL-FORMAT	
Column #, Width	3,12	
STRING-FORMAT	1	(column 13 is 12 characters wide and integer format)

DATA must be the last field in the header and signifies the end of the HEADER section and the beginning of the DATA section.

Format	**Sample Entry**
DATA	DATA
0,0	0,0
STRING	" "

Now, putting this all together, we can show some valid SDF headers. The example below contains the minimum amount of data allowed in a header:

```
TABLE
0,1
"SAMPLE SDF FILE"
DATA
0,0
" "
```

The following example contains some optional fields:

```
TABLE
0,1
" "              (spreadsheet title not needed)
COL-FORMAT
1,40
" "              (no special formatting other than width)
COL-FORMAT
2,15
$                (dollar format)
GDISP-FORMAT
9,0
GTL              (general format with text left)
DATA
0,0
" "
```

THE DATA SECTION

The format of DATA items differs from that of HEADER items. SDF organizes data by rows. Within the rows, values are arranged according to the order of the columns.

Each data entry consists of three fields on two lines. For example:

Line 1	**Field 1, Field 2**
Line 2	**Field 3**

The first line contains two numeric values:

Field 1	**A type indicator**
Field 2	**A numeric value**

The second line contains a string variable:

Field 3	**A string value**

This could also be shown like this:

type indicator, numeric value
string value

The type indicator **must** be an integer from 0 to 1 or −1 to −5. The meaning of each indicator is as follows:

Type	Description
0	**The value of the cell is a data value.** A 0 means the data is numeric and is stored in the field immediately following the type indicator. The string value will be a "V," indicating that this is a value. The string value may also have other values with different meanings such as "ERROR," perhaps due to an

invalid calculation. In this case, the numeric data field is set to 0. See the subsections on "String Values" and "Type Indicator Examples" for further explanation on the other meanings of the string value.

```
0,123.45
V
```

1 **The data item is a string.** For string data, the numeric field is ignored and the string value is stored on the second line of the data item.

```
1,0
STRING
```

−1 **A special data value.** The numeric value field is 0, and the string value field may have one of two special values: BOT or EOD. BOT means "Beginning Of Data" and EOD means "End Of Data."

```
−1,0
BOT
```

```
−1,0
EOD
```

−2 **The data item is an origin specifier.** This item can optionally give the cell address of the data following it.

```
−2,0
1:4
```

−3 **Entry-level display formatting.** This is used to set the formatting of a cell at the entry level (equivalent to /Format, Entry). This will set the format for the cell that contains the **preceding** data item.

```
−3,0
$
```

−4 **The data is a formula.** The formula is specified by the formula string. The numeric value of the formula is calculated when the formula is loaded into the SuperCalc program.

```
−4,0
A1+B1*4
```

−5 **The data is a repeat count.** This repeat count is the number of times that the previous data item is repeated after the first occurrence. The string value is usually "R" for repeat count.

```
−5,4
R
```

Numeric Values

The numeric value may be signed (+ or −) and may contain a decimal point. One or more blanks may precede or follow the numeric value. If the data value contains an exponent of a power of 10, the value is followed by the letter "E" and the signed or unsigned exponent.

The numeric value is the only place that the SDF-format file allows a non-integer value. When the data value is numeric, the string value field contains one of the values described below (usually "V").

String Values

When the type indicator is 1, the data is a string. The string value may also be used for other type-indicator values such as a formula for a type indicator of −4, an error condition for a type indicator of 0, etc. This string contains no control characters and need not contain any quotation marks.

If the string contains blanks or commas, it **must** be enclosed in quotation marks. If the string is null, the string value field contains quotation marks (" ").

When data is numeric (a type indicator of 0), the string value has one of the following uppercase notations not containing quotation marks:

V	The data is a numeric value.
NA	The data is not available. Indicates that the value requested in not available. The numeric value is 0.
ERROR	The data is the result of an invalid calculation (such as dividing by 0). The numeric value is 0.

Special Data Values

If the type indicator field is −1, the data is one of two special data types, BOT or EOD. BOT flags the beginning of a row (equivalent of the carriage return in a CSV file). EOD flags the end of the last row (the end of the file). **No** data is interpreted past the EOD marker.

Type Indicator Examples

NUMERIC DATA

0 specifies numeric-type data. Values can include signs (+ or −), numbers, and a decimal point. The type of data is defined by the value indicator.

When the value indicator is:

V The numeric data has a decimal value.

NA The value for the cell is not available.

NULL The value of the cell is null or unoccupied.

ERROR The value is in error, perhaps due to an invalid calculation such as dividing by 0.

Format:

0,numeric value
value indicator

Example:

0,123.45	**0,0**
V	**ERROR**

STRING DATA

1 indicates that the data item is a string. The string-type value specifies the type of string present. If the string-type value is:

0 The string is ordinary text.

1 The string is repeating text (unique to SuperCalc).

The string value may be **optionally** enclosed in double quotation marks (" ").

Format:

1,string value indicator
string value

Example:

1,0	**1,1**
"This is text"	**=**

SPECIAL DATA

−1 indicates a special data value. The number value is 0. The two specifier strings recognized are BOT and EOD. BOT marks the beginning of a row, and EOD marks the end of the data section and should be the last item in the file.

Format:

−1,0
specifier string

Example:

−1,0	**−1,0**
BOT	**EOD**

ORIGIN SPECIFIER

−2 indicates that the file's flow of data is to be altered. The next data item should start being entered at the SuperCalc cell specified in this data item. The numeric value is 0. The string value contains the cell specification. The specification is two numbers separated by a colon (:).

The first number is the column location (1–63). Although in SuperCalc the columns are specified by an alphabetic notation, they must be converted to their numeric equivalents here. The second number is the row number (1–254) as used in SuperCalc.

Format:

−2,0
origin specifier

Examples:

−2,0	**−2,0**
3:20	**28:10**

Column	**Value**
A	**1**
Z	**26**
AB	**28**

DISPLAY FORMAT

−3 indicates that the string value is to be a formatting specification for the **previous** cell. The numeric value is 0. The formatting information is the same as for the GLOBAL Display item in the HEADER section (I, $, TL, etc.). If there is no previous data item, an error occurs.

Format:

format string

Example:

−3,0	**−3,0**
$TL	**ITR**

FORMULA

−4 indicates that the data item is a formula. The formula must be a standard SuperCalc formula. The numeric value is 0 and is ignored. The new numeric value of the cell is calculated when the file is loaded into the SuperCalc program.

Format:

−4,0
formula

Example:

−4,0	**−4,0**
A1+N4	**IF(A1 = 0, B1, C2/100)**

REPEAT COUNT

−5 indicates a repeat count. The **previous** data item is to be repeated into the next sequential cells for the number of times specified by the numeric value. If there is no previous data item, an error occurs.

Format:

+5,repcount
R

Example:

−5,4	**−5,20**
R	**R**

This is useful especially for padding a section of a worksheet with either null data or zeros. An example of filling a line of the worksheet with 10 zeros is as follows:

−1,0
BOT
0,0
V
−5,10
R

Standard or Default Settings

SuperCalc uses standard settings for display and formatting and standard modes of reference. These are also called default settings or modes. You can change these settings by choosing among the available options described earlier. For convenience, here is a list of the standard settings and standard modes.

You can change the following default settings by using the **/FORMAT** command:

Column Width: 9

Numeric Display:
Right-justified.

Standard numeric format. (Cells that contain formulas will have their values displayed; if the number is too large to fit into the column, the number will be displayed in scientific notation.)

Text Display:
Left-justified.

You can change the following default settings by using the **/GLOBAL** command:

Border Display: Row numbers (1–254) and column designations (A–BK) are always displayed. (When the screen is split, the row numbers and column designations are displayed for both windows.)

Calculation: Automatic calculation takes place upon reception of new or altered data followed by **RETURN**.

Order of Calculation: Calculation is performed by rows, from left to right and top to bottom.

Numeric Display: Standard numeric display. (Cells that contain formulas will have their values displayed.)

Tab Mode: The tab mode is inactive: The cursor advances to the next cell in the current cursor direction.

Automatic Cursor Advancing: Auto-advance mode is active. The cursor will advance to the next cell in the current cursor direction after data entry followed by **RETURN**.

Additional Standard Operations: When you execute a /COPY or /REPLICATE command, formulas with references to other cells automatically adjust to their new locations unless you choose an option provided for these commands.