

Super Data Interchange

Data File Conversion Program

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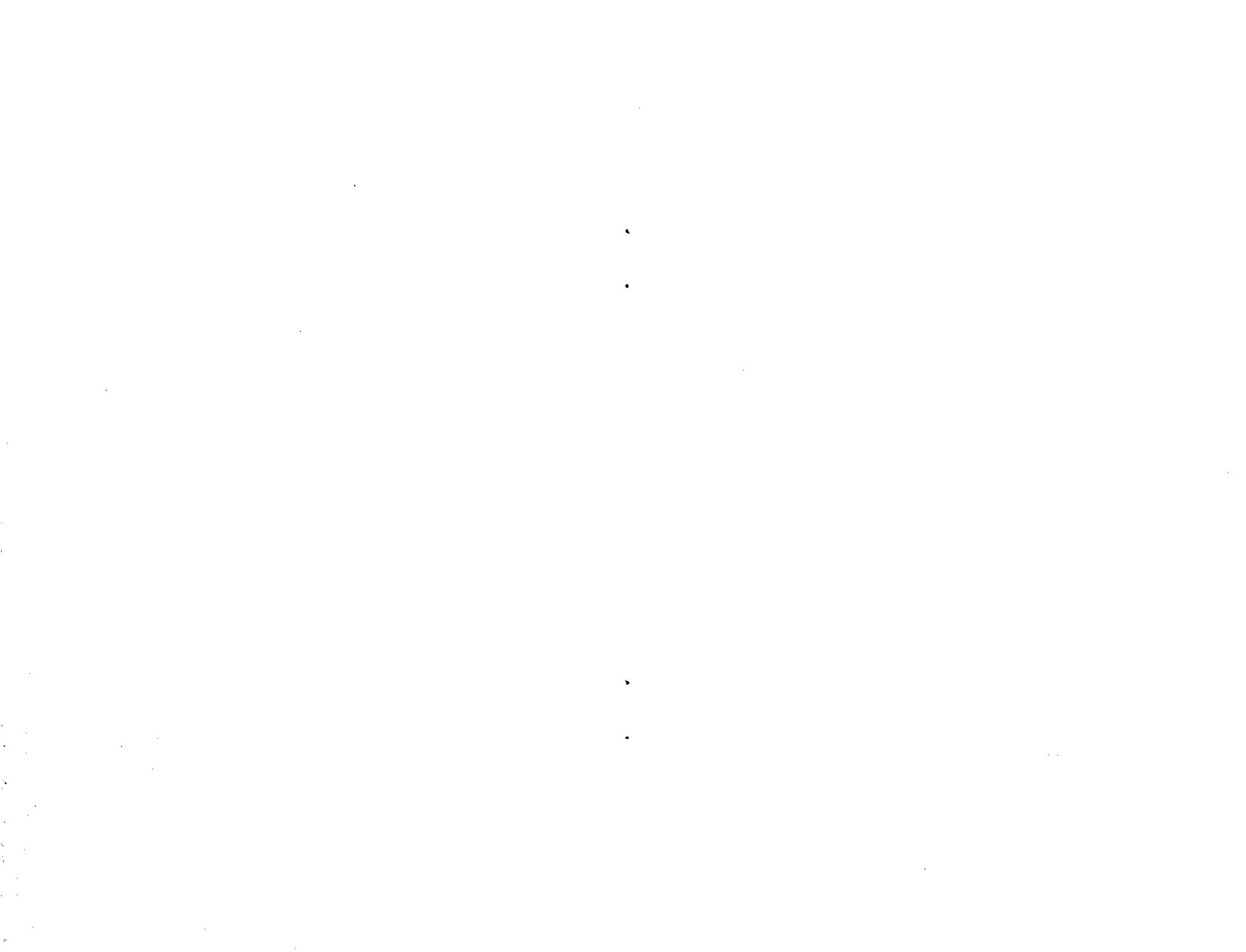
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Super Data® Interchange

User's Guide & Reference Manual

Documentation 1.13

Notes



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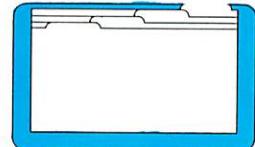
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1. Welcome to SuperData Interchange™

SuperData Interchange allows you to convert a data file from another program into a SuperCalc data file or vice versa.

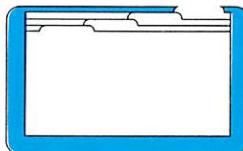
What is SuperData Interchange?

Without SuperData Interchange, exchanging information between SuperCalc and other programs can be difficult and time consuming. SuperCalc stores a data file on disk in a special binary format for efficient disk storage and quick loading of files. Only SuperCalc can read these files, other programs cannot use them.

SuperData Interchange converts SuperCalc's binary files to other formats that use ASCII characters and vice versa. ASCII (American Standard Code for Information Interchange) is an internationally recognized character set code. Appendix C contains an ASCII table.

SuperData Interchange can convert three types of ASCII files into SuperCalc binary files and can generate the first 2 types of ASCII files from a SuperCalc file.

1. *Comma Separated Value* — .CSV. A .CSV file contains numeric values or text strings from file items (fields). Each item is separated by a comma. A .CSV file does not contain formulas or display formatting characteristics.
2. *SuperData Interchange format* — .SDI. An .SDI file defines each cell using three fields.
3. *VisiCalc™* — .VC. SuperData Interchange can convert a VisiCalc data file into SuperCalc format, retaining formulas and display format characteristics.



WELCOME TO SUPERDATA INTERCHANGE™

Why Use SuperData Interchange?

Converting data created by one program for use by another program saves time and money.

Suppose you have your most recent Profit and Loss Statement in .CSV format from your General Ledger package and want to do a little "what if" modeling with SuperCalc. Or perhaps you want to transfer some data in a SuperCalc spreadsheet to a program that uses .SDI format to further analyze the data and produce various reports.

With SuperData Interchange there's no need to key in the information a second time. You save time and avoid errors by converting the existing file.

SuperData Interchange displays a menu on the screen for selecting the type of conversion you want. The program prompts for the name of the file to be converted (the source file) and the name for the file to be created by the conversion (the destination file). The source file contents are NOT altered.

Here are some examples of the ways SuperData Interchange can convert data to and from different programs.

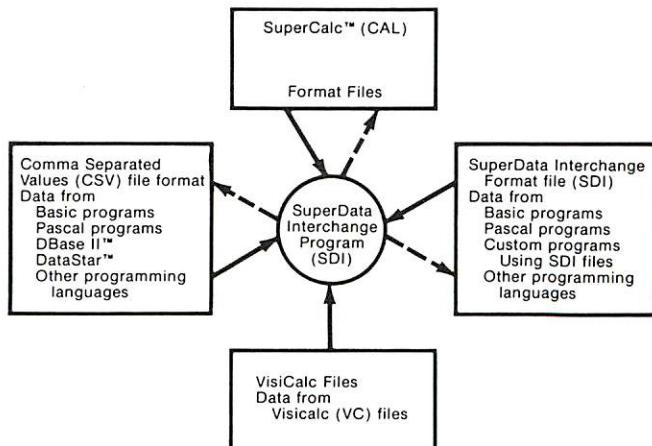


Illustration 1-1: SuperData Interchange

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**USING YOUR SUPERDATA
INTERCHANGE PROGRAM**
A Sample File Conversion



2. Using Your SuperData Interchange Program

A Sample File Conversion

A sample file (BUDGET.CAL) is provided on your SuperCalc distribution disk. When loaded into the SuperCalc program, the display looks as follows:

	A	B	C
1	SAMPLE BUDGET		
2			
3	DESCRIPTION	AMOUNT	BALANCE
4			
5	-----		
6	STARTING BALANCE	250.00	
7	PAYDAY	550.00	800.00
8	RENT	-350.00	450.00
9	UTILITIES	-75.00	375.00
10	FOOD	-200.00	175.00
11	AUTO	-100.00	75.00
12	-----		
13		75.00	

Screen 2-1: Budget.Cal

If you attempt to display the file contents by typing:

A>**TYPE BUDGET.CAL ↵**

you will see only the title line (the contents of cell A1) and the SuperCalc version number which created the file. A ".CAL" file is "Binary" and the TYPE command does not display the data. Most other programs are not able to use this data because it is stored in a program-specific format.



USING YOUR SUPERDATA INTERCHANGE PROGRAM

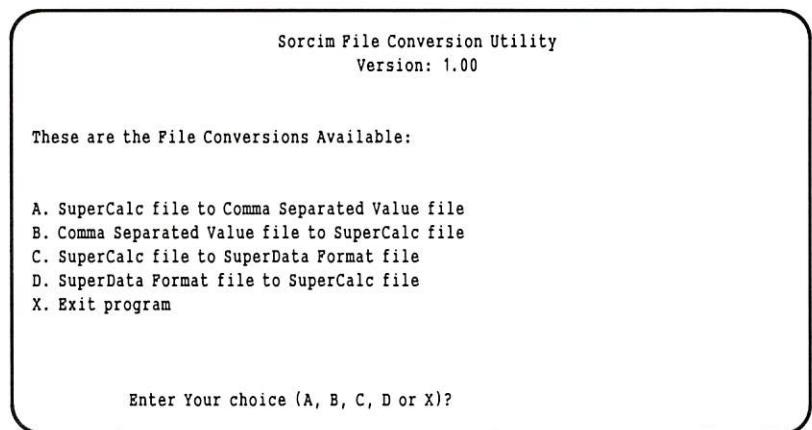
Selecting the Type of Conversion

These examples demonstrate SuperData Interchange's quick and easy method of converting files. But don't let it's simplicity fool you — SuperData Interchange is a powerful conversion tool. Before you convert actual data there are several things to consider.

Selecting the Type of Conversion

You first must decide what kind of data file your program uses. Consult the documentation that comes with the program or talk to your dealer.

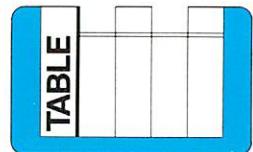
To use SuperData Interchange, enter **SDI** ↵ from your operating system prompt. The SuperData Interchange Main Menu displays on your monitor.



Screen 2-2: Main Menu

If your program reads files as *Comma Separated Values* you can use menu selections A and/or B. If your program uses .DIF format, the file might be eligible for selections C and/or D. Use selection E to convert a VisiCalc file to a SuperCalc file.

ASCII TABLE



ASCII Table

CONTROL		NUMBERS SYMBOLS		UPPER CASE		LOWER CASE	
NUL 00	CTRL @ 0	CTRL P 10	SP 20	0 32	@ 40	P 80	p 112
SOH 01	CTRL A 1	CTRL Q 11	! DC1 21	1 33	A 41	Q 81	a 97
STX 02	CTRL B 2	CTRL R 12	" DC2 22	2 34	B 50	R 82	b 98
ETX 03	CTRL C 3	CTRL S 13	# DC3 23	3 35	C 51	S 83	c 99
EOT 04	CTRL D 4	CTRL T 14	\$ DC4 24	4 36	D 52	T 84	d 100
ENQ 05	CTRL E 5	CTRL U 15	% NAK 21	5 37	E 45	U 69	e 85
ACK 06	CTRL F 6	CTRL V 16	& SYN 22	6 38	F 54	V 70	f 86
BEL 07	CTRL G 7	CTRL W 17	- ETB 23	7 39	G 55	W 71	g 87
BS 08	CTRL H 8	CTRL X 18	(CAN 24	8 40	H 56	X 72	h 88
HT 09	CTRL I 9	CTRL Y 19) EM 25	9 41	I 57	Y 73	i 89
LF 0A	CTRL J 10	CTRL Z 1A	* SUB 26	:	J 58	Z 74	j 90
VT 0B	CTRL K 11	CTRL [1B	+ ESC 27	;	K 59	[75	k 91
FF 0C	CTRL L 12	CTRL \ 1C	, FS 28	< 44	L 60	\ 76	l 92
CR 0D	CTRL M 13	CTRL] 1D	- GS 29	= 45	M 61] 77	m 93
SO 0E	CTRL N 14	CTRL ^ 1E	. RS 30	> 46	N 62	^ 78	n 94
SI 0F	CTRL O 15	CTRL __ 1F	/ US 31	?	O 63	— 79	o 95
							DEL (RUBOUT) 127

KEY

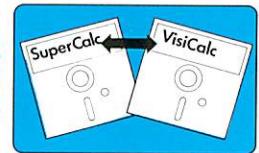
CR hex OD	CTRL M 13
-----------------	--------------

ASCII Name

decimal

USING YOUR SUPERDATA INTERCHANGE PROGRAM

Specifying Filename and Extensions



Specifying Filename and Extensions

There are two methods of specifying a filename and extension. You can use the built-in default filenames and extensions or you can specify any filename and extension that conforms to your operating system requirements.

Default filenames can be used in two ways:

1. When you enter a source filename without an extension, SuperData Interchange automatically appends the appropriate extension — .CAL, .CSV, .VC or .SDI.
2. A at the destination filename automatically uses the source filename for the destination filename with the correct output extension.

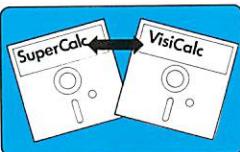
You may not want to use these defaults. To override the defaults, specify an exact file extension or an exact destination filename.

The default filename extensions *are only a convenience*. They contain no significance other than to help you identify the contents of the file. You are free to alter both the source filename and the destination filename.

Note: When you convert a .CAL file to another format the formulas are lost. Converting that file back to a .CAL file produces a .CAL file that contains only values, not formulas. To prevent destroying your original CAL file rename the file and do not accept the default filename. This will help to prevent accidentally overwriting the file. After typing in the new filename you can still press to accept the default file extension.

Converting Files

To use SuperData Interchange, select the desired conversion type from the main menu. Specify the source and destination files. SuperData Interchange creates a new file containing the conversion and leaves the source file intact. The following examples demonstrate how to use SuperData Interchange.



USING YOUR SUPERDATA INTERCHANGE PROGRAM

Converting Files

SuperCalc file to Comma Separated Value file

(.CAL —> .CSV)

This example uses all SuperData Interchange defaults. Follow along at your terminal and key in only the **Bold** characters. You may type either upper or lower case characters. SuperData Interchange automatically converts to upper case.

1. Select Menu Item **A** to convert from SuperCalc format to Comma Separated Value format (.CAL —> .CSV).
2. Enter the source filename.

Enter Source filename: **BUDGET** ↵

Opening file: BUDGET.CAL

Enter only the filename. SuperData Interchange appends the default .CAL extension.

3. Enter the Destination filename.

Enter Destination filename: ↵

Opening File: BUDGET.CSV

SuperData Interchange uses the filename BUDGET and appends the .CSV extension.

SuperData Interchange begins the conversion with the screen message:

Converting BUDGET.CAL to BUDGET.CSV

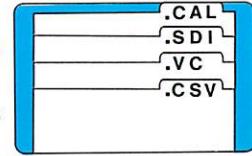
Your disk should be active for a time, and then the screen displays the message:

Conversion complete

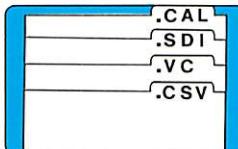
The SuperData Interchange Main Menu then redisplays on the screen.

ADVANCED TOPICS

Types of Data Fields



-1,0	0,-100
BOT	V
1,1	0,75.0
=	V
0,0	-1,0
NULL	BOT
0,0	1,1
NULL	=
-1,0	0,0
BOT	NULL
1,0	0,0
STARTING BALANCE	NULL
0,0	-1,0
NULL	BOT
0,250	1,0
V	FINAL BALANCE
-1,0	0,0
BOT	NULL
1,0	0,75.0
PAYDAY	V
0,550	-1,0
V	EOD



ADVANCED TOPICS

Types of Data Fields

This will create a file of 3 data items located on a single row.

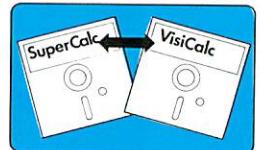
The following page shows the file BUDGET.SDI. Notice that the values are converted and that the formulas and display format characteristics are not included.

This example is Budget: (BUDGET.SDI)

TABLE	0,800.0
0,1	V
" "	-1,0
DATA	BOT
0,0	1,0
" "	RENT
-1,0	0,-350
BOT	V
1,0	0,450.0
SAMPLE BUDGET	V
0,0	-1,0
NULL	BOT
0,0	1,0
NULL	UTILITIES
-1,0	0,-75
BOT	V
0,0	0,375.0
NULL	V
0,0	-1,0
NULL	BOT
0,0	1,0
NULL	FOOD
-1,0	0,-200
BOT	V
1,0	0,175.0
DESCRIPTION	V
1,0	-1,0
AMOUNT	BOT
1,0	1,0
BALANCE	AUTO

USING YOUR SUPERDATA INTERCHANGE PROGRAM

Converting Files



Comma Separated Value file to SuperCalc file

(.CSV —> .CAL)

Now that the file BUDGET.CSV exists, consider the conversion process in reverse.

1. Press **B** to select conversion from Comma Separated Value to SuperCalc format (.CSV —> .CAL).

2. Enter the Source filename.

Enter Source filename: **BUDGET**
Opening file: BUDGET.CSV

SuperData Interchange appends the .CSV extension.

3. Enter the Destination filename.

Enter Destination filename: **BUDGETV**
Opening file: BUDGETV.CAL

You have overridden the default filename BUDGET with BUDGETV and SuperData Interchange appends the default .CAL extension. The V in the filename serves as a reminder that BUDGETV.CAL contains values only.

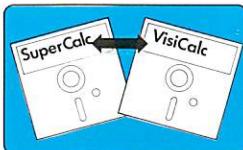
When the File Exists--Safety Check

SuperData Interchange includes a safety check to help avoid writing over an existing file. Suppose you had entered a requesting the default for the destination file in Step 3. This is the equivalent of entering BUDGET.CAL, your original SuperCalc data file. SuperData Interchange warns you with this message:

File Already Exists!
Okay to Overwrite the file (y/n)?

Any key but "Y" or "N" will be ignored. The "N" key will abandon the conversion process and redisplay the menu.

If you press "Y" the existing file is deleted and the new file created with the name of the old file.



USING YOUR SUPERDATA INTERCHANGE PROGRAM

Converting Files

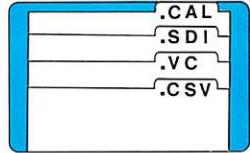
VisiCalc™ files

SuperData Interchange converts VisiCalc data files to SuperCalc data files. All formulas and values are converted with the following exceptions.

1. The @CHOOSE(switch,value1,value2,...) function in VisiCalc is interpreted in SuperCalc as $(INT(switch)=1)*value1 + (INT(switch)=2)*value2 + \dots$. If the converted expression exceeds 116 characters, a warning message displays on your monitor and ERROR is output to the .CAL file. If the switch has a negative value or 0 or greater than the number of values provided in the CHOOSE function, the resulting NA in VisiCalc is converted to 0 in SuperCalc. No warning message displays on your monitor.
2. Both the @AND and @OR functions in VisiCalc allow any number of arguments while the same functions in SuperCalc take only two arguments. In order to retain the accuracy of these functions, nested AND or OR functions are generated during conversion. If the converted formula exceeds 116 characters in length, ERROR is output to the destination file. A warning message displays on your monitor.
3. For the AND, OR, and NOT function, VisiCalc takes logic expressions, i.e., 1 or 0, as arguments. SuperCalc takes logic expressions plus zero or non-zero situation as arguments. Therefore, an expression such as AND(A1,B1) is evaluated as ERROR in VisiCalc, but when converted to SuperCalc is evaluated as 1 or 0.
4. The maximum number of nested parentheses in expressions which can be evaluated by SuperCalc is 7 while the corresponding number in VisiCalc is 9. SuperData Interchange converts the expression from VisiCalc to SuperCalc as long as the converted expression does not exceed 116 characters. If the expression is not a valid SuperCalc expression, SuperCalc will evaluate it to ERROR.

ADVANCED TOPICS

Types of Data Fields



Example:

-4,0
A1+B1*4

Repeat Count

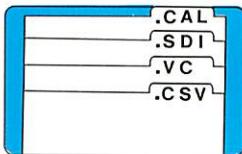
The repeat count is specified by -5 in field #1. The previous data item is to be repeated into the next sequential cells for the number of times specified by the number in field #2. Field #3 must contain R only. If there is no previous data item for that cell, an error occurs.

This is useful especially for padding a section of a spreadsheet with either NULL data or zeros. An example of filling a line of the spreadsheet with 10 zeros is:

-1,0
BOT
0,0
V
-5,9
R

Example of a simple but complete .SDI File:

TABLE
0,1
"
DATA
0,0
"
-1,0
BOT
0,123.45
V
0,25.62
V
0,355.42
V
-1,0
EOD



ADVANCED TOPICS

Types of Data Fields

The cell address in field #3 contains two numbers separated by a colon. The first number is the column location (1-63). Although the columns are specified by an alphabetic notation in SuperCalc, the letters must be converted to their numeric equivalents here. The second number is the row number as used in SuperCalc (1-254).

The following examples compare SuperData Interchange notation with SuperCalc notation.

SuperCalc	SuperData Interchange
C20	3:20
AB74	28:74
BK254	63:254

Entry level display formatting.

A -3 in field #1 indicates Entry level display formatting. Field #3 contains the formatting specification for the previous cell. Field #2 is always zero (0).

Note: Global, Column and Row formats are specified in the HEADER section.

The display formatting codes are the same as for the Global Display item in the header section: i.e. I, \$, TL, etc. If there is no previous data item, an error occurs.

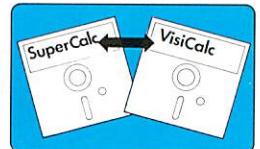
Formula

A -4 in field #1 specifies a formula. The formula is in field #3 and must be a valid SuperCalc formula. Field #2 is always zero. If there is no previous data item for that cell, an error occurs.

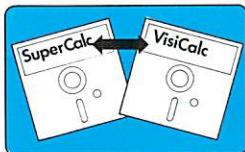
SuperData Interchange does not convert formulas from .CAL to .SDI format. However, you can create or edit formulas in an .SDI file with a text editor. SuperData Interchange will interpret them properly in a .SDI to .CAL conversion.

USING YOUR SUPERDATA INTERCHANGE PROGRAM

Converting Files



5. A text string that exceeds 116 characters is truncated during conversion. If the original formula or the formula after conversion exceeds 116 characters, ERROR is output to the destination file. A warning message displays on your monitor.
6. Boolean formulas that evaluate TRUE or FALSE in VisiCalc result in 1 or 0 in SuperCalc.
7. The formula prefix "+" in VisiCalc is removed when converted to SuperCalc. For example the VisiCalc formula +A1+B1 is converted to the SuperCalc formula A1+B1.
8. VisiCalc displays 21 rows per screen while SuperCalc displays 20 rows per screen. If a worksheet was saved with the cursor at the 21st row of a screen in VisiCalc, then converted to a SuperCalc worksheet, the cursor stays in the same cell with the screen scrolling up one row, i.e., the first row scrolls off the top of the screen. Whenever there is a conflict between retaining original screen and original cursor position, the original cursor position prevails.
9. Window split with title lock is handled differently by SuperCalc and VisiCalc. VisiCalc always carries the title lock in the second window. SuperCalc does not carry the title lock in the second window. The conversion, however, retains the lock in both windows as if the user also set that title lock in the second window.
10. Repeated text in VisiCalc repeats across the column width only. When converted to SuperCalc, VisiCalc repeated text expands across the row until column BK or a non-empty cell, whichever comes first.



USING YOUR SUPERDATA INTERCHANGE PROGRAM

Summary of SuperData Interchange Conversions

Summary of SuperData Interchange Conversions

Use the other SuperData Interchange Main Menu options in a similar manner. A summary of the options follows:

Option A converts a SuperCalc file to a Comma Separated Value file. Only values are converted. Formulas and display format characteristics are not converted.

Option B converts a Comma Separated Value file to a SuperCalc file. Since a .CSV file contains only values, no formulas appear in the .CAL file. When you load the file into SuperCalc, the default display format is in effect.

Option C converts a SuperCalc file to an .SDI file. Only values are converted. Display format and formulas are lost.

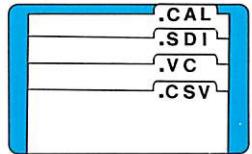
Option D converts an .SDI file to a SuperCalc file. Formulas, display format and values are converted.

Note: Options C and D are not strictly opposite operations of each other. Although SuperData Interchange does not convert formulas and display format characteristics using Option C, Option D does recognize and convert both formulas and display format from an .SDI file containing them. How they get into the .SDI file does not matter to SuperData Interchange. For example, you could use another program to produce the data file, or you could use a text editor such as SuperWriter on an .SDI file to put in the formulas and display characteristics. Appendix B contains a technical description of the .SDI file structure.

Option E converts a Visicalc file to a SuperCalc file. There is no comparable option that converts a SuperCalc data file into a VisiCalc data file.

ADVANCED TOPICS

Types of Data Fields



Example of a text cell:

1,0
Check Register

Example of a repeating text cell:

1,1
=

Data Definition

A -1 in field #1 indicates that the data item contains data that defines the data file structure. There are two types of data definitions and they appear in field #3. Field #2 is not used and always contains zero. The two types of data definitions are:

BOT Marks the beginning of a SuperCalc Row. Note that this is functionally equivalent to a carriage return in Comma Separated Values format in that it separates rows (or records).

Example: -1,0
BOT

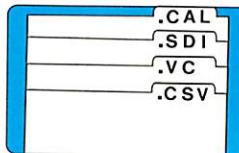
EOD Marks the end of data. No further data is interpreted past the EOD by SuperData Interchange.

Example: -1,0
EOD

Origin Specifier

A -2 in field #1 indicates an origin specifier. Field #2 is always zero. Field #3 contains the address of a cell.

The origin specifier indicates the cell where the next data item starts. This action is equivalent to a *skip to* command to avoid a long series of NULL entries. SuperData Interchange does not create this type of entry when converting from .CAL to .SDI formats, but does interpret it correctly when converting from .SDI to .CAL format.



ADVANCED TOPICS

Types of Data Fields

NA	The value for the cell is not available. The numeric data field is zero.
NULL	The value of the cell is NULL or unoccupied. The numeric data field is zero.
ERROR	The value is in Error, perhaps due to an invalid calculation such as dividing by zero.

The numeric data field can contain decimal numbers with signs (+ or -). One or more blanks may precede or follow the number value. If the data value contains an exponent of a power of ten, the value is followed by the letter "e" and the signed or unsigned exponent.

The numeric field is the only place that the .SDI file format allows a non-integer value.

Text string

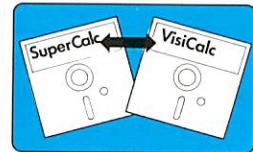
A one (1) in field #1 indicates that the data item is either a *Text* string or a *Repeating Text* string. The contents of field #2 indicated the type of text. The text string appears in field #3.

- | | |
|---|--|
| 0 | When field #2 is 0, the contents of field #3 is <i>Text</i> . The <i>Text</i> may be optionally enclosed in double quotes. |
| 1 | When field #2 is 1, the contents of field #3 is <i>repeating text</i> . |

If the text contains blanks only (not blanks between words), then the string must be enclosed in quotation marks. A text value that is empty contains only quotation marks: i.e. " ".

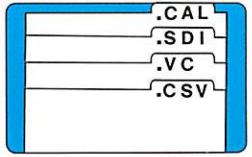
USING YOUR SUPERDATA INTERCHANGE PROGRAM

Summary of SuperData Interchange Conversions



Special Considerations:

1. If there are warning messages during conversion, SuperData Interchange pauses after the conversion is completed and displays *Press Return to Continue*. This pause allows you to read warning messages before the screen scrolls back to the main menu.
2. A date function, e.g., DATE(mm,dd,yy) in a .CAL file converts to an integer value in a .CSV or .SDI file. This value is a modified Julian date, as if JDATE(date value) had been used on the date.
3. Textual Values are output as text. When converting from .SDI to .CAL, textual values or date values will only be recognized by SuperCalc² or SuperCalc3 if a formula is provided with the -4 type. Use your word processor such as SuperWriter to insert the formula.



The second line contains a string variable.

field-3 string value

This could also be shown like this:

type indicator, numeric value
string value

Types of Data Fields

The type indicator must be an integer from 0 to 1 or -1 to -5. Each indicator is identified in the following table and described in detail below.

0	Numeric Data
1	Text String
-1	Data Definition
-2	Origin Specifier
-3	Entry level display formatting
-4	Formula
-5	Repeat Count

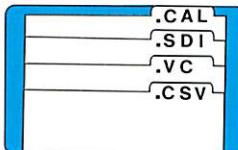
Numeric Data

A zero (0) in field #1 means that the cell contains numeric data. Numeric data is derived from the value that a SuperCalc Formula cell contained. The numeric value is stored in field #2. Field #3 contains the value indicator.

Example: 0,123.45
 V

The value indicator can be one of four values. When the value indicator is "V", the number is *valid*, and appears in field #2 as a decimal number. When the value indicator is anything else, the numeric data field is zero. Possible types of data and the contents of the numeric field are presented in the following table:

V	Indicates that the numeric data field contains a <i>valid</i> decimal number.
---	---



ADVANCED TOPICS

SuperData Interchange format

Optional Field Header:

This header contains the required TABLE and DATA sections as well as two COL-FORMAT and one GDISP-FORMAT definition.

TABLE	
0,1	
" "	Begin Header Section
COL-FORMAT	
1,40	Column width of A is 40
" "	No special display formatting
COL-FORMAT	
2,15	Column width of B is 15
\$	Money format
GDISP-FORMAT	
9,0	Global column width is 9
GTL	General format with Text Left
DATA	
0,0	
" "	Begin Data Section

DATA Section

The format of data items differs from that of header items. SuperData Interchange 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:

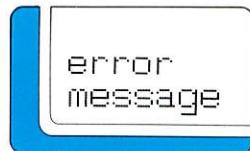
Line 1	field-1, field-2
Line 2	field-3

The first line contains two numeric values:

field-1	a type indicator
field-2	a numeric value

WARNING AND ERROR MESSAGES

Error Messages



A. Warning and Error Messages

Error Messages

Column out of range.

This can happen when converting to .CAL files. The number of columns in the source file is greater than 63.

Row out of range.

This can happen when converting to .CAL files. The number of rows in the source file is greater than 254.

No COL:ROW string in Origin Specifier.

This can happen when converting from .SDI files to .CAL files. Correct the error.

III-formed COL:ROW string in Origin Specifier.

Correct the source file.

No ROW string in Origin Specifier.

Correct the source file.

Missing arg. in Type Ind/Numeric Value line.

This can happen when converting from .SDI to .CAL files. A data item does not contain a valid type indicator.

Improper or no DATA header in file.

The .SDI file does not have a valid "DATA" header item in the header.

Multiple Origin Specifiers in a tuple.

The .SDI file has more than one origin data item in one tuple (row).

Invalid Type Ind./Data Definition.

The .SDI file has an invalid type indicator or data definition.

WARNING AND ERROR MESSAGES**Warnings Issued by SuperData Interchange****Fmt/Formula/Rpt Count without prior data.**

An .SDI file contains a -3, -4, -5 data type indicator without a preceding numeric data or text data.

Bad file name.

This can happen if you enter a filename containing a reserved character as part of the destination file name, i.e., BUDGET.* or specify an invalid drive reference, i.e., v:BUDGET.

Source file not found.

Correct the error.

File is empty.

Self-explanatory.

File is not a .CAL file.

Self-explanatory.

File is not VisiCalc file.

Self-explanatory.

Warnings Issued by SuperData Interchange

These warnings are issued by the SuperData Interchange Program to inform you when an unusual action has taken place or when data are found that have not been correctly formed. In the latter case, no action is usually taken by the SuperData Interchange program. In either case, the converted file may be inaccurate.

Closing quote found, truncating string.

This can happen when converting from .CSV to .CAL files. It means that .SDI has found a closing quote for a quoted string, however, there is something left out after the quote and before the field delimiter ','. Those left-out characters will be truncated.

ADVANCED TOPICS**SuperData Interchange format**

.CAL
.SDI
.VC
.CSV

ROW-FORMAT — Specifies the formatting of a particular row. This is the same as COL-FORMAT but for rows. 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 format string	14,0 TL\$ (textleft,\$ formatting)

DATA — This item must be the last field in the header. It signifies the end of the header section and the beginning of the data section. The DATA field looks like this:

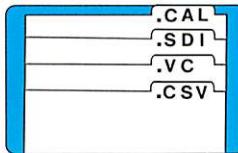
FORMAT	SAMPLE ENTRY
DATA	DATA
0,0	0,0
" "	" "

Below are some valid .SDI headers.

Minimal Header:

This header contains only the TABLE section and the DATA section:

TABLE
0,1
" "
DATA
0,0
" "



ADVANCED TOPICS

SuperData Interchange format

- D Indicates that formatting for the cell, column or row should be removed. At the global level, SuperCalc reverts to the default format.
- E Indicates that numeric values display in an exponential (n 10x) format. For example, 1.23e2 is equivalent to 123.

Format String Examples:

\$TL	TR*	D
GTRL	L\$	

Header Items

TABLE — The first three lines of an .SDI data file indicate the beginning of the file and must appear exactly as shown here:

```
TABLE
0 1
"
```

GDISP-FORMAT — Specifies the GLOBAL display format settings of the SuperCalc spreadsheet. Only one GDISP-FORMAT definition is allowed for a data file.

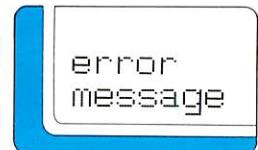
FORMAT	SAMPLE ENTRY	
GDISP-FORMAT	GDISP-FORMAT	
width,0	9,0	(global column width of 9, textleft, \$ format)
format string	\$TL	

COL-FORMAT — Specifies the formatting of a particular column. The Column number must be in the range 1-63 columns. As many COL-FORMAT fields as necessary may be included in the header.

FORMAT	SAMPLE ENTRY	
COL-FORMAT	COL-FORMAT	
col#,width	3,12	(column C is 12 characters wide and integer format)
format string	I	

WARNING AND ERROR MESSAGES

Warnings Issued by SuperData Interchange



String too long, truncation occurs.

This can happen when converting to .CAL file. It means the original file has string(s) longer than 115 characters.

Formula too long, will output ERROR.

This can happen when converting to .CAL file. It means the original file has formula(s) longer than 116 characters.

Column out of range in Header.

This can happen when converting from .SDI file to .CAL file. It means that column or row specifier is out of range in SDI header items. Column range is 1..63. The erroneous header item will be ignored.

Row out of range in Header.

This can happen when converting from .SDI file to .CAL file. It means that column or row specifier is out of range in SDI header items. Row range is 1..254. The erroneous header item will be ignored.

Null data cannot have formula.

This can happen when converting from .SDI to .CAL file. If a data item in the .SDI file is a null data item followed by a formula data item, the formula is illegal and will be ignored.

Illegal format letter.

This can happen when converting from an .SDI to a .CAL file. The .SDI file data item has invalid format letter(s) other than those defined by SuperCalc. The letter(s) will be ignored.

Bad integer number.

This can happen when converting to .CAL file. It means the file has an invalid integer, i.e., integers which have characters other than 0..9, one sign character or a blank.

@AND cannot convert successfully.

This can happen when converting from .VC to .CAL files. If the converted @AND formula exceeds 116 characters, an ERROR will be output.

WARNING AND ERROR MESSAGES

Warnings Issued by SuperData Interchange

@OR cannot convert successfully.

This can happen when converting from .VC to .CAL files. If the converted @OR formula exceeds 116 characters an ERROR will be output.

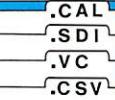
@CHOOSE cannot convert successfully.

This can happen when converting from .VC to .CAL files. If the converted @CHOOSE formula exceeds 116 characters, an ERROR will be output.

P.S.: When warning messages occur during .VC to .CAL conversion, cell reference always precedes the messages.

ADVANCED TOPICS

SuperData Interchange format

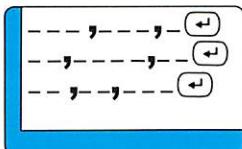


Between the TABLE and DATA fields the following optional fields are also allowed: COL-FORMAT, ROW-FORMAT and GDISP-FORMAT. These optional fields define the display formatting characteristics for Global, Row and Column formats. The Entry format is defined in the data section for each cell. These three fields are not part of the DIF format, only the .SDI format.

Formatting Strings

Consider the format strings used in the HEADER section. This unquoted string may contain one or more of the following format options with no spaces between them.

- L Indicates that numeric values are to be left justified when displayed in a cell, column or row.
- R Indicates that numeric values are to be right justified when displayed in a cell, column or row.
- TL Indicates that text values are to be left justified when displayed in a cell, column or row.
- TR Indicates that text values are to be right justified when displayed in a cell, column or row.
- \$ Indicates that numeric values are to be displayed with the decimal point fixed at 2 places with trailing zeros to fill up the 2 places to the right of the decimal place if needed.
- * Indicates that numeric values are to be displayed as asterisks (*). One asterisk displays for each integer count in the cell; i.e., 1 displays 1-*; 10 displays 10-*'s. If the cell contents equal 0, then the cell is blank.
- I Indicates that numeric value of the cell is displayed as an integer with no decimal point and no places to the right of the decimal place.
- G Indicates that a numeric value displays as *general* format with the *best-fit* possible.



ADVANCED TOPICS

SuperData Interchange format

This file contains numbers and strings.

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

Note: The ↵ means the carriage return and line feed characters.

SuperData Interchange format

The SuperData Interchange format (.SDI) is simple in concept, 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 SuperData Interchange format (.SDI) is a superset of the DIF structure used with Visi-series software products. .SDI incorporates the major components of a DIF file and then 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. The .SDI format may also contain information on the formulas and formatting characters of the SuperCalc spreadsheet.

A DIF file produced by VisiCalc can be used with SuperCalc after conversion with SuperData Interchange.

SuperData Interchange .SDI File Layout

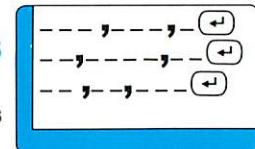
There are two major components of a .SDI data file, the HEADER section and the DATA section.

HEADER Section

The HEADER consists of two required and three optional fields. The required fields are TABLE and DATA. The TABLE field must be the first field in the file and the DATA field must be the last field of the HEADER section.

ADVANCED TOPICS

Special Data Formats



B. Advanced Topics

Special Data Formats

In the early days of microcomputers, program developers wrote programs to solve specific problems. The data produced and processed by these programs were usually unique to the program. The data had to be printed out, then rekeyed to be useful to another program.

Many programs produce the same kinds of data, that is, rows and columns of headings, numbers, blanks, etc. However, the file structure differs depending on the program.

Developers were interested in a storage format that permitted reconstruction of the data into its original appearance, no matter what the source of the information.

To help solve this problem Software Arts, Inc. defined the "Data Interchange Format" (DIF™). The SuperData Interchange format is an *extended version or superset* of the DIF format file.

Note: The definition of that solution is found in Software Arts Technical Note: SATN-18 "PROGRAMMERS GUIDE TO DIF."

SuperData Interchange permits transferring data to and from SuperCalc without retyping.

Conversion Considerations

The next section explores data formats in detail.

Three terms are important to SuperCalc data files.

1. Values — The actual numbers or strings of characters displayed from within SuperCalc. In SuperCalc a value may be a numeric constant or the result of calculating a formula.

ADVANCED TOPICS

Detailed File Formats

2. Display format — The instructions SuperCalc executes when formatting values in individual cells, rows, columns or global conditions.
3. Formulas — Expressions assigned to cell locations specifying calculations or comparisons which are resolved by SuperCalc into values. The formulas may reference constants, built-in functions, or the contents of other cells.

Detailed File Formats

This section gives the advanced SuperData Interchange user an understanding of what the files contain and how to create them from "scratch".

Creating an .SDI or .CSV File

An .SDI or .CSV data file may be created in many ways. One way is to use a program that reads and writes the .SDI or .CSV file format such as a BASIC program.

Another way is to use a word processor. Be careful that the file contains alpha-numeric characters only. Yet another method is to generate the information on a mainframe computer and download this information to your system. This data can either be written on the mainframe in the format needed, or manipulated by an editor or another program.

Comma Separated Value format

A Comma Separated Value data file consists of rows of data, each terminated by a carriage return and a line feed character. The data items in each row are separated by commas, with string data enclosed in double quotes.

A .CSV file contains no other control characters except the End-Of-File file character **CTRL Z** (represented as 1A in hex or 26 in decimal).

ADVANCED TOPICS

Comma Separated Value format

Numeric values must be in SuperCalc readable form: Integers, Real numbers and Exponential numbers.

Examples of numbers:

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

String values consists of characters enclosed in double quotes (""). A string may contain blanks, commas and special characters like /, *, etc.

Examples of strings:

"This is a string."
"This too!"
"123,234,45 is a string also"

Note: Many programs that use .CSV data files do not require quotes around a string field unless there is a comma as part of the string. When SuperData Interchange creates a .CSV file, it encloses all strings in quotes, whether or not the string contains a comma. If there is a quote in the string, it is represented by two consecutive quotes, i.e. "" Quotes around strings that do not contain commas are not required to convert a .CSV file to a .CAL file properly.

Summary of .CSV Format

1. A line or row consists of data items (string and/or numeric) separated by commas.
2. Each line is terminated by a carriage return/line feed pair.
3. A **CTRL Z** (hex 1A, decimal 26) terminates the file.
4. A string is surrounded by a double quote mark ("string").
5. There are no other control characters in the file.

Examples of .CSV files:

This file contains only numbers.

123.45,456.77,4322.56,837.233,9198.0,3444.94
323.45,8989.84,3939.93,39.8,3494.343,343.99