

8K BASIC Manual

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1. Text Editor

The Central Data text editor allows a user to create and change source code (ASCII) files for use with an assembler, interpreter, or any other application of this type. The user's file (otherwise called the text or the source code) is read into a RAM buffer where the user can inspect it and make changes to it.

The editor takes full advantage of the system's features. The video display is always used to display the lines of text in the immediate area of last editing which frees the user from the task of trying to remember where he is in the file. The cassette interface is used to store files and also allows editing of files which are larger than the amount of RAM that you have available for the editing buffers. The supervisor program is used by the editor for its many subroutines such as writing a character on the screen, serial input and output, and linefeed-carriage return.

Basic Information

The editor takes up roughly 2K of RAM starting at address H2000. This space includes all of the working RAM locations that the editor needs. The editor requires two buffers to operate: the edit buffer and the insert buffer. The edit buffer is where the source code is held while editing. The insert buffer is where all changes to the edit buffer are made. After an editing operation is finished (i.e. an insert), the insert buffer is merged into the edit buffer to form the new source code.

There are two restrictions concerning the buffers:

1. The edit buffer must be before the insert buffer in RAM, and there can be no space between the two buffers.
2. The buffers must be multiples of 256 bytes long, and their starting and ending addresses must also be multiples of 256 bytes.

Examples of incorrect formatting of the buffers are:

<u>Text Buffer Start</u>	<u>Insert Buffer Start</u>	<u>Reason Why Wrong</u>
H4400	H4000	The edit buffer must start at a lower address than the insert buffer.
H4110	H4610	Buffers must start in multiples of 256 bytes.

If the text buffer were to start at H4000 and the insert buffer at H4400 this would work fine. Note that this means that the edit buffer has 1024 bytes of space (H4000 to H4400). You can't tell how big the insert buffer is since its ending address is not known. You must, therefore, also specify an address (256 byte multiple) for the first byte after the insert buffer. This byte's address will be called the end of RAM location from here on. If this address was H4600 in this case, the length of the insert buffer would be 512 bytes. Thus far, in our example of correct buffer addressing, we have the following:

<u>Text Buffer Start</u>	<u>Insert Buffer Start</u>	<u>End Of RAM</u>
H4000	H4400	H4600

The user defines where the buffers start and end by altering three RAM locations (using the supervisor) before executing the editor. Because of the 256-byte-multiple address restriction, it can be seen that the low byte of each address is H00. For this reason, you need only specify the high byte of the address for the edit buffer, insert buffer, and the end of RAM location. You alter locations H2003 through H2005 to give this information to the editor and then jump to the editor (address H2000). In our example, location H2003 would be changed to H40, while H2004 would be changed to H44, and H2005 would be changed to H46.

The buffers have no size restrictions so they can span from any one address to any other as long as the end address is greater than the start address.

After the three bytes have been set up for the editor (using the alter command) and the editor has been jumped to (by the execute command) using the supervisor, you are able to edit your source code using one of the 12 editor commands which are described later.

Display Format

While you are inspecting the source code of your file, the editor displays a header line and up to 15 lines of text. The header line tells you how many completely empty blocks (256 bytes per block) you have left in the edit buffer and displays the command you have entered. The bottom 15 lines of the display are used for the text. These lines are numbered from 1 to 15 as they progress down the page. Note that a line can be up to 256 characters long and that the line numbers are not actually part of the text. The line numbers are simply displayed on the screen to allow you to reference each individual line easily.

In the edit buffer, the end of a line is indicated by a ASCII carriage return code (HOD). The end of file is sensed to be the first character in the buffer with bit 7 set to one. Note that the ASCII characters are all encoded using bits 0 through 6 so bit 7 is free for this use.

Commands

There are 12 commands which the editor accepts. All commands are typed in through the keyboard, and all except four are executed after the press of the carriage return key. The four commands that do not require a carriage return are position moving commands which are used so frequently that they are allowed to take only one keypress. They are explained in detail in the section called 'Moving Around in the File' as well as in the Command Reference Section. The other 8 commands require a carriage return for their execution. These other commands also allow you to type in up to sixteen additional characters which tell the routines exactly what should be done. The backspace key is active during command entering so that mistakes can be easily corrected. Pressing control-P causes the last command entered to be executed again.

Depending on the command, the additional characters may be alphabetic, numeric, or not used. If a number is required (such as in the Forward command) it can be of any size, although the maximum number sent to the routine will be 255. For example, if the command typed was F3000 (move forward 3000 lines), the user would only be moved ahead 255 lines. More details about the Forward command are presented later. Also, if a command requiring a number is entered with no extra characters (just the command and then a carriage return), a number of one will automatically be used. This feature was added due to frequent changes the user will make to the 1st line of text.

The specific command explanations tell you what you should enter after the command: a number, a word, or nothing.

Moving Around in the File

Since the display can show only 15 lines at a time and the file can be much larger than this, there are commands which allow you to move around in the file (display different areas of the file).

Four of these commands are executed immediately when the command key is pressed. These four commands are: go to end of file (+), go to beginning of file (-), go forward 15 lines (space), and go backward 15 lines (/). The only exception to this immediate action is when another command is entered, erased (by back-spaces) and then one of the four immediate action commands is entered. The four commands then will require a carriage return to execute them.

The other moving commands are: forward x lines (Fx) and backward x lines (Bx). The detailed explanations for all six of the moving commands are given in the command reference section.

Inserting New Lines

To enter new lines of text, use the Insert (I) command. This command should be followed by a number which signifies which line on the screen the text should be inserted after.

After the command, number, and carriage return have been entered, the screen is cleared and you are in INSERT MODE. In this mode you simply type in your new text pressing carriage return at the end of each line. Backspace is active to the beginning of your current line. Note that while in insert mode the characters you type in are being put in the insert buffer, and they are held there until ETX is pressed. Pressing ETX (control-C) when you are done inserting will put the lines just typed into the edit buffer after the line number originally typed with the command.

If you insert too much text (either the insert buffer is full or it can be seen that the text to be inserted will fill the edit buffer), insert mode is automatically ended and the lines are inserted.

Deleting Lines

To delete selected lines, bring the first line to be deleted to the top of the screen. Then use the delete (D) command followed by a line number to delete that number of lines from the text buffer (starting from the top line on the screen).

Changing Lines

If you have a line in the text buffer which is wrong, you can change it (without having to retype the whole thing). To change a line, type "Cx", with x being the line number. The screen is then cleared and the line selected is displayed. At this time several keys are active:

- 1) Copy character (control-U): causes one character from the old line to be copied to the new line. The new line is written just below the old one as the characters are copied.
- 2) Delete old character (control-O): causes one character of the old line to be deleted. In other words one or more characters from the old line can be skipped from being copied.
- 3) Backspace (control-H): just erases one character from the new line.
- 4) Copy to end of line (control-P): causes all of the remaining characters of the old line to be copied to the new line.
- 5) Any printable (non-control) character will be added to the new line.
- 6) Carriage return ends the change of this line. After this key is pressed, the next line in the text buffer is displayed and you are allowed to change it.

If you press ETX (control-C) right after a new line appears, the editor returns to the normal page showing all of the corrected lines.

Storing your Text

The editor allows you to store and retrieve your programs using cassette tape. You can name your text with labels of up to eight characters long and therefore have the system keep track of the various programs on a tape.

To store the edit buffer on cassette tape, turn the tape recorder to record and type "Sxxxx" with xxxx being the name (up to 8 characters). After carriage return is pressed, the editor starts sending the name and the text to the tape recorder. It finishes when the end of file is reached (any byte in the edit buffer with bit 7 set) and will simply prompt for a new command.

To load that file back just as it was before storing it, first move to the beginning of the file (using the "--"

command). Then type "Lxxxx" followed by a carriage return and play the tape recorder. The editor will read everything on the tape and will load the data contained in blocks with the name xxxx. After the end of file byte is read in, the routine terminates.

You should note that the load routine starts loading at the current line position (it starts loading over the top line on the screen). Thus you can merge two files by loading one in as was explained earlier, moving to the end of that file, and loading the second file. Once it is loaded it will appear after the first file in the text buffer.

Also, the full name need not be typed in for the load routine. The routine only checks the tape against the letters typed in with the command, and no others. For instance, if you have a file named STARTREK on tape, you can load it back by typing any of the following as the command:

LSTARTREK	will load only startrek
L	will load any file
LSTAR	will load any file whose name's first four letters are STAR

Note that the last two methods have the possibility of loading the wrong program--the second one loading anything and the third one loading anything which starts with STAR (i.e. STARWAR OR STAR).

Jumping out of the Editor

Type the command "R" to jump to BASIC.

2. Editor Command Reference Section

The following abbreviations are used in this section:

l--a line number
n--a number of lines
x--a file name (up to 8 characters)

Also, note that all commands (except the ones with immediate action) must be terminated with a carriage return.

Command: BACKWARD

Format: Bn

Description: This command causes the editor to start displaying n lines before the top line on the screen.

Example:

If the screen had displayed the 10th-13th lines of a program as shown below:

BLOCKS LEFT: 04	COMMAND:
1 THIS IS LINE 10	
2 THIS IS LINE 11	
3 THIS IS LINE 12	
4 THIS IS LINE 13	

And the command "B3" was executed, the first line displayed is number 7 and the display would change to:

BLOCKS LEFT: 04	COMMAND:
1 THIS IS LINE 7	
2 THIS IS LINE 8	
3 THIS IS LINE 9	
4 THIS IS LINE 10	
5 THIS IS LINE 11	
6 THIS IS LINE 12	
7 THIS IS LINE 13	

Command: CHANGE

Format: C1

Description: This command allows you to change a line of text. After entering this command, the screen is cleared and the line selected is displayed on the top of the screen. You can then type control-U to copy a character of the old line to the new one, control-O to skip a character of the old line from being copied, control-H (backspace) to delete a character from the new line, control-P to copy all of the remaining characters from the old line to the new line, or any printable (non-control) character to just be added to the new line. After the new line is as you want it, press carriage return. The next line of the text buffer is then displayed and you can change it. Pressing ETX (control-C) at this point returns you to the command entry page with the corrections entered into the text buffer.

Example:

If you have the line NOW IA THE TIME ready to change (you have just entered the "C" command), the following keypresses will correct the mistake:

<u>KEY</u>	<u>New line so far</u>
control-U	N
control-U	NO
control-U	NOW
control-U	NOW (there is a space after NOW)
control-U	NOW I
control-O	NOW I (the A has been omitted)
S	NOW IS
control-P	NOW IS THE TIME

Pressing carriage-return and ETX now will return you to the normal editor display page with the changes in effect.

Command: DELETE

Format: Dn

Description: This command deletes n lines from the text buffer starting with the top line on the screen.

Example:

If the screen had lines 6-10 of the text buffer displayed as is shown below:

BLOCKS LEFT:	COMMAND:
04	
1 LINE 6	
2 LINE 7	
3 LINE 8	
4 LINE 9	
5 LINE 10	

And the command "D2" was executed, text lines 6&7 would be deleted and the screen would look like:

BLOCKS LEFT:	COMMAND:
04	
1 LINE 5	
2 LINE 8	
3 LINE 9	
4 LINE 10	

Command: FORWARD

Format: Fn

Description: This command causes the editor to start displaying n lines after the present line.

Example:

If the screen had the 10th-16th lines of the text buffer displayed as below:

BLOCKS LEFT: 04	COMMAND:
1 LINE 10	
2 LINE 11	
3 LINE 12	
4 LINE 13	
5 LINE 14	
6 LINE 15	
7 LINE 16	

And the command "F5" was executed, the first text line now displayed is line 15 and the screen will look as below:

BLOCKS LEFT: 04	COMMAND:
1 LINE 15	
2 LINE 16	

Command: INSERT

Format: I1

Description: This command allows the insertion of new text. The new text is typed in after the command and is ended by a ETX (control-C) key. Then the text is inserted after the line number specified in the command.

Errors: If you try to type in too much text (either too much for the insert buffer to hold or too much to be able to put back into the edit buffer), the insert is automatically ended just as if you had pressed ETX.

Example:

If the screen looked as it does below:

	BLOCKS LEFT: 04	COMMAND:
1	LINE 1	
2	LINE 2	
3	LINE 3	
4	LINE 4	
5	LINE 5	

And the command "I2" was executed, the screen would be erased and you would be allowed to type in new text. If you typed in the following lines (each line followed by a carriage return):

NOW IS THE TIME
FOR ALL GOOD MEN
TO COME TO THE AID

And pressed ETX, the 3 new lines would be inserted after line 2 of the text buffer, and the screen would change to:

	BLOCKS LEFT: 04	COMMAND:
1	LINE 2	
2	NOW IS THE TIME	
3	FOR ALL GOOD MEN	
4	TO COME TO THE AID	
5	LINE 3	
6	LINE 4	
7	LINE 5	

Command: LOAD

Format: Lx

Description: Loads a file from cassette tape into the text buffer. The name, x, can be up to 8 characters, and any file which has at least the letters specified in the command will be loaded. A simple "L" command (one with no file name) will load any file. Loading ceases when a byte is read in with the end of file bit set.

The file is loaded starting at the first character position on the screen. Any lines before the ones displayed will not be changed during the load.

Errors: If you run out of text buffer space before a load is complete, you will get an error saying TOO MUCH. If upon loading, a cassette error occurs, you are given a SUMCHECK ERROR message and you must reload.

Command: RUN

Format: R

Description: This command jumps to BASIC.

Command: STORE

Format: Sx

Description: This command stores the text buffer onto cassette tape. A name (x) is also stored on the tape, and that specific name can be referenced during a LOAD command.

Command: GO TO BEGINNING--IMMEDIATE ACTION

Format: -

Description: Starts displaying lines at the first line of the file.

Command: GO TO END--IMMEDIATE ACTION

Format: +

Description: Starts displaying lines beginning at the last line in the file. You should note that after this command is executed, the screen will contain only one line of text (the last line of the text buffer).

Command: FORWARD 15 LINES--IMMEDIATE ACTION

Format: space

Description: This command functions exactly the same way as the command "F15".

Command: BACKWARD 15 LINES--IMMEDIATE ACTION

Format: /

Description: This command functions in exactly the same way as the command "B15".

3. 8K BASIC

The Central Data BASIC Interpreter is used to allow execution of standard BASIC programs on a 2650 System. The user written BASIC program is entered using the editor and must be fully in memory at the time the program is run. To execute your BASIC program, type the letter "R" followed by a carriage return as an editor command. The interpreter takes roughly 6K bytes of RAM starting right after the editor in RAM.

Options

Once the editor has jumped you into BASIC, you have several options. Whenever BASIC is waiting for you to decide what option to choose, it will display:

OPTION:

on the 15th line of the screen. You can always get to this mode by typing escape any time while BASIC is running. If you press escape at the option, you will return to the editor.

The first option is RUN which is selected by typing the letter "R". BASIC will respond by writing "EXECUTING" beside the "R" and by starting the user program's execution. As stated earlier, you can press escape to return to choose another option.

The second option, SINGLE STEP, is entered with an "S". At that point, the line about to be executed (the first line of the program) is displayed on the screen. That line is executed on the next keypress (except of course, for escape) and the next line is then displayed.

The next option is INSPECT VARIABLE. To use this, just type "I" as the option. BASIC will then overwrite "OPTION" with:

INSPECT VARIABLE:

where you can type the name of any variable. The value of the variable is then printed on the bottom line of the

screen. Note that the variable must be used previous to the inspect command or BASIC will give an error.

The fifth and final option is LINE NUMBER BREAKPOINT. If you wish your program's execution to be stopped before a certain line number is executed, you can use this. Type "L" as the option and BASIC will respond asking:

BREAKPOINT AT LINE:

At this point you should type the line number to breakpoint at and hit carriage return. Every time that line is encountered you will be put into step mode. Note that the breakpoint is not cleared unless you change the line number to breakpoint at or press escape instead of a line number (which simply clears the breakpoint).

Memory Arrangement

Basic uses the same workspace as the editor. The text buffer is used to hold the user program during execution and the area allocated to the editor's insert buffer is used to store variables and other BASIC data. The variable table, which holds the variable names and their values, starts at the address pointed to by IBST. It grows toward the end of RAM and an error is given if it tries to go further. Starting at the end of RAM and moving back toward IBST is the stack area for BASIC. It is used by the program and is of a constantly changing length. If the variable table and the stack ever try to occupy the same memory, a stack overflow error occurs which means that you should allocate more space to the insert buffer in the editor.

Variable Information

Variable names in Central Data's BASIC can be from 1-15 characters long and the first character must be a letter. The variables afford six digit precision and have a range of approximately 10^{37} to 10^{-38} .

Below is a list of the error conditions that BASIC will catch:

SYNTAX ERROR is an error in the typing of a line. It could be an improper command, a missing comma, an imbalance in parenthesis or any other such mistake.

TYPE MISMATCH ERROR occurs if you try to add a floating point number to a string or use the wrong type of variable as an argument of a command.

LEN MISMATCH ERROR results if you try to do a calculation

with strings of different lengths.

ARG. ERROR indicates that you did not specify enough arguments for the command.

TOO MANY OPS ERROR is caused by too many operations in one expression; you will have to break the expression into two pieces.

LINE NOT FND. ERROR occurs when you do a GOTO, GOSUB, or RESTORE command with an invalid line number.

NEST ERROR results if you incorrectly nest your FOR-NEXT statements.

STK. OVF. ERROR indicates that the stack has grown over the top of the variable table. You must enlarge the insert buffer allocation in the editor to fix the problem.

NO STOP STATEMENT ERROR means you didn't put an stop statement at the end of your program.

VAR. NM. ERROR says that you tried to use a variable in an expression that had not been used before (one that had not been initialized) or that you tried to use a variable with more than 15 characters.

LN # ERROR indicates the line number is more than 4 characters long on this line.

DIV BY ZERO ERROR occurs if you try to divide a number by zero.

OVF. ERROR takes place if a floating point number exceeds its range (from approximately 10^{37} to 10^{-38}) or if a binary number (such as in a EXTOUT command) is too large.

OUT OF DATA ERROR means a read statement has tried to read past the end of the last DATA statement.

When an error is encountered, it writes the error message on the 15th line of the screen and the line which caused the error is displayed below it. On the failing line, a left arrow is displayed just to the right of where the error was detected. Due to the structure of BASIC, this arrow may not point directly at the error, but it usually narrows it down substantially.

4. BASIC Command and Function Reference Section

This section details the commands and functions that Central Data's BASIC allows. It is by no means meant to be an introduction on how to write BASIC programs which is left up to the user.

Two good books for beginners on BASIC are listed below and are available from most computer stores and through the mail from advertisements in various hobbyist computer magazines.

BasicBASIC
by James S. Coan
Hayden Book Company
Rochelle Park, N.J.

Advanced BASIC
by James S. Coan
Hayden Book Company
Rochelle, N.J.

The following standards are used to give the format of the commands and functions:

- 1) Any item enclosed in brackets ([]) is optional.
- 2) <expression> can be any mathematical expression to the limits set forth in this BASIC. In a LET statement it can also be a string.
- 3) Line numbers can range from 1 to 9999.
- 4) Variable names can be from 1 to 15 characters with the first character always alphabetic.

`ABS(<expression>)`

Description: The ABS function returns the absolute value of the expression.

Examples:

`ABS (X)`

`ABS ((3*X) *Y)`

[line number] CALL <expression>

Description: This command causes a branch to subroutine to an assembly language program located at the memory location indicated by the expression. A return instruction in the assembly language program causes a return to the BASIC program where it resumes execution at the next line.

Examples:

100 CALL A
CALL 1024

COS (<expression>)

Description: COS is a function which returns the cosine of the expression.

Examples:

COS (B)

COS (X-Y)

[line number] DATA <expression> [,<expression>...]
Description: DATA statements define string and floating point data which are assigned to variables using a READ statement. The data is read sequentially from the start of the program although the sequence can be altered using a RESTORE statement.

Strings must be enclosed in quote marks.

Examples:

```
25 DATA 13.56,"THIS IS A STRING",16E5  
DATA 10.0
```

[line number] DIM <variable name>(<size> [,<variable>...])

Description: The DIM statement allocates storage for floating point arrays or string variables. Strings may be up to 255 bytes in length. Floating point arrays can have up to 255 elements. All variables are zeroed when created. The size must be a constant, not a variable.

When referencing subscripted variables, the index for the array must be a variable (with no arithmetic operation and cannot be a constant. For example, to create an array 10 numbers long and put the number 20 into the second position, you must:

```
DIM A(10)
LET INDEX=2
LET A(INDEX)=20
STOP
```

Examples:

```
DIM LINE(30),ABC$(10),POINT(5)
100 DIM NAMES$(25)
```

[line number] ERASE

Description: This command causes the screen to be erased and the cursor to be positioned in the upper left hand corner.

EXP (<expression>)

Description: This function returns the value of e raised to the expression.

Examples:

EXP (A)
EXP (3)

✓ [line number] EXTIN <expression> , <variable>

Description: This command causes the computer to evaluate the expression setting the result equal to the number of the input port to be accessed. The data from the specified input port is then set equal to the variable name.

Examples:

```
EXTIN A,B  
10 EXTIN 10,B
```

✓ [line number] EXTOUT <expression>, <expression>

Description: This command causes the data determined by the second expression to be sent out at the output port number specified by the first expression.

Examples:

EXTOUT 10,12
EXTOUT PORT,DATA

— — —

```
[line number] FOR <variable> = <expression> TO <expression>
[STEP<expression>]
```

Description: All statements between the FOR and its corresponding NEXT are executed until the variable is greater than the TO value. The variable is initialized with the value of the first expression and is incremented by the (positive) STEP value at the end of each loop. If the STEP value is excluded, it is assumed to be 1.

The values for both TO and STEP are evaluated at the beginning of each loop, and any variables used in these expressions may change within the loop.

Examples:

```
FOR INDEX=32*J+LENGTH TO 36-J STEP ABS(30*SIN(Y))
FOR I=3 TO 5
```

FRC (<expression>)

Description: This function returns the fractional part of a floating point number.

Examples:

FRC(A)

FRC(32.5*A)

V [line number] GOSUB <expression>

Description: The address of the next line is stored on the GOSUB stack and then control is transferred to the line number which is equal to the expression. GOSUB's can be nested to any depth until the stack area is used up.

Examples:

32 GOSUB LINE
GOSUB 15

/ [line number] GOTO <expression>

Description: Control is transferred to the line with the number corresponding to the value of the expression.

Examples:

200 GOTO 50
GOTO A

[line number] IF <expression><relational operator><expression><statement>

Description: The two expressions are evaluated, and their relation (equal, first<second, or first> second is determined. If the relation is satisfied, the statement following the second expression is executed. Up to two relational operators can be used giving the possibilities: =, >, <, =>, <=, or ><.

Examples:

```
IF A>B GOTO 35
IF A=>B GOTO C
20 IF A<=32.5 IF B<=A LET D=12*SIN(RADIAN)
```

[line number] INPUT ["<string>"]<variable>[,<variable>...]

Description: The string, if present, is printed on the screen at the left edge of the next line. If no string is present, a question mark (?) is printed at the same location. For each variable in the statement, the system waits for the operator to enter an expression or string followed by a carriage return. As each expression is entered it is stored into the corresponding variable. Entered strings should not be enclosed in quote marks.

The prompting string can have quote marks in it by entering two quote marks in the string. In other words the string "TYPE ""HELLO"" gets printed as TYPE "HELLO".

Examples:

```
10 INPUT A,B,C  
INPUT "TYPE YOUR NAME" NAME$
```

— — —

INT(<expression>)

Description: The INT function returns the non-fractional part of the expression.

Examples:

INT(TOTAL/100)

INT(30*SIN(A))

[line number] LET <variable>=<expression>

Description: The value of the expression is stored into the variable. The type of expression, either floating point or string, must match the type of the variable. Any statement with no command is considered to be a LET statement.

Examples:

```
10 LET A$="HELLO"  
LET A=COS(9)  
A=COS(B)
```

LN(<expression>)

Description: This function returns the natural log of the expression.

Examples:

LN(3)

LN(A)

LOG(<expression>)

Description: This function returns the log of the expression.

Examples:

LOG(3.2)

LOG(VALUE)

[line number] NEXT <variable>

The NEXT statement denotes the end of the FOR-NEXT loop using the variable named in the FOR command.

Examples:

```
10 NEXT INDEX  
NEXT I
```

/ [line number] PEEK <expression>, <variable>

Description: This command causes the data at memory location expression to be read into the named variable.

Examples:

PEEK 1024,A

PEEK LOCATION,VARIABLE

✓ [line number] POKE <expression>, <expression>

Description: This command puts the value of the second expression into the memory location pointed to by the first expression.

Examples:

```
POKE 1024,32  
10 POKE DESTINATION,DATA
```

✓ [line number] PRINT [/]<object>[<delimiter><object>...]

Description: The PRINT statement is used to display data on the screen. If a slash (/) appears as the first character after the command, then the normal linefeed-carriage return to the next line on the screen is not performed at the beginning of the PRINT.

Objects can be one of seven different types as listed below:

#<expression>: This form prints only the integer part of the number.

%<expression>: This moves the cursor to the position on the line equal to the expression.

@<expression>,<expression>: This moves the cursor to the line specified by the first expression and the character position specified by the second expression.

&<expression>: This prints out the hex bytes of a floating point number.

"<string>": This form simply prints the string on the screen.

<expression>: This form prints the value of the expression in floating point form.

<string variable>: This prints the string identified by the variable name on the screen.

If the delimiter is a comma, eight spaces are printed between the two objects. If it is a semicolon (;), then the cursor is tabbed to the next (16 space multiple) tab stop. If the delimiter is a space, then no spaces will be printed between the two objects.

Examples:

```
100 PRINT / "THE DATE IS " DATE$  
PRINT "A=" A, "B" B, "C" C  
PRINT @5,12 "HELLO THERE"
```

✓ [line number] READ <variable>, [<variable>...]

Description: The READ statement takes sequential expressions in a set of DATA statements and assigns them to the listed variables. The normal flow of READ's is from the first DATA statement in the program to the last one.

If you try to read past the last DATA statement, you will get the error OUT OF DATA.

Examples:

```
READ A,B,C  
10 READ A$,B,NAME$
```

✓ [line number] * remark
(REM statement)

Description: Using an asterisk (*) as the command functions just like using a REM statement in other BASICS. It causes the line to be totally ignored and is only there for commenting purposes.

Examples:

```
*  
*THIS SECTION IS THE COMPUTATION SUBROUTINE  
*
```

✓ [line number] RESTORE <expression>

Description: This command changes the DATA statement pointer. This pointer tells the READ statement where to get its next data; and, thus, by doing a RESTORE, you change the sequence of DATA statements.

If <expression> is present, the data pointer is moved to begin at the line with that number. If no line number is present, then the data pointer is moved to the beginning of the program.

Examples:

RESTORE
RESTORE 20

✓ [line number] RETURN

Description: This command is placed at the end of each BASIC subroutine and causes a return to the calling (GOSUB using } program.

RND(<expression>)

Description: The RND function returns a pseudo-random number in the range of zero to the value of the expression.

Examples:

RND(A)

RND(3)

SGN(<expression>)

Description: This function returns a +1 if the expression is positive or zero and a -1 if the expression is negative.

Examples:

SGN(A)

SGN(10*A)

SIN(<expression>)

Description: This function returns the sine of the expression which must be expressed in radians.

Examples:

SIN(A)

SIN(.4)

SQR(<expression>)

Description: This function returns the square root of the expression. If the expression is less than zero, an error results.

Examples:

SQR(1)

SQR(A)

✓ [line number] STOP

Description: This command causes the execution of the BASIC program to be terminated. It functions in the same way as the END statement.

— — —

TAN(<expression>)

Description: This function returns the value of the tangent of the expression enclosed in parenthesis. The expression must be in radians.

Examples:

TAN(32*A-D)

TAN(.2)

5. 8K BASIC Program Listing

This section contains the program listings for the editor and BASIC.

LINE ADDR B1 B2 B3 LABEL OPCODE OPERAND

00002	00000				PRNT	03
00003	00000				ETX	EQU
00004	00000				BS	EQU
00005	00000				CTRLP	EQU
00006	00000				CTRLO	EQU
00007	00000				CTRLU	EQU
00008	00000				ESC	EQU
00009	00000				CRCD	EQU
00010	00000			*		
00011	00000			*		
00012	00000			*		
00013	00000			*		
00014	00000			*		
00015	00000			*		
00016	00000			*		
00017	00000			*		
00018	00000			*		
00019	00000			*		
00020	00000			*		
00021	00000			*		
00022	00000			*		
00023	00000			*		
00024	00000			*		
00025	00000			*		
00026	00000			*		
00027	00000			*		
00028	00000			*		
00029	00000			*		
00030	00000			*		
00031	00000			*		
00032	00000			*		
00033	00000			*		
00034	00000			*		
00035	00000			*		
00036	00000			*		
00037	00000			*		
00038	00000			*		
00039	00000			*		
00040	00000			*		
00041	00000			*		
00042	00000			*		
00043	00000			*		
00044	00000			*		
00045	00000			*		
00046	00000			*		
00047	00000			*		
00048	00000			*		
00049	00000			*		
00050	00000			*		
00051	00000			*		
00052	00000			*		
00053	00000			*		
00054	00000			*		
00055	00000			*		
00056	00000			*		
00057	00000			*		
00058	00000			*		

THE FOLLOWING ARE DEFINITIONS FOR THE SUPERVISOR SUBROUTINES

THE FOLLOWING ARE DEFINITIONS FOR THE FLOPPY PORTS

FCMR	EQU	0	COMMAND REGISTER
FTR	EQU	1	TRACK REGISTER
FSR	EQU	2	SECTOR REGISTER
FDR	EQU	3	DATA REGISTER
FCMRH	EQU	10	COMMAND REGISTER, WITH HOLD OPTION
FDRH	EQU	13	DATA REGISTER WITH HOLD OPTION

BRANCH INSTRUCTION CONDITION DEFINITIONS

REGISTER DEFINITIONS

R0	EQU	0	
R1	EQU	1	
R2	EQU	2	
R3	EQU	3	
			PROGRAM STATUS WORD DEFINITIONS
			CRY EQU 1

	C	C	F	
0060	0000	0000	EQU	4
0061	0000	00F	EQU	8
0062	0000	WC	EQU	10
0063	0000	RS	EQU	*
0064	0000	*		*
0065	0000	*		GENERAL DEFINITIONS
0066	0000	*		
0067	0000	*		
0068	0000	EBC	EQU	83
0069	2000	START	ORG	2000
0070	2000	1F 20 4F	BCTA.UN	EDITOR
0071	2003	40	BSTART	DATA
0072	2004	5C	IBST	DATA
0073	2005	60	ENDRAM	DATA
0074	2006	42 4C 4F	LITS	ALIT
0075	2014	FF	DATA	BLOCKS LEFT:
0076	2015	43 4F 4D	COMMMSG	ALIT
0077	201F	FF	DATA	COMMAND:
0078	2020	20 4F 4B	OKMSG	ALIT
0079	2023	FF	DATA	FF
0080	2024	54 4F 4F	TMMSG	ALIT
0081	202C	DATA	FF	TOO MUCH
0082	202D	53 55 4D	SCMSG	ALIT
0083	203A	FF	DATA	SUMHECK ERROR
0084	203B	00	COMS	FF
0085	203C	00 00	NAME	RES
0086	204C	00	TMPS	RES
0087	204D	00	TEMP	RES
0088	204E	04 02	EDITOR	LODI,R0
0089	2050	93	LPSL	02
0090	2051	76 40	PPSU	40
0091	2053	3F 22 4E	ESTA.UN	BEGIN
0092	2056	*		
0093	2056	*		
0094	2056	*		
0095	2056	*		
0096	2059	*		
0097	2059	*		
0098	205C	*		
0099	2059	05 0F	COMM	LODI,R1
0100	205B	06 10	COMM	0F
0101	205D	3F 21 45	BSTA.UN	LODI,R2
0102	2060	BF 24	ZBSR	10
0103	2062	05 F0	LODI,R1	SETCUR
0104	2064	06 10	LODI,R2	LFCR
0105	2066	3F 21 45	BSTA.UN	SETCUR
0106	2069	05 06	LODI,R1	LITS
0107	206B	3F 24 23	BSTA.UN	BLKW
0108	206F	3F 21 F7	BSTA.UN	FLNDND
0109	2071	0F 00	LODA,R3	IBST
0110	2074	AF 04 61	SUBA,F3	DUMA
0111	2077	A7 01	SUBI,R3	01
0112	2079	3F 21 09	BSTA,UN	BTODCT
0113	207C	06 13	LODI,R2	13
0114	207E	05 20	LODI,F1	20
0115	2080	3F 21 45	BSTA,UN	SETCUR

BIN to text blocks

LINE	ADDR	E1	B2	R3	LABEL	OPCODE	OPERAND
6116	2025	3F	24	23			LODI,R1 COMM SG
6117	2028	25	15				BLKW
6118	2028	7C			RL1		REDD,R0
6119	2086	F4	80				LODI,R0 80
6120	2088	18	7B				BCTR, EQ RL1
6121	202D	3F	21	2C			BSTA, UN OLC
6122	2020	74	20				LODI,R0 COMS
6123	2092	05	3F				LODI,R1 11
6124	2094	06	11				LODI,R2
6125	2096	3F	22	59			BSTA, UN ARROW
6126	2099	9C	02	83			ECFA, EQ SUFFENT
6127	209C	0C	2C	3B			LODA, R0 COMS
6128	205F	3F	21	2C			POSTA, UN OLC
6129	20A2	2C					FORZ, R0
6130	20A3	C1					STRZ, R1
6131	20A4	07	FF				LODI,R3 FF
6132	20A6	0F	20	3C	NI		LODA,R3 NAME,+
6133	20A9	18	26				BCTR, EQ CKC
6134	20AB	E7	10				COMI,R3 10
6135	20A1	9A	2C				BCFR, LT EADD
6136	20AF	E4	30				COMI,R0 0
6137	20B1	1A	26				BCTR, LT DS
6138	20B3	E4	39				COMI,R0 9
6139	20B5	19	22				BCTR, ST DS
6140	2037	01					LODZ,R1
6141	20B8	2C	29				LODI,R2 29
6142	20EA	81			CNE		ADDZ,R1
6143	20B9	BF	21				TPSL CRY
6144	20CB	18	2E				BCTR, EQ D255
6145	20BF	FA	79				BDRR,R2 ONE
6146	20C1	C1					STRZ,R1
6147	20C2	0F	6C	3C			LODA,R3 NAME,I
6148	20C5	A4	32				SUBI,R0 0
6149	20C7	81					ADDZ,R1
6150	20CE	C1					STRZ,R1
6151	20C9	B5	01				TPSL CRY
6152	20CB	98	59				BCFR, EQ NI
6153	20CD	05	FF		D255		LODI,R1 FF
6154	20CF	1F	CA				BCTR, UN EADD
6155	20D1	E7	22		CK0		COMI,R3 00
6156	20D3	98	66				BCFR, EQ EADD
6157	20D5	65	81				LODI,R1 01
6158	20D7	1B	02				BCTR, UN EADD
6159	2019	05	20		DS		LODI,R1 00
6160	20DE	0F	20	3B	EADD		LODA,R3 COMS
6161	20DE	E7	42				COMI,R3 B
6162	20E2	1C	22	0A			BCTA, EQ PACK
6163	20E3	F7	43				COMI,R3 C
6164	20E5	1C	25	E2			BCTA, EQ CHANGE
6165	20EE	F7	44				BCTA, EQ T
6166	20EA	1C	24	2E			BCTA, EQ DELT
6167	20ED	F7	46				COMI,R3 F
6168	20EF	1C	22	10			BCTA, EQ FORWD
6169	20F2	F7	45				COMI,R3 I
6170	20F4	1C	22	E2			BCTA, EQ INST
6171	20F7	E7	4C				COMI,R3 L
6172	20F9	1C	24	BB			BCTA, EQ LOADER

0174 20FF 1C 27 61 C R3
 0175 2101 E7 53 COMI,R3 B,JC
 0176 2103 1C 25 41 BCTA,EQ S,
 0177 2106 1F 20 59 BCTA,EQ TAFFO
 0178 2109 * BCTA,UN COND
 0179 2109 *
 0180 2109 *
 0181 2105 E7 63 BTODCT COMI,R3 63
 0182 210B 99 07 BCFR,GT NO100
 0183 210D 04 31 LODI,RO 1
 0184 210F 3F 21 E5 BSTA,UN WRT
 0185 2112 A7 64 SUBI,R3 64
 0186 2114 06 00 NO100 LODI,R2 00
 0187 2116 E7 09 SUB10 COMI,R3 09
 0188 2118 99 06 BCFR,GT TENIN
 0189 211A A7 0A SUBI,R3 A
 0190 211C 86 01 ADDI,R2 1
 0191 211E 1B 76 BCTR,UN SUB10
 0192 2120 02 TENIN LODZ,R2
 0193 2121 64 30 IORI,RO '0'
 0194 2123 3F 21 F5 BSTA,UN WRT
 0195 2126 03 LODZ,R3
 0196 2127 64 30 IO,I,RO '0'
 0197 2129 1F 21 E5 BCTA,UN WRT
 0198 212C *
 0199 212C *
 0200 212C *
 0201 212C E4 2B OLC COMI,RO 2B
 0202 212E 1C 21 FF BCTA,EQ ENDF GO TO END OF FILE
 0203 2131 E4 2D COMI,RO 2D GO TO BEGINNING OF FILE
 0204 2133 1C 22 49 BCTA,EQ BEGIN
 0205 2136 E4 20 COMI,RO FORWARD 15 LINES
 0206 2138 1C 22 0E BCTA,EQ F15
 0207 213B E4 2F COMI,RO BACKWARD 15 LINES
 0208 213D 1C 22 08 BCTA,EQ B15
 0209 2140 17 RETC,UN
 0210 2141 *
 0211 2141 *
 0212 2141 *
 0213 2141 17 FE MCUL ACON 17FE
 0214 2143 17 FF MCUR ACON 17FF
 0215 2145 *
 0216 2145 *
 0217 2145 *
 0218 2145 3F 23 F4 SETCUR BSTA,UN ERAS2
 0219 2148 CA F7 STRR,R2 *MCU1
 0220 214A CG F7 STRR,R1 *MCUR
 0221 214C 17 RETC,UN
 0222 214D *
 0223 214D *
 0224 214D *
 0225 214D 00 LINE RES 1
 0226 214E *
 0227 214E *
 0228 214E *
 0229 214E 3F 24 87 DISP BSTA,UN MTD A R3 A R3 1
 0230 214E 3F 24 87 MOVE LINE ADDRESS TO DUMMY ADDRESS

LINE# ADDR B1 B2 B3 LABEL OP CODE OPERAND

0230	2151 C1					
0231	2152 20				EORZ,R0	*MCUR
0232	2153 C8 EE				STRR,R0	DUM2
0233	2155 CC 04 62				STRA,RC	LINE
0234	2158 C8 73				STRR,RO	
0235	215A BB 24			LINENO	ZBSR	LFCR
0236	215C E8 E5				LODR,RO	*MCUR
0237	215E 44 0F				ANDI,RO	OF
0238	2160 14				RETIC,EQ	
0239	2161 0D F4 61			LODA,R1	*DUMA,1	
0240	2164 1F 21 A8			BCTA,LT	CLREND	
0241	2167 08 64.			LODR,FO	LINE	
0242	2169 84 01			ADDI,RO	1	
0243	216B C8 62			STRR,RO	LINE	
0244	216D C3			STRR,RO	R3	
0245	216F F4 09			COMI,RO	05	
0246	2170 19 05			BCTR,GT	TWOCH	
0247	2172 3F 21 E3			BSTA,UN	WRTBLLK	
0248	2175 1B 07			BCTR,UN	WR2ND	
0249	2177 04 31			TWOCH	LODI,RO	
0250	2179 3F 21 E5			BSTA,UN	WRT	
0251	217C A7 0A			SUBI,R3	A	
0252	217E 67 30			WR2ND	I0RI,R3	
0253	2180 03			LODZ,R3	0	
0254	2181 3F 21 E5			BSTA,UN	WRT	
0255	2184 3F 21 I3			BSTA,UN	WRTBLLK	
0256	2187 0D E4 61	NXTC		I0DA,R1	*DUMA,1	
0257	218A 1A 1C			BCTP,LT	CLEAR LAST PART OF PAGE IF END OF FILE	
0258	218C C3			STRR,RO		
0259	218D D5 05			FIRR,RI	NA1	
0260	218F 3F 24 9D			BSTA,UN	A1DA	
0261	2192 9A 14			BCTR,LT	CLREND	
0262	2194 E7 0D	NA1		COMI,R3	CRCD	
0263	2196 1C 21 EA			FCTA,FO	LINENO	
0264	2199 23			LODZ,R3		
0265	219A 3F 21 E5			BSTA,UN	WRT	
0266	219D 1B 68	*		ECTR,UN	NXTC	
0267	219F	*				
0268	219F	*				
0269	219F	*				
0270	219F 20		ERASE	EORZ,RO		
0271	21A0 CC 81 43			STRA,RO	*MCUR	
0272	21A3 3B 03			ESTR,UN	CLREND	
0273	21A5 BB 24			ZBSR,UN	LFCR	
0274	21A7 17			RETC,UN		
0275	21A8	*				
0276	21A8	*				
0277	21A8	*				
0278	21A8 0C 81 43	CLREND	L0DA,RO	*MCUR		
0279	21A8 F4 0F			TMI,RO	OF	
0280	21AD 14			RETC,EQ		
0281	21AF BB 24			ZBSR,UN	LFCR	
0282	21B2 1P 76	*		ECTE,UN	CLREND	
0283	21B2	*				
0284	21E2	*				
0285	21B2	*				
0286	21F2 0C		FTEMP	RES	1	

0288	21B3	*
0289	21F3	*
0290	21B3	3F 24 87 FWDX BSTA,UN MTD A
0291	21B6	C2 FWDX2 STRZ,R2
0292	21F7	01 LODZ,R1
0293	21B8	14 RETC,EQ
0294	21B9	20 EORZ,R0
0295	21BA	CC 04 62 STRA,R0 DUM2
0296	21BD	DE 61 NXTCIR LODA,R2 *DUMA,I
0297	21CC	1A 1D BCTR,LT ENDFW
0298	21C2	C2 6E STRR,R0 FTTEMP
0299	21C4	DA 11 BIRR,R2 CRCK
0300	21C6	3F 24 9D BSTA,UN A1DA
0301	21C9	1A CC BCTR,LT CRCK
0302	21CB	3F 24 69 BSTA,UN SIDA
0303	21CE	06 FF LODI,R2 FE
0304	21D0	04 83 LODI,R0 EBC
0305	21D2	CE E4 61 STRA,R2 *DUMA,I
0306	21D5	1P 08 BCTR,UN ENDFW
0307	21D7	08 59 CROK LODR,R0 FTTEMP
0308	21D9	E4 00 COMI,R0 CRCD
0309	21DB	98 60 BCER,R0 NXTCHR
0310	21DD	F9 EE BDRR,R1 NXTCHR
0311	21DF	CE 04 62 ENDFW STRA,R2 DUM2
0312	21E2	17 RETC,UN
0313	21E3	*
0314	21E3	*
0315	21E3	*
0316	21E3	WRBL EQU \$
0317	21E3	04 20 WRTBLK LODI,R0
0318	21E5	*
0319	21E5	*
0320	21E5	*
0321	21E5	77 10 WRT PPSL RS
0322	21E7	C3 BSTA,UN SWCHR
0323	21E8	3F 03 96 CFSI RS
0324	21EB	75 10 RETC,UN BACK
0325	21ED	17
0326	21EE	*
0327	21EE	*
0328	21EE	*
0329	21EE	3B 07 ENDF RSTR,UN FINDND
0330	21F0	3F 24 92 BSTA,UN MTCA
0331	21F3	05 01 LODI,R1 1
0332	21F5	1B 13 ECTR,UN BACK
0333	21F7	*
0334	21F7	*
0335	21F7	*
0336	21F7	3F 24 87 FINDND BSTA,UN MTD A
0337	21FA	05 F1 FDND2 LODI,R1 FF
0338	21FC	3F 21 B6 BSTA,UN FWDX2
0339	21FF	0C 84 61 LODA,R0 *DUMA
0340	2202	16 RETC,LT DUM2
0341	2203	0C 04 62 LODA,R0 DUM2
0342	2206	1B 72 BCTR,UN FINDND2
0343	2208	*

LINE ADDR R1 B2 B3 LABEL OPCODE OPERAND

0344	2208	*	*			
0345	2208	*	*			
0346	2208 05 0F	R15	L0D1.R1	F	DECIMAL 15	
0347	220A	*				
0348	220A	*				
0349	220A	*				
0350	220A 3B 0D	BACK	*BSTR,UN	BACKX		
0351	220C 1B 05	*				
0352	220E	*				
0353	220E	*				
0354	220E	*				
0355	220E 05 0F	F15	L0D1,R1	F	DECIMAL 15	
0356	2210	*				
0357	2210	*				
0358	2210	*				
0359	2210 3F 21 B3	FORWD	BSTA,UN	FWDX		
0360	2213 3F 24 S2	FBD	BSTA,UN	MTCA		
0361	2216 1F 20 F6	*				
0362	2219	*				
0363	2219	*				
0364	2219	*				
0365	2219 3F 24 87	BACKX	BSTA,UN	MTDA		
0366	221C C2					
0367	221D 2C		E0RZ,R0			
0368	221E CC 04 62		STRA,R0	DUM2		
0369	2221 85 01		ADDI,R1	1		
0370	2223 1B 03		BCTR,UN	CHEK		
0371	2225 0F C4 61	SUBL	L0DA,R2	*DUMA,-		
0372	2228 C3	CHEK	STRZ,R3			
0373	2229 16 00		COMI,R2	00		
0374	222B 98 08		BCFR,EQ	NOSU		
0375	222D 3F 24 69		BSTA,UN	SIDA		
0376	2230 FC 00 03		COMA,R0	START		
0377	2233 1A 14		BCTR,LT			
0378	2235 E7 0D	NOSU	COMI,R3	CRCD		
0379	2237 9E 6C		BCFR,FQ	SUBL		
0380	2239 F9 6A		BD,R,R1			
0381	223B EC 00		COMI,R2	02		
0382	223D 3C 24 9D		BSTA,FQ	A1DA		
0383	2240 86 01		ADDI,R2	1		
0384	2242 3C 24 9D		BSTA,FQ	A1DA		
0385	2245 0F 04 62		STRA,R2	DUM2		
0386	2248 17		RETC,UN			
0387	2249	*				
0388	2249	*				
0389	2249	*				
0390	2249 3B 03	BEGN	BSTR,UN	BEGIN		
0391	224P 1F 20 56		BCTA,UN	FBDN		
0392	224F	*				
0393	224F	*				
0394	224E	*				
0395	224F 0C 00 03	BEGIN	L0DA,R0	ESTART		
0396	2251 0C 04 FF		STRA,R0	CURA		
0397	2254 20		E0RZ,R0			
0398	2255 0C 04 60		STRA,R0	CUR2		
0399	2258 17		RETC,UN			
0400	2259	*				

0401	2253	CC 04 63	ARROW	STRA, R0	TMPA	
0402	2259	CD 04 64	ARROW	STRA, R1	TMPA+1	input char is B
0403	2250	CD 04 64	ARROW	LODI, R1	FE	else exec → RC = FF
0404	225F	CD 04 64	ARROW	COMI, R0	ESC	
0405	2261	3F 25 A8	INLOOP	BSTA, UN	GETKB	test of escape?
0406	2261	3F 25 A8	INLOOP	COMI, R0	ESC	
0407	2264	E4 1B	INLOOP	BCTA, EQ	ARROW1	
0408	2266	1C 22 AD	INLOOP	COMI, R0	ES	
0409	2269	E4 08	INLOOP	BCFR, EQ	NOES	
0410	226B	98 10	INLOOP	COMI, R1	FE	
0411	226D	E5 FF	INLOOP	BCTR, EQ	INLOOP	begin repeat of previous loop
0412	226F	18 70	INLOOP	BACK1		2nd time through loop.
0413	2271	3F 23 A3	INLOOP	COMI, R1	FE	→ HA+1
0414	2274	E5 FF	INLOOP	BSTA, EQ	ADDI, R2	
0415	2276	3C 24 1A	INLOOP	ADDI, R1	1	
0416	2278	8E 01	INLOOP	BCTR, UN	INLOOP	← HA ← P ← (from start)
0417	227B	1B 64	INLOOP	COMI, R0	CTRIP	
0418	227D	E4 10	INLOOP	BCFR, EC	STRIN	
0419	227F	98 05	INLOOP	COMI, R1	FF	
0420	2281	E5 FF	INLOOP	BCFR, EQ	INLOOP	
0421	2283	98 5C	INLOOP	RETC, UN	CCKTRL	
0422	2285	17	INLOOP	RETC, UN	IF CONTROL CHARACTER SKIP IT	
0423	2286	3F 25 C6	STRIN	BSTA, UN	BCTR, LT	→ no exec, part of skip loop
0424	2289	1A 56	STRIN	STR, R1	*TMPA, +	
0425	228B	CD A4 63	STRIN	COMI, R0	CRCD	
0426	228E	F4 0D	STRIN	BCTR, EQ	CIRLAS	
0427	2290	18 11	STRIN	DDR, R2	INLOOP	
0428	2292	F4 4D	STRIN	CRWAIT, REDD, R0	BS	↓ test of loop spec
0429	2294	70	STRIN	COMI, R0	INLOOP	→ no exec, part of skip loop
0430	229E	F4 08	STRIN	BCTR, FQ	CRCD	
0431	2299	18 48	STRIN	COMI, R0	CRWAIT	→ also given char & skip does not work
0432	2299	F4 0D	STRIN	BCFR, EQ	*TMPA, I	→ also given char & skip does not work
0433	229B	98 77	STRIN	REDD, R0	RETC, EQ	also given char & skip does not work
0434	229D	70	STRIN	TMI, R0	1	
0435	229E	F4 80	STRIN	DDR, R2	CL	
0436	22A0	14	STRIN	BCTR, UN	CRWT2	
0437	22A1	1B 7A	STRIN	BCTR, UN	BCTR, UN	
0438	22A3	20	CLRLAS	EORZ, R0	BCTR, UN	
0439	22A4	CD E4 63	CL	STRA, R1	BCTR, UN	
0440	22A7	85 01	CL	ADDI, R1	BCTR, UN	
0441	22A9	F4 79	CL	BCTR, UN	BCTR, UN	
0442	22AB	20	CL	EORZ, R0	BCTR, UN	
0443	22AC	17	CL	RETC, UN	BCTR, UN	
0444	22AD	04 FF	CL	LODI, R0	BCTR, UN	
0445	22AF	17	CL	RETC, UN	BCTR, UN	
0446	22B0	*	CL	BCTR, UN	BCTR, UN	
0447	22B0	*	CL	BCTR, UN	BCTR, UN	
0448	22B0	*	CL	BCTR, UN	BCTR, UN	
0449	22B0	3F 21 GF INST	CL	BCTR, UN	BCTR, UN	
0450	22B3	3F 23 80	CL	BCTR, UN	BCTR, UN	
0451	22B6	3F 21 B3	CL	BCTR, UN	BCTR, UN	
0452	22B9	3F 24 92	CL	BCTR, UN	BCTR, UN	
0453	22BC	3F 21 F7	CL	BCTR, UN	BCTR, UN	
0454	22BF	05 00	CL	LODI, R1	00	
0455	22C1	3F 25 A8 NEXI	CL	BCTR, UN	BCTR, UN	
0456	22C4	F4 28	CL	COMI, R0	PS	GETKB
0457	22C6	1C 23 94	CL	BCTR, EQ	BACKN	

LINE ADDR B1 B2 B3 LABEL OPCODE OPERAND

0458	22CB	E4	03		COMI,R0	ETX
0459	22CC	18	25	BCTR,EQ	BYFAS	
0460	22CI	3F	25	C6	BSTA,UN	CKCTR1
0461	22D0	1A	6F		BCTR,LT	NEXI
0462	22D2	CD	E4	63 BYPAS	STRA,R1	*TMPA,I
0463	22D5	F4	03		COMI,R0	ETX
0464	22D7	18	3D		BCTR,EQ	ENDI
0465	22D9	E4	0D		COMI,R0	CRCD
0466	22DB	3C	00	24	BSTA,EQ	LFCR
0467	22DD	3B	02		BSTR,UN	INSTS
0468	22E0	1B	5F		BCTR,UN	NEXI
0469	22E2		*		BCTR,UN	
0470	22E2	04	01	INSTS	LODI,R0	1
0471	22F4	06	02		LODI,R2	2
0472	22F6	3F	24	A9	BSTA,UN	ADDANY
0473	22F9	EC	00	04	COMA,R0	IBST
0474	22FC	1A	0A		BCTR,LT	INCR
0475	22FF	3F	24	69	BSTA,UN	SIDA
0476	22F1	04	FE		LODI,R0	FE
0477	22F3	CC	04	62	STRA,RO	DUM2
0478	22F6	1B	19		BCTR,UN	ENDINS
0479	22F8	D9	0D	INCR	BIRI,R1	RETCUN
0480	22FA	04	01		LODI,R0	1
0481	22FC	8C	04	63	ADDA,R0	TMPA
0482	22FF	EC	00	05	COMA,RO	ENDRAM
0483	2302	9A	04		BCFR,LT	STRTMP
0484	2304	CC	04	63	STRA,RO	TMPA
0485	2307	17			RETCUN	RETC,UN
0486	2308	04	01		STRTMP	LODI,R0
0487	230A	06	02		LODI,R2	2
0488	230C	3F	24	03	BSTA,UN	SUBANY
..	0489	230F	05	FF	LODI,R1	FF
0490	2311	04	03		ENDINS	LODI,R0
0491	2313	CD	E4	63	STRA,R1	*TMPA,I
0492	2316		*		EORZ,R0	
0493	2316		*		STRA,RO	DUM2
0494	2316		*		STRA,RO	TMF2
0495	2316	0C	04	61	LODA,R0	DUMA
0496	2319	CC	04	63	STRA,RO	TMPA
0497	231C	0F	04	62	LODA,R3	DUM2
0498	231F	3F	21	F7	BSTA,UN	FINDND
0499	2322	3F	24	70	BSTA,UN	SDCA
0500	2325	0D	04	62	LODA,R1	DUM2
0501	2328	20			EORZ,R0	
0502	2329	CC	04	62	STRA,RO	DUM2
0503	232C	CC	04	64	STRA,RO	TMF2
0504	232F	0D	E4	61	LODA,R1	*DUMA,I
0505	2332	CF	E4	63	STRA,RO	*TMPA,I
0506	2335	04	01		LODI,R2	1
0507	2337	06	06		LODI,R2	6
0508	2339	3F	24	03	BSTA,UN	SUBANY
0509	233C	98	05		BCFR,EQ	NOCK
0510	233E	0C	04	66	LODA,RC	BSA2
0511	2341	1E	1F	*	BCTR,EQ	INSTDN
0512	2343		*			
0513	2343	A5	01	NCCK	SUBI,R1	1
0514	2345	E5	FF		COMI,R1	FF

	L...	EQ	L...	EQ
0515	1211	98	1211	98
0516	2349	3F 24 69	BSTA, UN	SIDA
0517	234C	EC 03	COMA, R0	BSTART
0518	234F	1A 10	BCTR, LT	INSTDN
0519	2351	A7 01	NS1DA	01
0520	2353	F7 FF	SUBI, R3	FF
0521	2355	98 58	BCTR, EQ	DOWN
0522	2357	0C 04 63	LODA, R0	TMPA
0523	235A	A4 01	SUBI, R0	01
0524	235C	CC 04 63	STRA, R0	TMPA
0525	235F	1B 4E	BCTR, UN	DOWN
0526	2361	*		
0527	2361	3F 23 89	INSTDN	BSTA, UN
0528	2364	3F 24 87	BSTA, UN	IBADD
0529	2367	C1	STRZ, UN	MTDA
0530	2368	20	STRZ, R1	
0531	2369	CC 04 62	FORZ, R0	DUM2
0532	236C	07 FF	STRA, R0	
0533	236E	0F A4 63	INSERT	LODI, R3
0534	2371	F4 03	LODA, R3	*TMPA, +
0535	2373	18 0F	COMI, R0	ETX
0536	2375	C0 E4 61	BCTR, EQ	INSTE
0537	2378	E7 FF	STRA, R1	*DUMA, Y
0538	237A	3C 24 1A	COMI, R3	FF
0539	237D	DC 6F	BSTA, EQ	AIITA
0540	237F	3F 24 9D	STRA, UN	AIADA
0541	2382	1A 6A	BCTR, LT	INSERT
0542	2384	0E 01	INSTF	LODI, R1
0543	2386	1F 22 0A	PCTA, UN	BACK
0544	2389	*		
0545	2389	0C 00 04	IBADD	LODA, R0
0546	238C	CC 04 63	STRA, R0	TMPA
0547	238F	20	EORZ, R0	
0548	2390	CC 04 64	STRA, R0	TMP2
0549	2393	17	RETC, UN	
0550	2394	*		
0551	2394	3R 0D	BACKN	BSTR, UN
0552	2396	1E 22 C1	BCTA, LT	BACK1
0553	2399	04 01	LODI, R0	NEXI
0554	239B	06 02	LODI, R2	1
0555	239D	3F 24 03	BSTA, UN	SUBANY
0556	23A0	1F 22 C1	BCTA, UN	NEXI
0557	23A3	*		
0558	23A3	*		
0559	23A3	*		
0560	23A3	3F 23 D6	BACK1	BSTA, UN
0561	23A6	16	RETC, LT	
0562	23A7	0C 04 66	LODA, R0	ESA2
0563	23AA	A4 10	SUBI, R0	10
0564	23AC	CC 04 66	STRA, R0	BSA2
0565	23AF	CC 01 43	STRA, R0	*MCUR
0566	23B2	F7 08	PPSL	WC
0567	23B4	0C 04 65	LODA, R0	BSA1
0568	23B7	A4 00	SUBI, R0	0
0569	23F9	CC 04 65	STRA, R0	PSA1
2570	23BC	CC 01 41	STRA, R0	*MCU
0571	23BF	25 09	CPSI	WC

LINE ADDR BL BZ LABEL UPCODE

0572	23C1	04	1C	LODI, R0	1C
0573	23C3	CC	84	6F	ST,A, R0 *BSA1
0574	23C6	A5	21	SUBI, R1	1
0575	23C8	E5	FF	COMI, R1	FF
0576	23CA	98	FF	BCFR, EQ	NOSUB1
0577	23CC	9C	04	63	LODA, R0 TMPA
0578	23CF	A4	C1	SUPI, R0	1
0579	23D1	CC	E4	63	STRA, R0 TMFA
0580	23E4	20		NOSUB1	
0581	23E5	17	*	EORZ, R0	
0582	23D6		*	RETC, UN	
0583	23D6		*		
0584	23L6		*		
0585	23DE	0C	81	43	ERAS1 LODA, R0 *MCUR
0586	23D9	CC	04	66	STRA, R0 BSA2
0587	23D9	0C	81	41	LODA, R0 *MCU1
0588	23DF	CC	04	65	STRA, R0 BSA1
0589	23E2	E4	10	COMI, R0	10
0590	23E4	98	28	BCFR, EQ	EROLD
0591	23E6	0C	04	6C	LODA, R0 BSA2
0592	23E9	44	F0	ANDI, R0	F0
0593	23EB	F4	50	COMI, R0	50
0594	23ED	16		PETC, LT	
0595	23EE	04	20		
0596	23F0	CC	84	65	STRA, R0 *BSA1
0597	23F3	17	*	RETC, UN	
0598	23F4		*		
0599	23F4	0C	81	43	ERAS2 LODA, R0 *MCUR
0600	23F7	CC	24	66	STRA, R0 BSA2
0601	23IA	CC	81	41	LODA, R0 *MCU1
0602	23FD	CC	04	65	STRA, R0 BSA1
0603	2400	1B	6C	BCTR, IN	EROLE
0604	2402		*		
0605	2402	0C		STORE RES	1
0606	2403	CC	7D	SUBANY STRR, R0	STORE
0607	2405	0E	64	E0	LODA, R2 CUR2, I
0608	2408	A8	78		SUBR, R0 STORE
0609	240A	0E	64	60	STRA, R2 CUR2, I
0610	240D	77	08		PPSL WC
0611	240F	0E	64	5F	LODA, R2 CURA, I
0612	2412	A4	00		SUBI, R2 Q
0613	2414	CF	64	5F	STRA, R2 CURA, I
0614	2417	75	08		CPSL WC
0615	2419	17			RETC, UN
0616	241A		*		
0617	241A	04	21	A1TA	LODI, R0 1
0618	241C	8C	04	63	ADDA, R0 TMPA
0619	241F	CC	04	63	STRA, R0 TMPA
0620	2422	17			RETC, UN
0621	2423		*		
0622	2423	3D	60	20	BLKW LODA, R1 START, I
0623	2426	16			RETC, LT
0624	2427	3F	21	F5	ESTA, UN WRT
0625	242A	85	01		ADDI, R1 1
0626	242C	1B	25		BCTR, UN BLKW
0627	242E		*		
0628	242F	3F	21	B3	DELT ESTA, UN FWDX

0630	2433	3B	01	65		P		
0631	2435	1F	22	0A	*	RCTA,UN		
0632	2438	0F	04	5F	SHIFT	LODA,R3	CURA	
0633	243B	CF	04	63		STRA,R3	TMPA	
0634	243E	0C	04	60		LODA,R3	CUR2	
0635	2441	0D	04	62		LODA,R1	DUM2	
0636	2444	20				KORZ,R0		
0637	2445	CC	04	64		STRA,R0	TMP2	
0638	2448	CC	04	62		STRA,RE	DUM2	
0639	244B	0D	E4	61	UP	LODA,R1	*DUMA,I	
0640	244E	CF	E4	63		STRA,R3	*TMPA,I	
0641	2451	16				RETC,LT		
0642	2452	87	01			ADDI,R3	1	
0643	2454	3C	24	1A		BSTA,EQ	A1TA	
0644	2457	D9	72			BIRR,R1	UP	
0645	2459	3F	24	9D		BSTA,UN	A1DA	
0646	245C	1A	6D			BCTR,LT	UP	
0647	245F	17				RETC,UN		
0648	2461	00			*			
0649	245F	00						
0650	245F	00						
0651	2460	00						
0652	2461	00						
0653	2462	00						
0654	2463	00						
0655	2464	00						
0656	2465	00						
0657	2466	00						
0658	2467	00						
0659	2468	00						
0660	2469	00			*			
0661	2469	00	76		S1DA	LODA,R0	DUMA	
0662	246B	A4	01			SUBI,R0	1	
0663	246D	C8	72			STRR,R0	DUMA	
0664	246F	17			*	RETC,UN		
0665	2470							
0666	2470	08	70		SDCA	LDR,R0	DUM2	
0667	2472	A8	6C			SUBR,R0	CUR2	
0668	2474	C8	7C			STRR,R0	BSA2	
0669	2476	77	08			PFSL	WC	
0670	2478	08	67			LDR,R0	DUMA	
0671	247A	A8	63			SUBR,R0	CURA	
0672	247C	C8	67			STRR,R0	BSA1	
0673	247E	75	08			CPSL	WC	
0674	2480	04	01			LODI,R0	1	
0675	2482	06	06			LODI,R2	6	
0676	2484	1F	24	A9	*	BCTA,UN	ADDANY	
0677	2487				*			
0678	2487	08	56		MTDA	LDR,RE	CURA	MOVE CURRENT ADDRESS TO DUMMY ADDRESS
0679	2489	08	56			STRR,RE	DUMA	
0680	248B	0C	04	60		LODA,RE	CUR2	
0681	248E	CC	04	62		STRA,RE	DUMA+1	
0682	2491	17				RETC,UN		
0683	2492				*			
0684	2492	08	4D		MTCA	LDR,RE	DUMA	
0685	2494	CC	49			STRR,RE	CURA	

LIN	ADDI	B2	WABE*	WPCCCR	ANTRAND
0686	2496	2C	04	52	IODA, R0
0687	2499	CC	04	60	STRA, R0
0688	2490	17	*	*	RETC, UN
0689	249D	04	01	A1DA	IODI, R0
0690	249F	8C	04	61	ADDA, R0
0691	24A2	CC	04	61	STRA, R0
0692	24A2	EC	02	04	COMA, R0
0693	24A5	EC	02	04	TEST
0694	24A8	17	*	*	RETC, UN
0695	24A9	*	*	*	*
0696	24AC	BE	64	60	ADDANY ADDA, R2
0697	24AC	CE	64	60	STRA, R2
0698	24AF	77	08	*	PPSL WC
0699	24B1	26	*	*	EORZ, R0
0700	24B2	81	64	5F	ADDA, R2
0701	24B5	CY	64	5F	STRA, R2
0702	24B8	75	08	*	CPSL WC
0703	24BA	17	*	*	RETC, UN
0704	24BP	*	*	*	*
0705	24BB	3F	25	33	LOADER BSTA, UN
0706	24BE	3F	24	09	BSTA, UN
0707	24C1	9C	25	3C	BCFA, EQ
0708	24C4	1F	20	56	BCTA, UN
0709	24C7	*	*	*	FBDN
0710	24C7	*	*	*	WC
0711	24C7	17	F9	SUMK	ACON
0712	24C9	*	*	*	*
0713	24C9	*	*	*	*
0714	24C9	3F	24	87	LOADA
0715	24CC	20	*	*	WAIT
0716	24CD	CE	FF	*	*
0717	24CF	3F	02	E9	BSTA, UN
0718	24D2	E7	3B	*	COMI, R3
0719	24D4	98	76	*	FCFR, EQ
0720	24D6	05	FF	*	IODI, R1
0721	24D8	3F	02	E9	NANL
0722	24DB	0D	20	3C	BSTA, UN
0723	24DE	18	03	*	OVERSI
0724	24E0	E3	*	*	BCFR, EQ
0725	24E1	98	69	*	OVERSI
0726	24E3	FF	07	*	COMI, R1
0727	24E5	98	71	*	FCFR, EQ
0728	24E7	3F	02	E9	BSTA, UN
0729	24EA	0C	84	C7	IODA, R0
0730	24ED	16	*	*	RETC, LT
0731	24EE	15	*	*	RETG, GT
0732	24EF	0D	04	62	IODA, R1
0733	24F2	CC	04	62	STRA, R0
0734	24F5	CC	00	4C	STRA, R0
0735	24F8	3F	02	E9	ASCII
0736	24FB	03	*	*	IODZ, R2
0737	24FC	CD	04	61	SJRA, R1
0738	24FF	1A	2B	*	DUM2
0739	2501	D9	12	*	ENDINC
0740	2503	3F	24	SD	BCTR, LT
0741	2506	1A	0D	*	BCTR, LT
0742	2508	3F	24	69	RSTA, UN

WRITE THE OK MESSAGE
LOAD THE TEXTBUFFER FROM TAPE
IF CONDITION NOT 0, IT WAS A SUMCHECK ERROR
OTHERWISE GET A NEW COMMAND

MOVE THE START ADDRESS TO DUMA
CLEAR R0
CLEAR SUMCHECK

GET CHARACTER FROM TAPE
COMPARE FOR START OF BLOCK CHAR
IF NOT, WAIT
SETUP INDEX

GET NEXT CHARACTER
LOAD NEXT BYTE OF NAME TYPED IN

IF 0, STOP LOCKING
COMPARE THE CHARACTERS
IF NOT EQUAL, GET ANOTHER BLOCK

COMPARE FOR END OF NAME
IF NOT, DO NEXT CHARACTER
GET SUMCHECK CHAR IN

LOAD THE SUMCHECK
IF NOT ZPRO, RETURN

STORE IT INTO MEMORY
IF LAST CHARACTER, END ROUTINE
ADD 1 TO RI AND CHECK FOR OVERFLOW
ADD 1 TO HIGH PYTE (INCR BY 256)
IF STILL TEXT BUFFER, GO ON
RECOVER FROM LAST ADD

S S S N E . . . DEX
 PREPARE TO STORE DUMMY END OF FILE CODE
 -> *D*, *I*, *K*, *J* - *H* *E* *F*
 0744 250D 04 83 EC JODI,R0 EBC
 0745 250F CD E4 61 STRA,R1 *DUMA,I
 0746 2512 1F 25 C1 BCTA,UN TIME
 TELL THE OPERATOR THAT HE TRIED TO LOAD TOO MUCH
 0747 2515 01 00 4C LL1 LODA,R2 TMPS
 LOAD TMPS
 0748 2518 86 01 ADDI,R2 1 ADD 1
 0749 251A CE 00 4C STRA,R2 TMPS
 STORE IT
 0750 251D 98 59 * BCFR,EQ ASCII
 GO DO NEXT BLOCK
 0751 251F * SERI GET SUMCHECK CHARACTER
 0752 251F 3F 02 E9 ENDIF ESTA,UN
 0753 2522 CD 04 62 STRA,R1 DUM2
 RESTORE THE LOW BYTE OF THE POINTER
 0754 2525 0F 84 C7 LODA,R3 *SUMK
 LOAD THE SUMCHECK CHARACTER
 0755 2528 10 24 CC BC A,EQ WAIT
 IF EQUAL, NO ERRORS-BRANCH
 0756 252B 17 * RETC,UN RETURN OTHERWISE
 0757 252C * SERI GET SUMCHECK CHARACTER
 0758 252C 3F 02 E9 ENDING BSTA,UN
 0759 252F 00 84 C7 LODA,R0 *SUMK
 LOAD THE SUMCHECK CHARACTER
 0760 2532 17 RETC,UN
 0761 2533 *
 0762 2533 05 20 AOK LODI,R1 OKMSG
 0763 2535 3F 24 23 BSTA,UN BULKW
 WRITE THE LITERAL
 0764 2538 3F 23 D6 BSTA,UN ERAS1
 ERASE THE CURSOR
 0765 253B 17 RETC,UN
 0766 253C *
 0767 253C 07 2D SCERR LODI,R3 SCMSG
 SETUP FOR ERROR ROUTINE
 0768 253E 1F 25 94 BCTA,UN ERRORE
 WRITE ERROR MESSAGE
 0769 2541 *
 0770 2541 3F 25 33 TAPEO BSTA,UN AOK
 0771 2544 00 00 03 LODA,R0 BSTART
 WRITE THE MESSAGE 'OK' ON THE SCREEN
 0772 2547 CC 04 61 STRA,R0 DUMA
 LOAD THE FIRST ADDR OF TXTBUF
 0773 254A 20 TAPEOT EORZ,R0
 STORE INTO DUMA
 0774 254B CC 04 C7 STRA,R0 *SUMK
 CLEAR RE
 0775 254E CC 04 62 STRA,R0 DUM2
 CLEAR LCW BYTE OF POINTER
 0776 2551 07 3B LODI,R3 ?
 BEGINNING OF TAPE BLOCK IS SEMICOLON
 0777 2553 3F 02 4F BSTA,UN SERO
 SEND IT OUT
 0778 2556 05 FF LODI,R1 FF
 SETUP THE INDEX REGISTER
 0779 2558 0D 20 3C NAMO LODA,R1 NAME,+
 GET THE NEXT CHARACTER OF THE FILE NAME
 0780 255B C3 STRZ,R3 SERO
 STORE INTO R3
 0781 255C 3F 02 4F BSTA,UN SERO
 STORE INTO R3
 0782 255F E5 07 COMI,R1
 SEE IF END OF NAME
 0783 2561 08 75 BCFR,EQ NAMO
 IF NOT, DO NEXT CHARACTER
 0784 2563 0F 84 C7 LODA,R3 *SUMK
 LOAD THE SUMCHECK SO FAR
 0785 2566 3F 02 4F BSTA,UN SERO
 SEND IT OUT
 0786 2569 05 0A LODI,R1
 CLEAR R1
 0787 256B CD 84 C7 STRA,R1 *SUMK
 STORE INTO SUMCHECK--START AGAIN
 0788 256E 0D E4 E1 BYTEO LODA,R1 *DUMA,I
 GET NEXT BYTE OF TEXT
 0789 2571 C3 STRZ,R3
 STORE INTC R3
 0790 2572 1A 14 BCTR,LT
 ENTO
 0791 2574 3F 02 4F BSTA,UN SERO
 SERIAL OUT IT
 0792 2577 DG 07 BIRR,R1 BYTEO
 INCR R1, CHECK FOR OVERFLOW
 0793 2579 0F 84 C7 LODA,R3 *SUMK
 LOAD THE SUMCHECK CHARACTER
 0794 257C 3F 02 4F BSTA,UN SERO
 SEND IT OUT
 0795 257F 3F 24 9D BSTA,UN ALDA
 INCRIMENT THE ADDRESS BY 256
 0796 2582 9F 20 E6 BCFA,LT
 FBDN
 IF STILL IN TEXT BUFFER, GO ON
 0797 2585 1F 25 4A BSTA,UN TAFOOT
 OTHERWISE QUIT
 0798 2588 3F 02 4F ENDO BSTA,UN SERO
 SEND OUT THE CHARACTER END OF BLOCK
 0799 2588 3F 02 4F ENDO BSTA,UN SERO
 SEND OUT THE CHARACTER END OF BLOCK

LINE	ADDR	R1	B2	R3	LABEL	OPCODE	OPTRANT
0800	25EF 0F 84	C7	ENDT	LODA,R3	*SUMK	LOAD SUMCHECK BYTE	
0801	258E 3F 02	4F		BSTA,UN	SERO	SEND IT OUT	
0802	2591 1F 20	56		BCTA,UN	FBDN	GET A NEW COMMAND	
0803	2584	*					
0804	2594 06 13	ERRORE	LODI,R2	13			
0805	2596 05	CF		LODI,R1	CF		
0806	2598 3F 21	45		BSTA,UN	SETCUR		
0807	25EB 03	*		STRZ,R3			
0808	259C C1			STRZ,R1			
0809	259D 3F 24	23		BSTA,UN	BLKW		
0810	25A0 3F 23	F4		BSTA,UN	ERAS2		
0811	25A3 3F 01	01		BSTR,UN	PAUSE		
0812	25A5 1F 20	56		BCTA,UN	FBDN		
0813	25A8	*					
0814	25A8 3F 25	B2	GETKB	BSTA,UN	PAUSE		
0815	25AB 3F 21	E5		BSTA,UN	WRT		
0816	25AE 08 01			LODR,R0	PAUSES		
0817	25B0 17	*		RETC,UN			
0818	25B1 00	*		PAUSES RES	1		
0819	25B1 00	*					
0820	25B2	*					
0821	25B2 7E			PAUSE	REDD,R0		
0822	25B3 F4	80		TMI,R0	80		
0823	25B5 18	7B		FCTR,EQ	PAUSE		
0824	25B7 C8	78		STRR,R0	PAUSES		
0825	25B9 4E	PL		REDD,R0	PL		
0826	25BA F4	80		TMI,R0	80		
0827	25BC 98	7B		FCFR,EQ	PL		
0828	25BE 08	71		LODR,R0	PAUSES		
0829	25C0 17			RETC,UN			
0830	25C1 07	24		TME	LODI,R3	TMMSG	
0831	25C3 1F 30	77		BCTA,UN	ERROR		
0832	25C6	*					
0833	25C6 14	01		CKCTRL COMI,R0	CRCD		
0834	25C8 98	05		FCFR,EQ	CKLP12		
0835	25CA 75	00		CDSL	80		
0836	25C0 77	40		PPSL	40		
0837	25C1 17			RETC,UN			
0838	25CF 24	FF		CKLP12 FORI,R0	FF		
0839	25D1 77	10		PPSL	RS		
0840	25D3 C1			STRZ,R1			
0841	25D4 24	FF		FORI,R0	FF		
0842	25D6 F5	F0		TMI,R1	E0		
0843	25D8 98	05		BCFR,EQ	NOCTCK		
0844	25DA 77	80		PPSL	80		
0845	25DC 7E	50		CPSL	50		
0846	25DF 17			RETC,UN			
0847	25DF 75	D0		NOCTCK CPSL	DE		
0848	25E1 17	*		RETC,UN			
0849	25E2	*					
0850	25E2 01			CHANGE LODZ,R1			
0851	25E3 16	59		BCTA,EQ	COMD		
0852	25E6 3F	23		BSTA,UN	IBADD		
0853	25E9 A5	61		SUBI,R1	1		
0854	25EB 3F	21	P3	BSTA,UN	FWDX		
0855	25EE 3F	24	92	BSTA,UN	MTCA		
0856	25F1 3F	21	9F	BSTA,UN	ERASE		

LINE ADDR F1 F2 F3 LABEL OP CODE OPERAND

0914	2684	18	0F		BCTR, EQ	ENDCHL
0915	2686	E4	03		COMI, R0	ETX
0916	2688	9C	26	41	BCFA, EQ	CHGL
0917	268F	04	01		Lodi, R0	1
0918	268D	06	02		Lodi, R2	2
0919	268F	3F	24	03	BSTA, UN	SUBANY - GET RID OF ETX BEING IN PICTURE
0920	2692	1F	26	A0	BCTA, UN	ENDCHL
0921	2695	3F	26	CA	ENDCHL	BSTA, UN
0922	2698	98	7B		LOADU	BCFR, EQ
0923	269A	3F	26	D2	ENDCHL	BSTA, UN
0924	269D	1F	26	05	A1SC	DISPL
0925	26A0	*	*	*	BCTA, UN	
0926	26A0	0C	04	61	ENDCHL	DUMA
0927	26A3	CC	04	65	LODA, R0	BSA1
0928	26A6	0C	04	62	STRA, R0	DUM2
0929	26A9	CC	04	66	Loda, R0	BSA2
0930	26AC	0C	04	67	LODA, R0	CHGA
0931	26AF	CC	04	61	STRA, R0	DUMA
0932	26B2	0C	04	68	Loda, R0	CHG2
0933	26B5	CC	04	62	STRA, R0	DUM2
0934	26B8	3F	24	38	BSTA, UN	SHIF
0935	26BF	0C	04	65	Loda, R0	BSA1
0936	26C1	0C	04	61	STRA, R0	DUMA
0937	26C1	0C	04	66	Loda, R0	BSA2
0938	26C4	CC	04	62	STRA, R0	DUM2
0939	26C7	1F	23	16	*	ENDI
0940	26CA	*	*	*	BCTA, UN	
0941	26CA	0F	84	67	LOADD	Loda, R3
0942	26CD	E7	0D		COMI, R3	*CHGA
0943	26CF	14	*	*	RET C, UN	CRCD
0944	26D0	04	01	A1SC	Lodi, R0	1
0945	26D2	06	02		Lodi, R2	2
0946	26D4	3F	24	03	BSTA, UN	SUBANY
0947	26D7	04	01		Lodi, R0	1
0948	26D9	06	08		Lodi, R2	8
0949	26DB	3F	24	A9	BSTA, UN	ADDANY
0950	26DE	04	80		Lodi, R0	80
0951	26E0	17	*	*	RET C, UN	
0952	26E1	*	*	*		
0953	26E1	03	*	STRTMS	LodZ, R3	
0954	26E2	3F	21	E5	BSTA, UN	WRT
0955	26E5	03	*	*	LODZ, R3	
0956	26E6	CD	F4	63	STRA, R0	DUM2
0957	26F9	04	01		STRA, R1	*TMPA, I
0958	26F9	06	02		Lodi, R0	1
0959	26ED	3F	24	A9	BSTA, UN	ADDANY
0960	26F2	FC	00	04	COMA, R0	IBST
0961	26F3	1A	0B		FCTR, LT	AIR1
0962	26F5	3F	24	E9	BSTA, UN	SIDA
0963	26F8	E4	FF		Lodi, R0	FE
0964	26FA	CC	04	62	STRA, R0	DUM2
0965	26FD	1F	27	19	ECTA, UN	ENDCHG
0966	2700	D9	0D	A1R1	BIRR, R1	RETCN
0967	2702	04	01		Lodi, R0	1
0968	2704	8C	04	63	ADDA, R0	TMPA
0969	2707	1C	00	25	COMA, R0	ENDRAM
0970	270A	9A	04		ECFR, LT	ABRupt

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1 CC .. 33 ..... RO 1
0972 270F 17 RETCN RETC,UN
0973 2710 04 01 ABRUPT LODI,RO 1
0974 2712 06 02 LODI,R2 2
0975 2714 3F 24 03 BSTA,UN SUBANY
0976 2717 05 FF LODI,R1 FF
0977 2719 04 03 ENDCH LODI,RO FTX
0978 271B CD E4 63 STRA,R1 *TMPA,I
0979 271E 1F 26 A0 BCTA,UN ENDCH
0980 2721 * ..... ON
0981 2721 3F 23 A3 CHRACK BSTA,UN BACK1
0982 2724 16 RETC,LT
0983 2725 04 01 LODI,RO 1
0984 2727 06 02 LODI,R2 2
0985 2729 3F 24 03 BSTA,UN SUBANY
0986 272C 17 RETC,UN
0987 272D ON EQU Q
0988 272D * ..... PRNT Q
0989 272D * ..... ON
0990 272D * ..... FLOATING POINT ROUTINE EQUATES
0991 272D *
0992 272D *
0993 272D LEN EQU 4 LENGTH (IN BYTES) OF A FLOATING PT NUMBER
0994 272D LEN2 EQU LEN+LEN 2 X THE LENGTH
0995 272D LEN4 EQU LEN2+LEN2 4 X THE LENGTH
0996 272D LEN8 EQU LEN4+LEN4 8 X THE LENGTH
0997 272I MLEN EQU LEN8-7 USED IN THE MULTIPLY ROUTINE
0998 272D DLLEN EQU LEN8-1 USED IN THE DIVIDE ROUTINE
0999 272D *
1000 272D *
1001 272D * ..... MAKE THE INPT POINTER EQUAL TO THE CURA POINTER IN THE EDITOR
1002 272D *
1003 272D *
1004 272D INPT EQU CURA
1005 272D *
1006 272D *
1007 272D * ..... DIRCUR SETS UP THE CURSOR ADDRESS TO LINE 14 POS 4
1008 272D *
1009 272D *
1010 272D DIRCUR EQU 10
1011 272D DIRCUA EQU 4E
1012 272D *
1013 272D *
1014 272D * ..... GENERAL DEFINITIONS
1015 272D *
1016 272D *
1017 272D SFELT EQU A
1018 272D CR EQU 0D ..... DEFAULT LENGTH OF STRING IF NOT DIMENSIONED
1019 272D 00 00 INTSTG RES
1020 2731 00 00 FRCSTG RES 4 ..... CARRIAGE RETURN
1021 2735 00 DATA 00
1022 2736 00 00 NAMPUF RES F
1023 2745 00 00 ADR RES 2
1024 2747 00 FLAG RES 1
1025 2748 00 00 OPA RES LEN
1026 274C 00 SIGN RES 1
1027 274D 00 00 OFB RFS LEN

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LINE ADDR B1 B2 B3 LABEL OPCODE OPERAND

1028	2755	00	00	CPSIK	RES	10		
1029	2765	00	00	LIN	RFS	4		
1030	2769	00	00	LINNUM	RES	4		
1031	276D	00	00	INBUF	RES	14		
1032	2781	*	*					
1033	2781	*	*					
1034	2781	*	*					
1035	2781	VC	02	04	BASIC	YB\$T	GET START OF BASIC'S RAM	
1036	2784	CC	15	24	STRA, R0	TABEND	INITIALIZE END OF VARIABLE TABLE	
1037	2787	VC	00	05	LODA, R0	ENDRAM	GET THE END OF RAM LOCATION	
1038	278A	CC	12	CF	STRA, R0	SP	INITIALIZE GOSUB STACK POINTER	
1039	278D	VC	00	03	LODA, R0	START	START OF WHERE TO LOOK FOR DATA STATEMENTS	
1040	2790	CC	0C	EF	STRA, R0	DATPNT		
1041	2793	CC	08	48	EORZ, R0	CLEAR R0		
1042	2794	CC	08	48	STRA, R0	PLINE	NO LINE BREAKPOINT YET	
1043	2797	CC	13	02	STRA, R0	PDATA	NO DATA READY YET	
1044	279A	CC	15	25	STRA, R0	TABEND+1	*	
1045	279D	CC	0C	60	STRA, R0	DATPNT+1	*	
1046	27A0	CC	12	00	STRA, R0	SP+1	*	
1047	27A3	CC	1F	64	STRA, R0	RNDSTR		
1048	27A6	CC	95	24	STRA, R0	*TABEND		
1049	27A9	3F	21	0F	RSTA, UN	ERASE	ERASE THE SCREEN	
1050	27AC	*	*	*				
1051	27AC	01	01	OPTION LODI, R3	I	OPTION		
1052	27AE	3F	30	9B	BS A, UN	DIRWRT	WRITE IT ON DIRECTIVE LINE	
1053	27B1	3F	25	A8	OPT1	BSTA, UN	GETKB	GET KEY. WRITE ON SCREEN
1054	27B4	E4	1B		COMI, R0	ESC		
1055	27FC	1C	22	4F	BCTA, EQ	'EDITOR'	ESCAPE, DONE WITH BASIC	
1056	27B9	E4	52		COMI, R0	'R'	NORMOP. R IS FOR NORMAL EXECUTION	
1057	27BD	18	14		BCTA, EQ	'S'		
1058	27ED	E4	53		COMI, R0	'S'		
1059	27BF	1C	28	04	BCTA, EQ	STEPR	S IS STEP MODE	
1060	27C2	E4	4C		COMI, R0	'L'		
1061	27C4	1C	28	29	BCTA, EQ	BLINE	L IS TO SET BREAKPOINT LINE	
1062	27C7	E4	45		COMI, R0	'I'		
1063	27C9	1C	28	60	BCTA, EQ	INSVS	I IS TO INSPECT VARIABLES	
1064	27CC	3F	30	B6	BSTA, UN	RECUR	RECUR	
1065	27CF	1B	5B	*	BCTR, UN	OPTION	NO MATCH, TRY AGAIN	
1066	27D1	*	*	*				
1067	27E1	07	06	NORMOP LODI, R3	6			
1068	27D3	3F	30	C7	BSTA, UN	WRTM	'EXECUTING'	
1069	27D6	3F	22	4E	BSTA, UN	RECUR	RECUR	
1070	27E9	3F	30	F6	BSTA, UN	RECUR	RECUR	
1071	27DC	0C	08	48	NORM1	LODA, R0	PLINE	NO LINE BREAKPOINT
1072	27DF	18	11		BCTR, EQ	NORM6	GET LINE NUMBER 7 ASCII	
1073	27E1	3F	33	FF	BSTA, UN	GETLIN	GET LINE NUMBER 7 ASCII	
1074	27E4	05	04		LODI, R1	4	DO 4 BYTE COMPARE	
1075	27E6	0D	47	65	NORM5	LODA, R1	LIN. - GET CHARACTER FROM STORED WORD	
1076	27E8	ED	67	69	COMA, R1	LINNUM, I	CHECK FOR MATCH	
1077	27EC	98	04		BCFR, EQ	NORM6	NO MATCH. EXECUTE INSTRUCTION	
1078	27EE	59	76		BRNR, R1	NORM5	CHECK FOR DONE	
1079	27F0	1B	18		BCTR, UN	STEP	DONE, SWITCH TO STEP MODE	
1080	27F2	70			REED, R0		READ KEYBOARD PORT	
1081	27F3	E4	1B		COMI, R0	ESC	TEST FOR ESCAPE KEY PRESSED	
1082	27F5	98	96		NORM7			
1083	27F7	3F	25	B9	BSTA, UN	PL	clear keyboard?	
1084	27FA	1F	27	AC	BCTA, UN	OPTION		

1025	<FF>	04	2F	05	DC	*	0017	0017	R6			
1066	27FF	05	DC			*	L0DI	R1	NORM1	SHLIN	SHLIN	SHLIN
1067	2801	1F	28	98		*	BCTA,UN	EXEC	EXECUTE INSTRUCCION			
1088	2804	3F	30	B6	STEP R	BSTA,UN	RECUR					
1089	2804	3F	30	B6	STEP R	BSTA,UN	RECUR					
1090	2807	3F	22	4E	STEP	L0DI,R3	BSTA,UN	BEGIN	DIRWRT	'STEP MODE'		
1091	280A	07	09				L0DI,R3	9				
1092	280C	3F	30	9B		BSTA,UN	DIRWRT	WRITE ON DIRECTIVE LINE				
1093	280F	3F	28	8B		BSTA,UN	SHINPT					
1094	2812	06	FF			L0DI,R2	FF					
1095	2814	3F	28	65		BSTA,UN	SHLIN	SHOW CURRENT LINE				
1096	2817	3F	30	B6		BSTA,UN	RECUR					
1097	281A	3F	25	B2		BSTA,UN	PAUSE	WAIT FOR KEY				
1098	281D	E4	1B			COMI,R0	ESC	CHECK FOR ESCAPE				
1099	281F	1C	27	AC		BCTA,EQ	OPTION	ESCAPE, RETURN TO OPTION				
1100	2822	04	28			L0DI,R0	STEP					
1101	2824	05	0A			L0DI,R1	STEP	SETUP RETURN ADDRESS FOR EXEC				
1102	2826	1F	28	98	*	BCTA,UN	EXEC	NOT ESCAPE, EXECUTE THIS INSTRUCTION				
1103	282C				*							
1104	2829	07	0A	BLINE	L0DI,R3	QA						
1105	282B	3F	30	A5		BSTA,UN	DIRWNL	'BREAKPOINT AT LINE NUMBER'				
1106	282E	04	27			L0DI,R0	LIN					
1107	2830	05	65			L0DI,R1	LIN	GET BUFFER TO STORE AT				
1108	2833	06	04			L0DI,R2	4	GET 4 CHARACTERS MAXIMUM				
1109	2834	3F	22	59		BSTA,UN	ARROW	GET STRING FROM KEYBOARD				
1110	2837	12	05			BCTR,EQ	BLINE1	NO ESCAPE PRESSED				
1111	2839	20			*	FORZ,R0						
1112	283A	C8	0C			STRR,R0	PLINE					
1113	283C	1B	04			BCTR,UN	RECOPT					
1114	283E	04	FF	BLINE1	L0DI,R0	FF						
1115	2840	C8	06			STRR,R0	PLINE					
1116	2842	3F	30	B6	RECOPT	BSTA,UN	RECUR					
1117	2845	1F	27	AC		BCTA,UN	OPTION					
1118	2848			*								
1119	2848			*								
1120	2848	00			*	PLINE,RES	1					
1121	2848	00			*							
1122	2849			*								
1123	2849			*								
1124	2849			*								
1125	2849	07	0D	INSVAR	L0DI,R3	0D		'INSPECT VARIABLE'				
1126	284B	3F	30	9B		BSTA,UN	DIRWRT	WRITE ON DIRECTIVE LINE				
1127	284E	3F	28	FC		BSTA,UN	AROWCR					
1128	2851	04	28			L0DI,R0	INSVRT					
1129	2853	CC	08	96		STRA,R0	RTNADR					
1130	2856	04	5D			L0DI,R0	INSVRT					
1131	2858	C8	3D			STRR,R0	RTNADR+1					
1132	285A	1F	21	7D		BCTA,UN	PRINT					
1133	285D	3F	29	2F	INSVRT	BSTA,UN	RECBT					
1134	2860	3F	30	B6	INSVS	BSTA,UN	RECUR					
1135	2863	1B	64			BCTR,UN	INSVAR					
1136	2865			*								
1137	2865			*								
1138	2865			*								
1139	2865	05	5C			SHLIN	L0DI,R1	5C				
1140	2867	5A	05			ERNR,R2	SHLINS					
1141	2869	04	5F			L0DI,R0						

LINE	ADDR	P1	B2	R3	LARBT	OPCODE	OPRND	
1142	286B	3F	21	E5		BSTA,UN	WRT	
1143	286E	A6	01		SHLIN3	SUBI,R2	1	
1144	2870	C8	97		LODR,RO	*SHPNT	GET INPUT CHARACTER	
1145	2872	E4	0D		COMI,RO	CR		
1146	2874	14			RETC,EQ			
1147	2875	3F	21	E5	BSTA,UN	WRT	PRINT CHARACTER	
1148	2878	08	10		LODR,RO	SHPNT+1		
1149	287A	84	01		ADDI,RO	1		
1150	287C	C8	0C		STRR,RO	SHPNT+1		
1151	287F	9E	0C		ECER,FQ			
1152	2880	08	07		LODR,RO	SHPNT		
1153	2882	84	01		ADDI,RO	1		
1154	2884	C8	03		STRR,RO	SHPNT		
1155	2886	F8	5F		SHLIN2	BDRR,RI	SHLIN1	
1156	2888	17			RETC,UN			
1157	2889		*					
1158	2889		*					
1159	28E9		*					
1160	28E9	00	00		SHPNT	RES	2	
1161	288B		*					
1162	288B		*					
1163	28E8		*					
1164	288E	0C	04	5F	SHINPT	LODA,RO	INPT	
1165	288E	C8	79		STRR,RO	SHPNT	SAVE INPUT POINTER FOR POSSIBLE ERROR	
1166	2890	0C	04	60	LODA,RC	INPT+1		
1167	2893	C8	75		STRR,RO	SHPNT+1		
1168	2895	17			RETC,UN			
1169	28E6		*					
1170	28E6		*					
1171	2896		*					
1172	2896	00	00		RTNADR	RES	2	
1173	2898		*					
1174	2898		*					
1175	2898	C8	7C		EXEC	STRR,RO	RTNADR	
1176	289A	C9	7B		STRR,RI	RTNADR+1	<i>RTNADR + 1 & LDR, RI</i>	
1177	289C	0C	84	5F	LODA,RO	*		
1178	289F	F4	2A		COMI,RO	*		
1179	289F	F4	2A					
1180	28A1	1C	33	CC	BCTA,FQ	SKPLIN	<i>Get next character line in memory line with count and line address as current and implied position of read, kbd</i>	
1181	28A4	3B	65		BSTL,UN	SHINPT		
1182	28A6	3F	33	EE	BSTA,UN	GETLIN		
1183	28A9	04	29		LODI,RO	COMTRL		
1184	28AB	05	3A		LODI,RI	COMTBL		
1185	28AD	3F	08		BSTR,UN	TABUP	<i>2nd tab, location in DST</i>	
1186	28AF	9C	2D	47	BCTA,EQ	LET	DO IMPLIED LET IF NO COMMAND	
1187	28B2	1F	A8	FA	BCTA,UN	*DST	<i>of tab, write</i>	
1188	2EB5		*					
1189	28B5	00	00		TABSTG	RES	2	
1190	28B7		*					
1191	28B7	C8	7C		TABUP	STRR,RC	TABSTG	
1192	28F9	C8	7B		STRR,RI	TABSTG+1	SKIP SPACES - <i>tab after blank - read</i>	
1193	28BD	3F	31	DB	TABL0K	BSTA,UN	SKPDEC	
1194	28BE	3F	31	F3	BSTA,UN	SINPT	INPUT POINTER NOW SET AT INPUT WORD - <i>Set up word in STE1</i>	
1195	28C1	05	FF		LODI,RI	FF	R1 IS INDEX FOR COMMAND TABLE	
1196	28C3	3F	33	D5	GETC2	BSTA,UN	GETCHR	GET NEXT CHARACTER
1197	28C6	0D	A8	B5	LODA,RI	*TABSTG,+	GET CHARACTER FROM COMMAND TABLE	
1198	28C9	E4	2E		COMI,RO	CHECK FOR END OF WORD		

1200	28CD	E2	18	I ^E	EQ	COM2,R3	E MAT
1201	28CE	18	73			BCTR,EQ	CHECK FOR INPUT TABLE MATCH
1202	28D0	0D	A8	B5	GETC3	*TABSTG,+ LODA,R1 CCMI,R0	BCST,R,ES GETC3 and check for match
1203	28D3	F4	2E				
1204	28D5	98	79			BCFR,EQ	GETC3 SKIP TO END OF WORD
1205	28D7	85	03			ADDI,R1	3
1206	28D9	0D	E8	B5		LODA,R1	*TABSTG,I GET POSSIBLE END OF TABLE
1207	28DC	1A	07			BCTR,LT	END OF TABLE DO IMPLIED IFT
1208	28DE	A5	01			SUBI,R1	1 RESET COMMAND POINTER
1209	28E0	3F	32	00		BSRA,UN	RINPT RESET INPUT POINTER GETC3,LT
1210	28E3	1B	5E			BCTR,UN	GETC2
1211	28E5	3F	32	00	GETC4	BSRA,UN	RINPT
1212	28E8	04	01			LODI,R0	1 SET CC TO GT as implied by
1213	28EA	17				RETC,UN	
1214	28EB	01	A8	B5	GETC5	LODA,R1 *TABSTG,+ GET HI BYTE OF ROUTINE ADDRESS	
1215	28EE	C8	0A			STRR,RO	DST
1216	28F0	0D	A8	B5		LODA,R1 *TABSTG,+ GET LOW BYTE OF ROUTINE ADDRESS	
1217	28F3	C8	06			STRR,RO	DST+1
1218	28F6	3F	31	DE		BSRA,UN	DECPT
1219	28F8	20				FORZ,R0	CLEAR CONDITION CODE BITS
1220	28F9	17				RETC,UN	
1221	28FA			*			
1222	28FA			*			
1223	28FA	22	00		DST	RES	2
1224	28FA	22	00		*		
1225	28FC			*			
1226	28FC			*			
1227	28FC			*			
1228	28FC	04	27		ARROWCR	LODI,R0	INBUF
1229	28FE	05	6D			LODI,R1	INBUF
1230	2900	06	13			LODI,R2	13 GET 19 CHARACTERS MAXIMUM
1231	2902	3F	22	59		BSRA,UN	ARROW
1232	2905	9C	27	AC		BCFA,UN	OPTION GO TO OPTION IF ESCAPE PRESSED
1233	2908	0F	14			LODI,R1	14 START ECL SEARCH AT LAST CHARACTERS
1234	290A	0D	47	6D	ACR3	LODA,R1	INBUF,- GET CHARACTER FROM INPUT
1235	290D	58	04			BRNR,RO	ACR2 SEARCH FOR NON-ZERO ENTRY
1236	290F	59	79			BRNR,RO	ACR3 CHECK FOR END OF BUFFER
1237	2911	A5	01			SUBI,R1	1
1238	2913	04	0D	ACR2		LODI,R0	CR
1239	2915	CD	27	6D		STRA,RO	INBUF,+ STORE EOL AFTER VARIABLE
1240	2918	0C	04	EF		LODA,R0	INPT,- SAVE INPUT POINTER
1241	291B	C8	10			STRR,RO	BTTEMP
1242	291D	0C	04	62		LODA,R0	INPT+1
1243	2920	C8	0C			STRR,RO	BTTEMP+1
1244	2922	04	27			LODI,R0	INBUF GET NEW INPUT
1245	2924	CC	04	5F		STRA,RO	INPT
1246	2927	04	6D			LODI,R0	INBUF
1247	2929	CC	04	60		STRA,RO	INPT+1
1248	292C	17				RETC,UN	
1249	292D			*			
1250	292D			*			
1251	292D			*			
1252	292D	00	00		BTTEMP	RES	2
1253	292F			*			
1254	292F			*			
1255	292F			*			

LINE	ALU/B	BL/B2	BS/LABEL	OPCODE	OPERAND
1246	292F	08	7C	RECBI	LODR,R0 BTMP
1257	2931	CC	04	5F	STRA,R0 INPT RFCOVER SAVED INPUT POINTER
1258	2934	EE	72		LODR,R0 BTMP+1
1259	2936	CC	04	62	STRA,R0 INPT+1
1260	2939	17			RETC,UN
1261	297A	*			
1262	293A	*			
1263	263A	*			
1264	293A	4C	45	54	COMTBL ALIT LET.
1265	293E	2D	47		ACON LIT.
1266	2940	50	52	49	ALIT PRINT.
1267	2946	2E	7D		ACON PRINT.
1268	2948	49	46	2E	ALIT IF.
1269	294F	2E	3A		ACON IF.
1270	294D	47	4F	54	ACON GOTO.
1271	2952	2B	49		ACON GOTO.
1272	2954	47	4F	53	ALIT 'GOSUB.'
1273	295A	2B	3E		ACON 'GOSUB.'
1274	295C	52	45	54	ALIT 'RETURN.'
1275	2963	2B	B3		ACON RETURN.
1276	2965	46	4F	52	ALIT FOR.
1277	2969	2C	87		ACON FOR.
1278	296B	4E	45	58	ALIT NEXT.
1279	2970	2D	AD		ACON NEXT.
1280	2972	49	4E	50	ALIT INPUT.
1281	2978	2B	CC		ACON INPUT.
1282	297A	44	41	54	ALIT DATA.
1283	297F	33	66		ACON SKFLIN.
1284	2981	45	52	41	ALIT 'ERASL.'
1285	2987	29	F9		ACON ERASFB.
1286	2989	52	45	41	ALIT 'READ.'
1287	29EF	20	DB		ACON READ.
1288	2960	52	45	45	ALIT 'PEEK.'
1289	2995	2A	58		ACON PEEK.
1290	2997	52	4F	4B	ALIT 'POKE.'
1291	29CC	2A	21		ACON POKE.
1292	29CE	45	58	54	ALIT 'EXTIN.'
1293	29E4	2A	90		ACON EXTIN.
1294	29E6	45	58	54	ALIT 'EXTOUT.'
1295	29AD	2A	7F		ACON EXTOUT.
1296	29AF	44	49	4D	ALIT 'DIM.'
1297	29B3	2A	CA		ACON DIM.
1298	29E5	52	45	53	ALIT 'RESTORE.'
1299	29ED	2C	61		ACON RESTOR.
1300	29BF	43	41	4C	ALIT 'CALL.'
1301	29C4	26	FF		ACON CALL.
1302	29C6	53	54	4F	ALIT 'USER.'
1303	29CB	2A	99		ACON STOP.
1304	29CD	FF			DATA FF
1305	29CE	*	*		
1306	29CE	*	*		
1307	29CE	*	*		
1308	29CE	44	41	54	COMTB2 ALIT DATA.
1309	29D3	20	20		ACON 0 TO.
1310	29E6	54	4F	2E	ALIT 1 STEP.
1311	29D8	20	21		ACON ALIT
1312	29DA	53	54	45	

1314	29E1	53	54	4F	ALIT	TOP.
1315	29E6	00	03		ACON	3
1316	29E8	FF			DATA	FF
1317	29E9	*				
1318	29E9	*				
1319	29E9	*				
1320	29E9	*			ERASE	CR
1321	29E9	*				
1322	29E9	*				
1323	29E9	*				
1324	29E9	3F	21	9F	ERASEB	BSTA,UN
1325	29E0	1F	33	C0	BCTA,UN	NXTLIN
1326	29E0	*				
1327	29E0	*				
1328	29E0	*				
1329	29E0	*			CALL	<EXPR> CR
1330	29E0	*				
1331	29E0	*				
1332	29E0	*				
1333	29E0	3F	2A	0F	USER	BSTA,UN
1334	29E2	3B	08		BSTR,UN	STRCT
1335	29E4	3F	A9	FA	BSTA,UN	*CTEMP
1336	29E7	1F	33	C0	BCTA,UN	NXTLIN
1337	29FA	*				
1338	29FA	*				
1339	29FA	*				
1340	29FA	00	00		CTEMP	RES 2
1341	29FC	*				
1342	29FC	*				
1343	29FC	*				
1344	29FC	C8	7C		STRCT	STRA,R0
1345	29FE	C8	7B		STRA,R1	CTEMP+1
1346	2A00	17			RETG,UN	
1347	2A01	*				
1348	2A01	*				
1349	2A01	*				
1350	2A01	*			POKE	<EXPR> , <EXPR> CR
1351	2A01	*				
1352	2A01	*				
1353	2A01	*				
1354	2A01	3B	0C		POKE	BSTR,UN
1355	2A03	3B	77		BSTR,UN	STRCT
1356	2A05	3F	33	E7	BSTA,UN	SKPCM
1357	2A08	3B	05		BSTR,UN	EVALNS
1358	2A0A	C9	EE		STRA,R1	GET DATA
1359	2A0C	1F	33	C0	BCTA,UN	STORE VALUE
1360	2A0F	*				
1361	2A0F	*				
1362	2A0F	*				
1363	2A0F	3F	35	4B	EVALNS	BSTA,UN
1364	2A12	3B	3B	E5	BSTR,UN	EVAL
1365	2A14	3F	3C	F5	ENS1	NOSTR
1366	2A17	*			BSTA,UN	POPC1
1367	2A17	*				
1368	2A17	*				
1369	2A17	EC	13	8F	DTOBNL	LODA,RC
						CBUF1+1

LINE	ADDR	B1	B2	R3	LABEL	OPCODE	OPERAND	
1370	2A1A	18	2I			BCTR, EQ	UT03	BRA. JH IF NUMBER IS ZERO
1371	2A1C	0F	13	8D		LODA,R3	CBUF1	
1372	2A1F	99	28			BCFR,GT	DTOB3	
1373	2A21	F7	10			COMI,R3	10	
1374	2A23	1D	30	6E		BCTA,GT	ERR15	
1375	2A26	04	10			LODI, R0	10	
1376	2A28	A3				SUBZ,R3		
1377	2A29	C3				STRZ,R3		
1378	2A2A	0E	13	90		LODA,R2	CBUF1+3	
1379	2A2D	0D	13	8F		LODA,R1	CBUF1+2	
1380	2A30	0C	13	8E		LODA,R0	CBUF1+1	
1381	2A32	F7	08			PSL	WC	
1382	2A35	D2				RRL ,R2		
1383	2A36	D1				RRL ,R1		
1384	2A37	D0				RRL ,R0		
1385	2A38	F7	00		ETCBE2	COMI,R3	0	
1386	2A3A	98	03			BCFR,EQ	DTOB1	
1387	2A3C	75	08			CPSL	WC	
1388	2A3E	17				RETG,UN		
1389	2A3F	?7	01		ETOB1	PSL	CRY	CLEAR BORROW
1390	2A41	A7	01			SUBI,R3	1	
1391	2A43	75	01			CFSL		
1392	2A45	F0				RRR ,R0		
1393	2A46	51				RRR ,R1		
1394	2A47	1B	6F			ETCTR,UN	DTOB2	
1395	2A48	20			ETOB3	EORZ,R0		
1396	2A4A	C1				STRZ,R1		
1397	2A4B	17				RETC,UN		
1398	2A4C	*						
1399	2A4C	*						
1400	2A4C	*						
1401	2A4C	3F	35	4B	NOSTR	RSTA,UN	EVAL	FLOATING POINT
1402	2A4F	14			NOSTR	RETC,EQ		TYPE MISMATCH
1403	2A50	1F	30	56		BCTA,LT	ERR2	
1404	2A53	07	0C		ERR4	LODI,R3	0C	
1405	2A55	1F	30	77		BCTA,UN	ERROR	
1406	2A58	*						
1407	2A58	*						
1408	2A58	*						
1409	2A58	*						
1410	2A58	*						
1411	2A58	*						
1412	2A58	*						
1413	2A59	3F	2A	0F	PEEK	BSTA,UN	EVALNS	GET SOURCE LOCATION
1414	2A5B	3F	29	FC		BSTA,UN	STRCT	
1415	2A5F	0D	89	FA		LODA,R1	*CTEMP	
1416	2A61	20				EORZ,RC		
1417	2A62	2F	2A	A1		BSTA,UN	BTODNL	CONVERT IT TO DECIMAL
1418	2A65	3F	33	F7		BSTA,UN	SKPCM	
1419	2A68	3F	34	67		BSTA,UN	GVAR	GET DESTINATION VARIABLE
1420	2A6B	3F	62			BSTR,UN	NOSTR	
1421	2A6D	3F	34	0D		BSTA,UN	STROP2	
1422	2A70	04	33			LODI,R0	CBUF1	
1423	2A72	05	6D			LODI,R1	CBUF1	GET SOURCE
1424	2A74	3F	34	14		BS,A,UN	STROP1	
1425	2A77	07	04			LODI,R3	LEN	DO 4 BYTE TRANSFER
1426	2A79	3F	33	47		BSTA,UN	MOVEB1	TRANSFER SOURCE TO DESTINATION

1427	C 1.	C0	A,UN	
1428	2A7F	1F33 C0*	BCTA,UN	
1429	2A7F	*	NXTLN	
1430	2A7F	*	EXTOUT <EXPR>, <EXPR>	CR
1431	2A7F	*		
1432	2A7F	*		
1433	2A7F	*		
1434	2A7F	3F 2A 0F	EXTOUT BSTA,UN	EVALNS GET PORT ADDRESS
1435	2A7F	CD 0A 8C	STRA,RI	WRTEP+1 STORE IT IN THE PORT ADDRESS
1436	2A82	CD 33 E7	BSTA,UN	SKPCOM
1437	2A85	3F 2A 0F	BSTA,UN	
1438	2A88	3F 2A 0F	BSTA,UN	EVALNS GET DATA
1439	2A8B	D5 00	WRTE,RI	00 WRITE THE DATA IN THE CORRECT PORT
1440	2A8D	1F 33 C0	BCTA,UN	NXTLIN
1441	2A9C	*		
1442	2A9C	*		
1443	2A9C	*		
1444	2A9C	*	EXTIN <EXPR>, <EXPR>	CR
1445	2A9C	*		
1446	2A9C	*		
1447	2A9C	*		
1448	2A9C	3F 2A 0F	EXTIN BSTA,UN	EVALNS GFT PORT ADDRESS
1449	2A9C	C9 01	STRR,RI	\$+3 PUT IN PORT REFERENCE
1450	2A9C	55 00	REDE,RI	0 READ THE SELCTED FORT
1451	2A9C	1B 48	BCTR,UN	PEEK1
1452	2A9C	*		
1453	2A9C	*		
1454	2A9C	*		
1455	2A9C	*		
1456	2A9C	*		
1457	2A9C	*	STOP CR	
1458	2A9C	*		
1459	2A9C	07 0E	STOP LODI,R3	0E STOPPED
1460	2A9C	3F 30 C?	BSTA,UN	WPTM
1461	2A9C	1F 27 AC	BCTA,UN	OPTION
1462	2AA1	*		
1463	2AA1	*		
1464	2AA1	*		
1465	2AA1	77 08	BTODNL PPSL	WC
1466	2AA3	75 01	CPSL	CRY
1467	2AA5	50	RRR,RO	
1468	2AA6	51	RRR,RI	
1469	2AA7	06 00	LODI,R2	0
1470	2AA9	52	RRR,R2	
1471	2AAA	07 10	LODI,R3	10
1472	2AAC	CF 07 4D	STRA,RI	OPB
1473	2AAF	CC 07 4E	STRA,RO	OPB+1
1474	2AB2	CT 07 4F	STRA,RI	OPB+2
1475	2ABF	CE 07 50	STRA,RI	OPB+3
1476	2ABB	3F 30 34	BSTA,UN	NORM
1477	2ABB	04 02	LODI,RC	2
1478	2ABC	03	LPSL	
1479	2ABE	07 04	LODI,RC	4
1480	2AC2	CF 47 4D	BTOD2	OPB,-
1481	2AC3	CF 73 ED	STRA,RI	CBUF1,1
1482	2AC6	53 78	BRNP,RI	BTOD2
1483	2AC8	17	RETC,UN	

LINE ADDRESS OPERAND

LINE	ADDR	R1	B2	NO LABEL	OPCODE	OPERAND
1484	2AC5	*	*			
1485	2AC5	*	*			
1486	2AC5	*	*			
1487	2AC9 00			DIMSTG RES	-	1
1488	2ACA	*	*			
1489	2ACA	*	*			
1490	2ACA	*	*			
1491	2ACA	*	*	DIM <VAR' (<EXPR> [, 'VAR']) CR		
1492	2ACA	*	*			
1493	2ACA	*	*			
1494	2ACA	*	*			
1495	2ACA 3F 33 53	DIM	BSTA,UN	GETNAM		
1496	2ACD CI 14 A5	STR4,R2	OPLTH			
1497	2AD0 13	SPSL				
1498	2AD1 C8 76	STRR,R0	DIMSTG			
1499	2AD3 3F 33 E0	BSTA,UN	SKP,SP			
1500	2AD6 F7 28	COMI,R3				
1501	2AD8 9C 33 C7	BCFA,EQ	ERR1			
1502	2ADB 3F 3A AA	BSTA,UN	GET3C			
1503	2ADF 02	LODZ,R2				
1504	2ADF C1	STRZ,R1				
1505	2AE0 08 67	LODR,R0	DIMSTG			
1506	2AE2 93	LPSL				
1507	2AE3 1D 30 66	BCTA,GT	ERR1			
1508	2AE6 1A 3D	BCTR,LT	DIMST			
1509	2AE8 20	FORZ,RO				
1510	2AF9 C9 5E	STR4,R1	DIMSTG			
1511	2AFB 77 08	PPSL	WC			
1512	2AED 11	RR1				
1513	2AEE D0	RR1				
1514	2AEE D1	RR1				
1515	2AF0 D2	RR1				
1516	2AF1 45 FC	AND1,R1	FC			
1517	2AF3 75 08	OPSL	WC			
1518	2AF5 C3	STRZ,R3				
1519	2AF6 0F 14 AF	IODA,R2	OPLTH			
1520	2AF9 66 40	IODI,R2	2			
1521	2AFB 04 02	LODI,RO				
1522	2AFD 3F 34 D0	ESTA,UN	GCSUB			
1523	2B00 0F 0A C9	IODA,R2	DIMSTG			
1524	2B03 86 01	ADD1,R2	1			
1525	2B05 05 04	DIM3	IODI,R1	4		
1526	2B07 20	DIM2	EORZ,RO			
1527	2B08 3F 2B 2E	BSTA,UN	PUSOP2			
1528	2B0B F9 7A	BDRR,R1	DIM2			
1529	2B0D FA 7E	BSTA,UN	SKP,SP			
1530	2B0F 3F 33 E0	DIMDEL	BSTA,UN			
1531	2B12 F7 29	COMI,R3	SKP,SP			
1532	2B14 9C 33 C7	BCFA,EQ	ERR1			
1533	2B17 3F 33 E0	BSTA,UN	SKP,SP			
1534	2B1A F7 2C	COMI,R3				
1535	2B1C 1C 2A CA	BCTA,EQ	DIM			
1536	2B1F 3F 31 DE	DECNT	BSTA,UN	DECPT		
1537	2B22 1F 33 C0	BCTA,UN	NXTLN			
1538	2B25 20	DIMST	FORZ,RO			
1539	2B26 0E 14 A5	IODA,R2	OPLTH			
1540	2B29 3F 34 A7	BSTA,UN	GCSTRA			

OPEN R2 > CMOVE REG

Single. Reg. in
Stack States

FBNK = 4747
Reg. 6 + 2. Chk Exp

Last States

CC = CT had setting

CC = CT, also not found

CC = CT had setting

1541	2B2E	1B 01	*	B0A1,UN	
1542	2B2E	1B 61	*	B<TR,U/N	D/ADEL
1543	2B2E		*		
1544	2B2I		*		
1545	2B2E	CC 92 34	PUSOP2	STRA,R0	*OP2
1546	2B3I	1F 32	36	BCTA,UN	INCOP2
1547	2B34		*		
1548	2B34		*		
1549	2B34		*		
1550	2B37	CF 92	CF	STR4,R3	*SP
1551	2B3A	17		RET4,UN	
1552	2B3B		*		
1553	2B3B		*		
1554	2B3B		*		
1555	2B3B		*		
1556	2B3B		*	GOSUB	<EXPR> CR
1557	2B3B		*		
1558	2B3B		*		
1559	2B3B		*		
1560	2B3B	0F 04	60	GOSUB	L0DA,R3 INPT+1
1561	2B3E	3B 74		BSTR,UN	GPUSH
1562	2B40	0F 04	5F	L0DA,R3	INPT
1563	2B43	3B 6F		BSTR,UN	GPUSH
1564	2B45	0F 00		L0DI,R3	Q
1565	2B47	3B 6B		BSTR,UN	GPUSH
1566	2B49		*		
1567	2B49		*		
1568	2B4C		*		ICCATION NOW SAVED. NOW DO TRANSFER OF CONTROL GOTO
1569	2B49		*		
1570	2B49		*		
1571	2B49		*		
1572	2B49		*	GOTO <EXPR>	CR
1573	2B49		*		
1574	2B49		*		
1575	2B49	3F 08	GOTO	BSTR,UN	FNDLIN
1576	2B49	1C A8 96		BCTA,EQ	*RTNADR
1577	2B4B	07 0F	ERR6	L0DI,R3	OF
1578	2B50	1F 30 77		BCTA,UN	ERROR
1579	2B50		*		
1580	2B53		*		
1581	2B53		*		
1582	2B53		*		
1583	2B53	3F 35 4B	FNDLIN	BSTA,UN	EVAL
1584	2B56	15		RETC,GT	
1585	2B57	3F 2A 12		BSTA,UN	FNS
1586	2B5A	3F 29	FC	BSTA,UN	STRCT
1587	2B5D	3F 32	CB	BSTA,UN	CSINPT
1588	2B60	3F 22	4E	BSTA,UN	BEGIN
1589	2B63	3F 31	F3	GOTO2	SINPT
1590	2B66	3F 33	EE	BSTA,UN	GETLIN
1591	2B69	05	FF	L0DI,R1	FF
1592	2B6B	20		EOR2,R0	
1593	2B6C	C2		STRZ,R2	
1594	2B6D	C3		STRZ,R3	
1595	2B6E	0D 27	69	GOTC3	L0DA,R1 LINNUM,+
1596	2B71	1C 2B 94		BCTA,EQ	GOTO5
1597	2B74	46	OF	ANDI,R2	OF

LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
1562	2B76	75	01			CPSL	CRY
1563	2B78	77	08			FPSL	WC
1600	2B7A	D3				RRL	R3
1601	2B7B	D2				RRL	R2
1602	2B7C	CA	25			STRR	R2
1603	2B7F	CF	24			STRR	R3
1604	2B80	D3				TEMPR2	TEMPR3
1605	2B81	D2				RRL	R3
1606	2B82	D3				RRL	R2
1607	2B83	D2				RRL	R3
1608	2B84	8B	1F			ADDR	R3
1609	2B86	8A	1B			ADDR	R2
1610	2B88	44	0F			ANDI	R0
1611	2B8A	83				ADDZ	R3
1612	2B8B	C3				STRZ	R3
1613	2B8C	86	00			ADDI	R2
1614	2B8E	75	08			CP SL	WC
1615	2B90	1E	03			COMI	R1
1616	2B92	98	5A			BCFR	EQ
1617	2B94	1E	09	YA	GOTO5	COMA	R2
1618	2B97	98	0C			CTEMP	
1619	2B9C	1F	05	FB		BCFR	EQ
1620	2B9C	98	07			GOTO4	
1621	2B9E	3F	32	0C		COMA	R3
1622	2BA1	20				CTEMP+1	
1623	2BA2	17				BCFR	EQ
1624	2BA3	*				GOTO4	
1625	2BA3	*				BSTA	UN
1626	2BA3	*				RINPT	
1627	2BA3	00				FORZ	R0
1628	2BA4	00				RETC	UN
1629	2BA5	*				RET C	LT
1630	2BA5	*				BCTA	UN
1631	2BA5	*				GOTO2	
1632	2BA5	3F	33	D5	GOTO4	BSTA	UN
1633	2BA8	E7	0D			GETCHR	
1634	2BAA	98	79			COMI	R3
1635	2BAC	0C	84	EF		CR	
1636	2BAF	16				BCFR	EQ
1637	2BB0	1F	2B	63		GOTO4	
1638	2BB3	*				LODA	R0
1639	2BB3	*				*INPT	
1640	2BB3	*				RETC	LT
1641	2BB3	*				BCTA	UN
1642	2BB3	*				GOTO2	
1643	2BB3	*				RET C	LT
1644	2BB3	*				BCTA	UN
1645	2BB3	3B	11			RETURN	CR
1646	2BB5	03				LODZ	R3
1647	2BB6	9C	30	EE		BCFA	EQ
1648	2BB9	3B	0B			BSTR	UN
1649	2BBF	CF	04	5F		GPOP	
1650	2BBI	3B	06			STRA	R3
1651	2BC0	CF	04	60		INPT	
1652	2BC3	1F	33	CC		BSTR	UN
1653	2BC6	*				GPOP	
1654	2BC5	*				STRA	R3
						INPT+1	
						SKPLIN	SKIP REMAINDER OF GOSUB LINE

LINE ADDR B1 B2 B3 LABEL ORCODE

1655 2BC6 *
 1656 2BC6 0F 92 CF GPOP LODA,R3 *SP
 1657 2BC9 1F 32 9D BCTA,UN INCSP
 1658 2BCC *
 1659 2BCC *
 1660 2RCC *
 1661 2BCC *
 1662 2BCC *
 1663 2BCC *
 1664 2BCC *
 1665 2BCC 3F 00 24 INPUT BSTA,UN LFCR
 1666 2BCF 3F 33 E0 BSTA,UN SKPSP SKIP THE SPACES
 1667 2BD2 E7 0D COMI,R3 CR
 1668 2BD4 98 05 BCFR,EQ INPUT@
 1669 2BD6 3F 31 DE BSTA,UN DECP@
 1670 2BD9 1F 1F BCTR,UN INPUT3
 1671 2BDB E7 27 INPUT@ COMI,R3
 1672 2BDD 1C 2B EA BCTA,EQ INPUT1
 1673 2BE0 04 3F LODI,R0 ?
 1674 2BE2 3F 21 E5 BSTA,UN WRT
 1675 2BE5 3F 31 DE BSTA,UN DECPT Decrease in rd periods
 1676 2BE8 1B 03 BCTR,UN INPUT2
 1677 2BEA 3F 30 33 INPUT1 BSTA,UN PRINTQ
 1678 2BED 04 20 INPUT2 LODI,R0
 1679 2BEF 3F 21 E5 BSTA,UN WRT
 1680 2BF2 3F 34 67 BSTA,UN GCVAR
 1681 2BF5 18 0D BCTR,UN INP@
 1682 2BF7 1E 2C 25 BCTR,UN INSTR Init Strn
 1683 2BFA 3F 25 B2 INPUT3 BSTA,UN PAUSE WAIT FOR CR IF NO VARIABLE
 1684 2BFD E7 0D COMI,R3 CR
 1685 2BFF 98 79 BCFR,EQ INPUT3
 1686 2C01 1F 33 C0 BCTA,UN NXPLIN
 1687 2C04 3F 29 FC INFPT BSTA,UN STRCT
 1688 2C07 3F 28 FC BSTA,UN AROWCR
 1689 2C0A 3F 35 4B BSTA,UN EVAL
 1690 2C0D 18 0E BCTR,EQ INFPT1 NORMAL
 1691 2C0F 3F 29 2F BSTA,UN RECP@ RECOVER INPUT POINTER
 1692 2C12 3F 33 E0 INDEL BSTA,UN SKPSP SKIP SPACES
 1693 2C15 E7 2C COMI,R3 SEE IF COMMA (DELIMITER)
 1694 2C17 1C 2B ED BCTA,EQ INFPT2
 1695 2C1A 1F 2B 1F BCTA,UN DEFNXT
 1696 2C1D 3F 29 2F INFPT1 BSTA,UN RECBT RECOVER INPUT POINTER
 1697 2C20 3F 2C D2 BSTA,UN POPCT
 1698 2C22 1B 6L BCTA,UN INDEL
 1699 2C25 3F 34 0D INSTR BSTA,UN STOPZ STOP IN DELAY
 1700 2C28 04 27 LODI,R0 INBUF
 1701 2C2A 05 6D LODI,R1 INBUF
 1702 2C2C 06 13 LODI,P2 13 INBUF
 1703 2C2E 3F 22 59 BSTA,UN ARROW
 1704 2C31 9C 27 AC BCFA,EQ OPTION
 1705 2C34 05 14 LODI,R1 14
 1706 2C36 0D 47 6D INSTR1 LODA,R1 INBUF
 1707 2C39 58 04 BRNR,R0 INSTR2
 1708 2C3B 59 79 BRNR,R1 INSTR1
 1709 2C3D 05 09 LODI,R1 SDFLT-1
 1710 2C3F 85 01 INSTR2 ADDI,R1 1
 1711 2C41 0C 14 9F LODA,R0 CREATED

LINE ADDR B1 B2 B3 LABEL OPCODE OPERAND

1712	2C44	18	0C		FCTR, FQ	INSTR3
1713	2C46	3F	34	A7	BSTA, UN	GCSTRA
1714	2C49	EF	14	A6	IODA, R3	GCSSTG
1715	2C4C	CF	14	A5	STRA, R3	OPLTH
1716	2C4F	3F	34	0D	BSTA, UN	STRCP2
1717	2C52	04	27		INSTR3	INPUT
1718	2C54	05	6D		IODI, R1	INPUT
1719	2C56	3F	34	14	ESTA, UN	STROF1
1720	2C59	3F	33	43	ESTA, UN	MOVEB
1721	2C5C	1F	2C	12	ECHA, UN	INDEL
1722	2C5F	*	*	*		
1723	2C61	*	*	*		
1724	2C5F	*	*	*		
1725	2C5F	00	00	DATPNT RES	2	
1726	2C61	*	*			
1727	2C61	*	*			
1728	2C61	*	*			
1729	2C61	*	*	RFSTORE	7	TXPRN CR
1730	2061	*	*			
1731	2061	*	*			
1732	2C61	*	*			
1733	2C61	3F	2F	53	RESTOR	BSTA, UN
1734	2064	19	17		ECTR, GT	RESTRI
1735	2065	1F	2B	4E	ECTR, IT	ER6
1736	2069	0D	04	5F	IODA, R1	INPT
1737	206C	CG	71		STRR, R1	DATPNT
1738	206F	0D	04	60	IODA, R1	INF7-1
1739	2071	C9	6D		STRR, R1	DATPNT+1
1740	2073	3F	32	18	BSTA, UN	CRINTP
1741	2C76	20			EORZ, R2	
1742	2C77	CC	13	02	STRA, R2	PDATA
1743	2C7A	1F	33	02	ECHA, UN	NXTLIN
1744	207D	20			RESTR1	EORZ, R2
1745	207E	CE	60		STRR, R2	DATPNT+1
1746	2080	0C	00	03	IODA, R2	BSTART
1747	2083	C8	5A		STRR, R2	DATPNT
1748	2085	1B	6F		ECTR, UN	RESTR2
1749	2087	*	*	*		
1750	2087	*	*	*		
1751	2087	*	*	*		
1752	2087	*	*	*	FOR <VAR>	<EXPR> TO <EXPR> [STEP <EXPR>]
1753	2087	*	*	*		
1754	2087	*	*	*		
1755	2087	*	*	*		
1756	2087	3F	34	67	FCR	BSTA, UN
1757	208A	3F	2A	4F	BSTA, UN	NOSTR
1758	208D	3F	29	FC	BSTA, UN	STRCT
1759	2090	C2			STRZ, R2	
1760	2091	01			IODZ, R1	
1761	2092	C3			STRZ, R3	
1762	2093	3F	2B	34	BSTA, UN	GPUSH
1763	2096	C2			IOTZ, R2	
1764	2097	C3			STRZ, R3	
1765	2098	3F	2B	34	BSTA, UN	GPUSH
1766	209B	3F	33	00	BSTA, UN	SKPSE
1767	20CF	F7	3D		CCMI, R3	
1768	20A0	0C	33	07	PGFA, FO	FRP1

1770	2CA6	3F	2C	D2	BSTA,UN	POPCY	N
1771	2CA9	04	2C	L0DI,R0	~COMTB2	3F 2A 4C	
1772	2CAD	05	CE	L0DI,R0	COMTB2		
1773	2CAD	3F	28	B7	BSTA,UN	TABUP	
1774	2CB0	6C	33	C7	BCFA,FQ	ERR1	
1775	2CB3	0C	08	FB	L0DA,R0	DST+1	
1776	2CB6	F4	C1	COMI,R0	1		
1777	2CB8	9C	33	C7	BCFA,EQ	ERR1	
1778	2CBB	3F	31	DB	BSTA,UN	SKPDEC	
1779	2CBE	0F	04	60	L0DA,R3	INPT+1	
1780	2CC1	3F	2B	34	BSTA,UN	GPUSH	
1781	2CC4	0F	04	5F	L0DA,R3	INPT	
1782	2CC7	3F	2B	34	BSTA,UN	GPUSH	
1783	2CCA	07	FF	L0DI,R3	FF		
1784	2CCC	3F	2B	34	BS,A,UN	GUSH	
1785	2CCF	1F	33	CC	BCTA,UN	SKPLIN	
1786	2CD2	*	*	*	*		
1787	2CD2	*	*	*	*		
1788	2CD2	0C	0C	FA	POPCY	L0DA,R0	
1789	2CD5	0D	09	FB	L0DA,R1	CTEMP	
1790	2CD8	1F	32	45	ECTA,UN	CTEMP+1	
1791	2CD8	1F	32	45	POP		
1792	2CD8	*	*	*	*		
1793	2CDB	*	*	*	*		
1794	2CDB	*	*	*	READ < VAR> (< VAR>...)	CR	
1795	2CDB	*	*	*	*		
1796	2CDB	*	*	*	*		
1797	2CDB	*	*	*	*		
1798	2CDB	*	*	*	*		
1799	2CDB	3F	34	67	READ	BSTA,UN	
1800	2CDE	1A	1B	PCTR,LT	RDRSTR		
1801	2CF0	1L	2A	S3	BCTA,GT	FRR4	
1802	2CF3	3F	29	FC	BSTA,UN	NO DESTINATION	
1803	2CE6	3F	32	E3	BSTA,UN	STRCT	
1804	2CF9	3F	2A	4F	BSTA,UN	GETDAT	
1805	2CEC	3B	64	FC	BSTA,UN	NOSTR	
1806	2CEF	3F	33	EC	RDRSTR	DESTINATION <- DATA	
1807	2CF1	E7	2C	COMI,R3	POPCY		
1808	2CF3	18	6C	BCTR,EQ	SKPSP	CHECK FOR COMMA	
1809	2CF5	3F	31	DE	BSTA,UN	READ IF SO, GET MORE DATA	
1810	2CF8	1F	33	CO	BCTA,UN	NO BACK UP AND RETURN	
1811	2CFB	*	*	*	*	NXTLIN	
1812	2CFB	3F	34	0D	RDRSTR	STROP2	
1813	2CFE	0C	14	9F	L0DA,R0	CREATD	
1814	2D01	98	03	FC	BCFR,IQ	RDRSTR2	
1815	2D03	CE	14	A5	STRA,R2	OPLTH SAVE LENGTH	
1816	2D06	3F	32	E3	RDRSTR2	BSTA,UN GETDAT GET NEXT DATA	
1817	2D09	3F	2D	40	BSTA,UN	NOFTT	
1818	2D0C	0C	12	23	L0DA,R0	OP1	
1819	2D0F	0D	12	24	L0DA,R1	OP1+1	
1820	2D12	3Y	29	FC	BSTA,UN	STRCT	
1821	2D15	0F	14	9F	L0DA,R3	CREATE	
1822	2D18	18	1A	FC	BCTR,EQ	RDRSTR3	
1823	2D1A	02	*	*	L0DZ,R2		
1824	2D1B	C1	*	*	STRZ,R1		
1825	2D1C	3F	34	A7	BSTA,UN	GCSTRA	

LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
1826	2D1F	3F	34	0D		BSTA,UN	STROP2
1827	2D22	0C	09	FA		LODA,R0	CTEMP
1828	2D25	0D	09	FB		LODA,R1	CTEMP+1
1829	2D28	3F	34	14		BSTA,UN	STROP1
1830	2D2B	0E	14	A6		LODA,R3	GCSSTG
1831	2D2E	3F	33	47		BSTA,UN	MOVEFH
1832	2D31	1F	2C	EE		BCTA,UN	RDDEL
1833	2D34	FF	14	A5	RDSTR3	COMA,R2	NO LENGTHS MUST MATCH
1834	2D37	9C	30	5A		BCTA,EQ	ERR3
1835	2D3A	3F	33	43		BSTA,UN	MOVEB DESTINATION ??? DATA
1836	2D3D	1F	2C	EE		BCTA,UN	RDDEL
1837	2D40	*	*	*			
1838	2D40	*	*	*			
1839	2D40	*	*	*			
1840	2D40	1C	30	56	NOOPT	BCTA,EQ	ERR2 type mismatch error
1841	2D43	1D	2A	53		BCTA,GT	ERR4 zigzag error
1842	2D46	17	*	*		RETC,UN	
1843	2D47	*	*	*			
1844	2D47	*	*	*			
1845	2D47	*	*	*			
1846	2D47	*	*	*		LET <VAR>	= <EXPR> CR
1847	2D47	*	*	*			
1848	2D47	*	*	*			
1849	2D47	*	*	*			
1850	2D47	3F	34	67	LET	BSTA,UN	GCVAR GET DESTINATION LOCATION
1851	2D4A	1A	17			BCTR,LT	LETSTR STRING
1852	2D4C	1D	2A	53		BCTA,GT	ERR4 MISSING DESTINATION
1853	2D4F	3F	29	FC		BSTA,UN	STRICT
1854	2D52	3F	33	EC		BSTA,UN	SKPSE
1855	2D55	F7	3D			COMI,R2	SKIP SPACES MUST BE ==
1856	2D57	9C	33	C7		BCTA,FO	ERR1 SYNTAX ERROR
1857	2D5A	3F	2A	4C		BSTA,UN	ENOSTR GET SOURCE VALUE
1858	2D5D	3F	2C	D2		BSTA,UN	POPCF POP SOURCE TO DESTINATION
1859	2D60	1F	33	C0	*	BCTA,UN	NXTLIN
1860	2D63	*	*	*			
1861	2D63	3F	34	ED	LEFTSTR	BSTA,UN	STROP2
1862	2D66	0C	14	9F		LODA,R0	CREATD
1863	2D69	98	03			BCTF,FO	LETST2 FOUND SAVE LENGTH
1864	2D6B	CE	14	A5		STRA,R2	
1865	2D6E	3F	33	E0	LEFTST2	BSTA,UN	SKPSF MUST BE
1866	2D71	F7	3D			COMI,R3	BAD SYNTAX
1867	2D73	9C	33	C7		BCTA,FO	ERR1 GET SOURCE VALUE
1868	2D76	3F	35	4B		BSTA,UN	EVAL
1869	2D79	31	2D	40		BSTA,UN	NOFTT
1870	2D7C	3F	34	14		BSTA,UN	STROP1
1871	2D7F	0F	14	9F		LODA,R3	CREATD
1872	2D82	18	1D			BCTR,FO	LETST3 STRICT
1873	2D84	3F	29	FC		BSTA,UN	
1874	2D87	02	*	*		LODZ,R2	
1875	2D88	C1	*	*		STRZ,R1	
1876	2D89	3E	34	A7		BSTA,UN	GCSTRA
1877	2D8C	3F	34	0D		BSTA,UN	STROP2
1878	2D8F	0C	09	FA		LODA,R0	CTEMP
1879	2D92	0D	69	FB		LODA,R1	CTEMP+1
1880	2D95	3F	34	14		BSTA,UN	STROP1
1881	2D98	0F	14	A6		LODA,R3	GCSSTG
1882	2D9B	3F	33	47		BSTA,UN	MOVEB1

LINEN BULLP PLNC EQ HADEN DRIVELD UFRMAND

1883	EDFA	1F	99	CQ	BCTA, UN	MAKESURE LENGTHS MATCH	IF 33 C#
1884	2DA1	1F	14	A5	LETSIS COMA, R2	OPLTH	
1885	2DA4	9C	30	5A	BCFA, EQ	ERR3	NO, LENGTH MISMATCH
1886	2DA7	3F	33	43	BSTA, UN	MOVEB	TRANSFER SOURCE TO DESTINATION
1887	2DAA	1F	33	CQ	BCTA, UN	NXTLIN	
1888	2DAD	*	*	*			
1889	2DAD	*	*	*			
1890	2DAD	*	*	*			
1891	2DAD	*	*	*			
1892	2DAD	*	*	*			
1893	2DAD	*	*	*			
1894	2DAD	*	*	*			
1895	2DA1	3F	2B	C6	NEXT	BSTA, UN	GPOP
1896	2DB0	E7	FF			COMI, R3	FF
1897	2DB2	9C	30	5E		BCFA, EQ	ERR7
1898	2DP5	05	FF			LODI, R1	FF
1899	2DB7	3F	2B	C6	NEXT1	BSTA, UN	GPOP
1900	2DBA	03				LODZ, R2	
1901	2DBB	CD	2D	FC		STRA, R1	NTEMP1, +
1902	2DBE	1F	03			COMI, R1	3
1903	2DC0	98	75			BCFR, EQ	NEXT1
1904	2DC2	3F	34	67		BSTA, UN	GCVAR
1905	2DC5	3F	2A	4F		BSTA, UN	NOSTR
1906	2DC8	18	34			COMR, R0	NTEMP3
1907	2DCA	9C	30	5E		BCFA, EQ	ER ? NEST ERROR
1908	2DCD	1D	0D	FF		COMA, R1	NTEMP4
1909	2DD0	9C	30	5E		BCFA, EQ	ERR7
1910	2DD3	3F	32	0B		BSTA, UN	CSINPT
1911	2DD6	08	25			LODR, R0	NTTEMP2
1912	2DD8	CC	04	60		STRA, R0	1NPT+1
1913	2DDB	08	1F			LCDR, R0	NTTEMP1
1914	2DDD	CC	04	5F		STRA, R0	INPT
1915	2DE0	3F	2A	4C		BSTA, UN	ENOSTR
1916	2DE3	3F	3C	FE		BSTA, UN	POPC1
1917	2DEF	24	29			LODI, R0	COMTB2
1918	2DE8	25	CE			LODI, R1	COMTB2
1919	2DEA	3F	28	B7		BSTA, UN	TABUP
1920	2DEF	98	11			BCFR, EQ	NEXT2
1921	2DEF	0C	08	FB		LODA, R0	DST+1
1922	2DF2	E4	02			COMI, R2	2
1923	2DF4	9C	33	C7		BCFA, EQ	ERR1
1924	2DF7	3F	2A	4C		BSTA, UN	ENOSTR
1925	2DFA	1B	07			BCTR, UN	NEXT3
1926	2DFC	*	*	*			
1927	2DFC	2C			NTEMP1 RES		1
1928	2DFD	00			NTEMP2 RES		1
1929	2DFF	2C			NTEMP3 RES		1
1930	2DFF	00			NTEMP4 RES		1
1931	2E00	*	*	*			
1932	2E00	3F	3A	7A	NEXT2	BSTA, UN	PUSH1
1933	2E03	28	79		NEXT3	LODR, R0	NTEMP3
1934	2E05	29	78			LODR, R1	NTEMP4
1935	2E07	3F	32	7D		BSTA, UN	FUSH
1936	2E0A	3F	37	E1		BSTA, UN	POPBD
1937	2E0D	3F	3D	03		BSTA, UN	POPC2
1938	2E10	0E	04			LODI, R1	4
1939	2E12	2D	53	91	NEXT5	LODA, R1	CBUF2, -

LINE ADDR E1 E2 E3 LABEL1 OPCODE1 CPERAND

1946 2E15 C7 ED FF STRA, R1 *NTEMP3, I
 1947 2E19 59 78 BRRB, R1 NEXT5
 1948 2E1A 3F 33 95 BSTA, UN COMNUM
 1949 2E1D 17 22 LT
 1950 2E1F 18 13 BCTR, EQ NEXT4
 1951 2E21 05 04 LODI, RI 4
 1952 2E23 01 41 FC NEXT4 NTEMP1, -
 1953 2E2C C3 S'RZ, R3
 1954 2E27 3F 2B 34 BSTA, UN GPUSH
 1955 2E2A 05 77 PRNR, RI NEXT6
 1956 2E2C 07 FF LODI, R3 FF
 1957 2E2F 3F 2B 34 BSTA, UN GPUSH
 1958 2E31 1F 33 C0 BCTA, UN NXTLIN
 1959 2E34 3F 32 18 NEXT4 BSTA, UN CRINT
 1960 2E37 1F 33 C0 BCTA, UN NXTLIN
 1961 2E3A *
 1962 2E3A 3F 35 4B IF BSTA, UN EVAL GET FIRST ARGUMENT -
 1963 2E3D 1A 71 PCTR, LT IFSTR
 1964 2E3F 1D 2A 53 RCTA, GT ERR4 Argument of first
 1965 2F42 3F 34 1D BSTA, UN GETL0P
 1966 2E45 3F 2A 4C BSTA, UN ENOSTR
 1967 2F48 3F 31 23 BSTA, UN POPC2
 1968 2F4E 3F 3C F5 BSTA, UN POFC1
 1969 2F4F 3F 33 95 BSTA, UN COMMUM
 1970 2E51 *
 1971 2E51 EF 14 1P IFLOC COMA, R3 L0P1 *see below*
 1972 2E54 1C A8 96 BCTA, EQ *RTNADR *stack, when stack was created*
 1973 2E57 EF 14 1C COMA, R3 L0P2 CHECK FOR SECOND MATCH
 1974 2E5A 1C A8 96 BCTA, EQ *RTNADR
 1975 2E5D 1F 33 CC BCTA, UN SKPLIN NO MATCH, SKIP STATEMENT
 1976 2E60 *
 1977 2E62 CE 14 A5 IFSTR STRA, R2 OFLTH SAYE LENGTH OF STRING
 1978 2E63 3F 34 14 BSTA, UN STROP1 *same as L0P1, OPI + 1*
 1979 2E66 3F 34 1D BSTA, UN GETL0P
 1980 2E69 3F 35 4B BSTA, UN EVAL GET SECOND ARGUMENT
 1981 2E6C 3F 2D 40 BSTA, UN NOFLT *→ CC = 67, argument was, CC = 0, eval resulted in due other shifts instead!*
 1982 2E6F EF 14 AF COMA, R2 ODETH
 1983 2E72 96 3A 5A CO CO FCTA, EQ ER3 LENGTHS NOT SAME
 1984 2E75 3F 34 CD BSTA, UN STROP2 *length R0, R1 in OPI2, OPI2+1*
 1985 2E76 3F 34 49 BSTA, UN COOP DC CCMFARI
 1986 2E7B 1E 54 BCTR, UN IFLOC CHECK THEM
 1987 2E7D *
 1988 2E7D *
 1989 2E7D * PRINT (FORMAT) (<EXPR>, <EXPR>...), CR
 1990 2E7D *
 1991 2E7D * FORMATS: # = PRINT_INTEGER
 1992 2E7D * % = PRINT_TAB
 1993 2E7D * & = SET SCREEN LOCATION
 1994 2E7D * G = PRINT_HEX
 1995 2E7D * / = SUPPRESS LINEFEED

2 *
 1998 2E7D *
 1999 2E7D * EXPRESSIONS: QUOTED STRING
 2000 2E7D * DIMENSIONED OR NORMAL VARIABLE
 2001 2E7D * STRING VARIABLE
 2002 2E7D *
 2003 2E7D *
 2004 2E7D *
 2005 2E7D 3F 33 E0 PRINT BSTA,UN SKPSP
 2006 2E80 E7 4C COMI,R3
 2007 2E82 18 0D ECTR,EQ PRINT2
 2008 2E84 E7 2F COMI,R3 /
 2009 2E86 18 06 BCTR,EQ PRINT1
 2010 2E88 3F 31 DE BSTA,UN DECP
 2011 2E8B 3F 00 24 BSTA,UN LFCR
 2012 2E8E 3F 33 E0 PRINT1 BSTA,UN SKPSP
 2013 2E91 E7 0D PRINT2 COMI,R3 CR
 2014 2E93 1C A8 96 BCTA,EQ *RTNADR
 2015 2F86 E7 27 COMI,R3 QUOTED STRING
 2016 2E98 1C 2F AB BCTA,EQ PRNTQ
 2017 2E9B E7 40 COMI,R3 'Q AT LOCATION SET
 2018 2E9D 1C 2F D1 BCTA,EQ PRNTA
 2019 2EA0 E7 23 COMI,R3 '# PRINT INTEGER
 2020 2EA2 1C 2F EC BCTA,EQ PRNTI
 2021 2EAS E7 26 COMI,R3 '& PRINT HEX
 2022 2EA7 1C 2F 3D BCTA,EQ PRNTH
 2023 2EAA E7 25 COMI,R3 '% PRINT TAB
 2024 2EAC 1C 2F 04 BCTA,EQ PRNTT
 2025 2EAF 3F 31 DE BSTA,UN DECP
 2026 2EB2 3F 35 4F BSTA,UN EVAL
 2027 2EB5 1C 2F 5E BCTA,EQ PRNTF
 2028 2EE8 1A 03 BCTR,LT PRNTS
 2029 2EBA 1F 33 C7 BSTA,UN ERRI SYNTAX ERROR
 2030 2EFD *
 2031 2EFD 3F 34 14 PRNTS BSTA,UN STROP1
 2032 2FC0 02 PRNTSI LOEZ,R2 CHECK FOR DONE
 2033 2EC1 1C 2F AE RCTA,EQ PRNTD
 2034 2EC4 0C 92 23 LODA,R0 *OP1 GET CHARACTER
 2035 2EC7 3F 21 F5 BSTA,UN WRT
 2036 2ECA 3F 32 25 BSTA,UN INCOP1 - INCREMENT POINTERS
 2037 2ECD A6 01 SUBL,R2 1
 2038 2ECF 1B 6F BCTR,UN PRNTS1
 2039 2ED1 *
 2040 2ED1 3F 2A 0F PRNTA BSTA,UN EVALNS
 2041 2ED4 A5 01 SUBI,R1 1
 2042 2ED6 CD 0F 57 STRA,R1 PNTMP
 2043 2ED9 3F 33 E7 BSTA,UN SKPCOM
 2044 2EDE 3F 2A 0F PRNTAI BSTA,UN EVALNS
 2045 2EDF A5 01 SUBI,R1 1
 2046 2EE1 ?? 08 FFSL WC
 2047 2EE3 E1 RRL ,R1
 2048 2EE4 D8 RRL ,R0
 2049 2EE5 D1 RRL ,R1
 2050 2EE6 D8 RRL ,R0
 2051 2EE7 D1 RRL ,R1
 2052 2EE8 D0 RRL ,R0
 2053 2EE9 D1 RRL ,R1

LINE	ADIR	B1	B2	B3	LABEL	OPCODE	OPERAND
2054	2EEA	D2				RRL ,R0	
2055	2EEF	75	08			CPSL	WC
2056	2EED	44	07			ANDI,R0	07
2057	2EEF	64	10			IORI,R0	10
2058	2EF1	C2				STRZ,R2	
2059	2EF2	0C	0F	E7			
2060	2EF5	44	01			LODA,R0	PNTTMP
2061	2EF7	45	F0			ANDI,R0	0F
2062	2EF9	61				ANDI,R1	FC
2063	2EEA	C1				IORZ,R1	
2064	2FFB	3F	21	45		STRZ,R1	
2065	2EFF	3F	00	64		BSTA,UN	SETCUR
2066	2F01	1F	2F	AE	*	BCTA,UN	WRTCUR
2067	2F04	*				PRNTD	
2068	2F04	0C	81	43		LODA,R0	*MCUR
2069	2F07	CC	0F	57		STRA,R0	PNTTMP
2070	2F0A	1B	50	*		BCTR,UN	PRNTA1
2071	2F2C	*					
2072	2F2C	3F	2A	4C		BSTA,UN	ENOSTR
2073	2F0F	3F	30	20		BSTA,UN	MNTSGN
2074	2F12	0C	13	ED		LODA,R0	CBUF1
2075	2F15	19	08			BCTR,GT	PRNT13
2076	2F17	04	30			LODI,R0	'C'
2077	2F18	3F	21	F5		BSTA,UN	WRT
2078	2F1C	1F	2F	AE		ECTA,UN	PRNTD
2079	2F1F	0C	1B	B5		PRNT13	LODA,R0
2080	2F22	E4	07			COMI,R0	INTEXP
2081	2F24	1A	11			BCTR,LT	PRNT11
2082	2F26	0C	1B	12		LODA,R0	EXPNSGN
2083	2F29	1A	0C			BCTR,LT	PRNT11
2084	2F2B	05	06			LODI,R1	6
2085	2F31	04	2A	FRNT12		BSTA,UN	WRT <i>(2nd Area)</i>
2086	2F2F	3F	21	E5		PRNT12	
2087	2F32	F9	79			BDRR,R1	
2088	2F34	1F	2F	AE		BCTA,UN	PRNTD
2089	2F37	3F	2F	EA		PRNT11	MNTINT
2090	2F3A	1F	2F	AF		BCTA,UN	PRNTD
2091	2F3D	*					
2092	2F3D	3F	2A	4C		PRNTH	BSTA,UN
2093	2F40	3F	3C	F5		BSTA,UN	ENOSTR
2094	2F43	E7	00			LODI,R3	0
2095	2F45	F7	04			PRNTH1	COMI,R3
2096	2F47	1C	2F	AE		BCTA,EQ	PRNTD
2097	2F4A	CB	0B			STRZ,R3	PNTTMP
2098	2F4C	0F	73	8D		LODA,R3	CRUF1,I
2099	2F4F	C2				STRZ,R2	
2100	2F50	3F	20	6A		BSTA,UN	HXOT
2101	2F53	0B	02			LODR,R3	PNTIMP
2102	2F55	1B	6E			BIRR,R3	PRNTH1
2103	2FF7	*					
2104	2F57	*				PNTTMP RES	1
2105	2F57	*				*	
2106	2F57	00				*	
2107	2F58	*				*	
2108	2F58	*				*	
2109	2F58	3F	30	20		PRNTF	BSTA,UN
2110	2F58	3F	30	20		MNTSGN	

2165 2F42 46 0*
 2166 2F4E 45 0* PRNTD4 ANDI, R1
 2167 2FDD 65 40 IORI, R1 40 MOVE OVER 4 SPACES
 2170 2FEE 3F 21 45 BSTA, UN SETCTR
 2171 2FF0 3F 20 64 BSTA, UN WRTCUR
 2172 2FE2 3F 20 64 BSTA, UN WRTCUR
 2173 2FF5 1F 2E 8E *
 2174 2FF6 1F 2E 8E *
 2175 2FF8 *
 2176 2FF8 *
 2177 2FF8 20 MNTSTG RES 1
 2178 2FF9 20 DIGCTR RES 1
 2179 2FFA *
 2180 2FFA *
 2181 2FFA *
 2182 2FFA 65 04 ENTINT LODI, R1 4
 2183 2FFC 20 L0RZ, R0
 2184 2FFD 08 7A STRR, R0 DIGCTR
 2185 2FFE 0D 47 2D MNTI2 LODA, R1 IN STG, -
 2186 2FF2 E5 FF COMI, R1 FF
 2187 2FF4 14 RETC, EQ
 2188 2FF5 00 LODZ, PQ
 2189 2FF6 18 77 PCTR, EQ MNTI2
 2190 2FF8 C2 STRZ, R2
 2191 2FF9 C1 0F E8 STRA, R1 MNTSTG
 2192 2FFC 44 F0 ANDI, R0 FO
 2193 2FFE 08 14 BCFR, EQ MNTI4
 2194 3000 02 LODZ, R2
 2195 3001 31 32 4F ESTA, UN OUT
 2196 3004 0C 0F E9 LODA, R0 DIGCTR
 2197 3007 84 21 ADDI, R0 1
 2198 300E 08 5E MNTI5 STRR, R0 DIGCTR
 2199 300P 0D 47 2D LODA, R1 INTSTG -
 2200 304E E5 FF COMI, R1 FF
 2201 3010 14 RETC, EQ
 2202 3011 C2 STRZ, R2
 2203 3012 C6 54 STRR, R1 MNTSTG
 2204 3C14 3F 00 6A MNTI4 BSTA, UN HXOT
 2205 3017 0C 4F LODR, R1 MNTSTG
 2206 3019 0C 0F E9 LODA, R0 DIGCTR
 2207 301C 84 02 ADDI, R0 2
 2208 301E 1B 65 BCTR, UN MNTIS
 2209 3020 *
 2210 3020 *
 2211 3020 *
 2212 3020 3F 3C F5 MNTSGN BSTA, UN POPC1
 2213 3023 3F 3B 1F BSTA, UN FIXNL
 2214 3026 0C 1B 13 LODA, R0 INTSGN
 2215 3029 F4 8E ANYSGN TMT, R0 80
 2216 302B 0C 21 E3 BCFA, EQ WRBL
 2217 302E 04 2E LODI, R0
 2218 3030 1F 21 E5 BSTA, UN WRT
 2219 3033 *
 2220 3033 *
 2221 3033 *
 2222 3033 * REACHED. INPT IS LEFT POINTING TO THE CHARACTER AFTER THE
 2223 3033 * QUOTE. A DOUBL QUOTE IS PRINTED AS A QUOTE AND THE PRINT IS
 2224 3033 * CONTINUED.

2226	3033	3F 33	D5	PRINTQ	BSTA,UN	GETCHR CR	*
2227	3033	3F 33	D5	PRINTQ	BSTA,R3	COMI,R3	
2228	3036	E7 0D	0F	BCTR,EC	BCTA,EQ	ERR1	CHECK FOR QUOTE
2229	3036	1C 33	C7	COMI,R3	COMI,R3		
2230	303E	E7 27		BCTR,EC	FRINQ1		
2231	303D	18 06		BCTR,EC	FRINQ1		
2232	303F	03		PRNTQ2	LOD2,R3		
2233	3040	3F 21	E5	BSTA,UN	WRT		
2234	3043	1B 6E		BCTR,UN	PRINTQ		
2235	3045	3F 33	D5	PRINQ1	BSTA,UN	GETCHR	GET POSSIBLE SECOND QUOTE
2236	3048	E7 27		COMI,R3	COMI,R3		
2237	304A	9C 31	DE	BCFA,EQ	DECPT	NO.	BACKUP AND RETURN
2238	304D	1B 70		BCTR,UN	PRNTQ2		
2239	304F	*					
2240	304F	*					
2241	304F	44 0F	0F	DOUT	ANDI,R0	0F	
2242	3051	64 30		IORI,R0	0F		
2243	3053	1F 21	E5	BCTA,UN	WRT		
2244	3056	*					
2245	3056	*					
2246	3056	*					
2247	3056	07 10		ERR2	LODI,R3	10	TYPE MISMATCH
2248	3058	1B 1D		BCTR,UN	ERROR		
2249	305A	07 03		ERR3	LODI,R3	3	LENGTH MISMATCH
2250	305C	1B 1C		BCTR,UN	ERROR		
2251	305E	07 00		ERR7	LODI,R3	00	NEST ERROR
2252	3060	01 F5		BCTR,UN	ERROR		
2253	3062	07 02		ERR8	LODI,R3	2	STACK OVERFLOW
2254	3064	1B 11		BCTR,UN	ERROR		
2255	3066	07 15		ERR11	LODI,R3	15	IMPROPER VARIABLE NAME
2256	3068	1B 0D		BCTR,UN	ERROR		
2257	306A	07 04		ERR12	LODI,R3	04	LINE NUMBER TOO LONG
2258	306C	1B 09		BCTR,UN	ERROR		
2259	306E	07 14		ERR15	LODI,R3	14	OVERFLOW
2260	3070	1B 05		BCTR,UN	ERROR		
2261	3072	07 13		ERR16	LODI,R3	13	DIVIDE BY ZFP0
2262	3074	1B 01		BCTR,UN	ERROR		
2263	3076	*					
2264	3076	03		ETEMP	RES	1	
2265	3077	*					
2266	3077	*					
2267	3077	*					
2268	3077	04 02		ERROR	LODI,R0	2	
2269	3079	93		LPSL	WRTM		RESET THE PSL IF FROM ARITH. ROUTINE
2270	307A	CB 7A		STRR,R3	ETEMP		SAVE ERROR MESSAGE CODE
2271	307C	07 05		LODI,R3	5		***
2272	307E	3B 1B		BSTR,UN	DIRWR		
2273	3080	CB 74		LODR,R3	ETEMP		
2274	3082	3F 30	C7	BSTA,UN	WRTM		DISPLAY ERROR TYPE
2275	3085	07 07		LODI,R3	7		ERROR ***
2276	3087	3F 30	C7	BSTA,UN	WRTM		
2277	308A	0F 04	60	SUEA,R2	SHPNT+1		
2278	308D	A1 0E	8A	SUEA,R2	SHLIN		SHOW CURRENT (FAULTY) LINE
2279	3090	3F 28	65	BSTA,UN	PAUSE		
2280	3093	3F 25	B2	BSTA,UN	OPTION		LET THEM CHANGE SOMETHING
2281	3096	1F 27	AC	BCTA,UN			

LINE ADDR B1 B2 B3 LABEL OPCODE OPERAND

22E2	3055	*				
22E3	3099 00 00	LTEMP RES	2			
22E4	309B	*				
22E5	309B	*				
22E6	309B	*				
22E7	309B 0C 81 41	DIREWTLONA,R0	*MCU1			
22E8	309B 0C 81 41	DIREWTLONA,R0	*MCU1			
22E9	30A0 0C 81 43	STRR,R0	DTEMP	SAVE	RESENT CURSOR POSITION	
2290	30A3 C8 75	LODA,R0	*MCUR			
2291	30A5 06 10	STRR,R0	DTEMP+1			
2292	30A7 05 4E	LODI,R2	DIRECUR			
2293	30A9 3F 21 45	LODI,R1	DIRECUA			
2294	30AC 03	BSTA,UN	SETCUR			
		LODZ,R3				
2295	30AD C1	STRZ,R1				
2296	30AE 3F 00 3A	BSTA,UN	ERASEL			
2297	30B1 01	LODZ,R1				
2298	30B2 C3	STRZ,R3				
2299	30B3 1F 30 C7	BUTA,UN	WRTM	WRITE THE MESSAGE, RETURN		
2300	30B6	*				
2301	30B6	*				
2302	30B6	*				
2303	30B6 0A 61	RECUR LODR,R2	DTEMP			
2304	30B8 09 60	LODR,R1	DTEMP+1			
2305	30B9 1F 21 45	BCTA,UN	SETCUR			
2306	30BD	*				
2307	30BD	*				
2308	30BD	*				
2309	30BD 03	CKNUM0	LODZ,R3			
2310	30BE F4 30	CKNUM	COMI,R0	'0'		
2311	30C0 16	RETG,LT				
2312	30C1 F4 39	CCMI,R0	'g'			
2313	30C3 1E	RETG,GT				
2314	30C4 75 C0	CPSL	'0'			
2315	30C6 17	RETC,UN	CLEAR CONDITION CODE BITS			
2316	30C7	*				
2317	30C7	*				
2318	30C7	*				
2319	30C7 06 00	WRTM	LODI,R2	0		
2320	30C9 05 FF	LODI,R1	FF			
2321	30CB 02	WRTM2	LODZ,R2			
2322	30CC E3	COMZ,R3				
2323	30CD 18 0F	BCTR,FQ	WRTM1			
2324	30CF 01 30 ED	WRTM3	LODA,R1	MSG0,+		
2325	30D2 E4 2F	COMI,R0				
2326	30D4 98 79	BCFR,FG	WRTM3			
2327	30D6 86 01	ADDI,R2	1			
2328	30D8 1B 71	BCTR,UN	WRTM2			
2329	30DA 0D 30 ED	WRTM1	LODA,R1	MSG0,+		
2330	30DD E4 2E	COMI,RC	.			
2331	30DF 14	RETC,FQ	CHECK FOR END OF MESSAGE			
2332	30E2 E4 0D	COMI,RO	CR			
2333	30E2 98 24	BCFR,FQ	WRTM5			
2334	30E4 FF 24	ZBSR	LECR			
2335	30F6 1B 72	BCTR,UN	WRTM1			
2336	30E8 3F 21 E5	BSTA,UN	WRT			
2337	30EB 1B 6D	BCTR,UN	WRTM1	AFTER INCREMENTING HIH BYTE, DO NEXT CHAR		
2338	30ED	*				

LINE ADDR E1 B2 E0 DEBL OFCDEL OFCDEL OFCDEL
 2339 30ED *
 2340 30ED *
 2341 30ED 4E 4F FZ MSG0 ALIT 'NEST.'
 2342 30F2 4F 50 54 MSG1 ALIT 'OPTION.'
 2343 30FC 53 54 4B MSG2 ALIT 'STK OVE.'
 2344 3104 4C 45 4F MSG3 ALIT 'LEN MISMATCH.'
 2345 3111 4C 4F 20 MSG4 ALIT 'LN #.'
 2346 3116 20 2A MSG5 ALIT ***
 2347 311C 22 45 58 MSG6 ALIT 'EXECUTING.'
 2348 3120 20 4E 52 MSG7 ALIT 'ERROR ***.'
 2349 3131 0D DATA CR.
 2350 3132 2E DATA
 2351 3133 4E 4F 2E MSG8 ALIT 'NO STOP STMT.'
 2352 3140 F3 F4 45 MSG9 ALIT 'STEP MODE'
 2353 3149 0D DATA CR.
 2354 314A 2E DATA
 2355 314B 0D MSGA DATA CR.
 2356 314C 42 4F 50 ALIT 'BKPT AT LINE #'
 2357 315C 4F 55 54 MSGB ALIT 'OUT OF DATA.'
 2358 3168 41 52 MSGC ALIT
 2359 316C 49 4F 53 MSGD ALIT
 2360 317C 0D MSGE DATA CR.
 2361 317A 53 54 4F ALIT 'INSPECT VAR.'
 2362 3182 4C 49 4F MSGF ALIT 'ARG.'
 2363 318F 54 59 50 MSG10 ALIT
 2364 319D 53 59 4E MSG11 ALIT 'SYNTAX.'
 2365 31A4 54 4F 4F MSG12 ALIT 'TOO MANY OPS.'
 2366 31B1 44 56 44 MSG13 ALIT 'DVD BY ZERO.'
 2367 31BD 4F 56 46 MSG14 ALIT 'OVE.'
 2368 31C1 56 41 52 MSG15 ALIT 'VAR NM.'
 2369 31C8 *
 2370 31C8 *
 2371 31C8 *
 2372 31C8 0C 04 62 INCPT LODA,R0 INPT+1 INCREMENT LOW BYTE OF INPUT POINTER
 2373 31C9 84 01 ADDI,R0 1
 2374 31CD CC 04 60 STRA,R0 INPT+1
 2375 31D0 16 RETC,LT
 2376 31D1 15 RETC,GT
 2377 31D2 0C 04 FF LODA,R0 INPT
 2378 31D5 84 01 ADDI,R0 1
 2379 31D7 CC 04 5F STRA,R0 INPT
 2380 31DA 17 RETC,UN
 2381 31DB * RETURN IF NO OVFFLOW
 2382 31DB * best pointer of last state was saved & checked
 2383 31DB * best pointer of last state was saved & checked
 2384 31DB 3F 33 F0 SKPDEC PSTA,UN SKFSF
 2385 31DE 0C 04 60 DECP LODA,R0 INPT+1 DECREMENT LOW BYTE OF INPUT POINTER
 2386 31E1 A4 01 SUBI,R0 1
 2387 31E3 CC 04 60 STRA,R0 INPT+1
 2388 31E6 77 08 PPST WC
 2389 31E8 0C 04 5F LODA,R0 INPT DECREMENT HIGH BYTE OF INPUT POINTER
 2390 31EB A4 00 SUBI,R0 0 SURTRACT ANY CARRY
 2391 31EC CC 04 5F STRA,R0 INPT
 2392 31F0 7E 08 CPSL WC
 2393 31F2 17 RETC,UN
 2394 31F3 *

LINE	ADDR	B1	B2	B3	LAREL	OPII	CODE	OPERAND
2396	3146	CC	06				STAR, R0	STEMP
2397	31FB	CC	04	60			LDA, R0	INPT+1
2398	31FB	CC	C2				STR, R0	STEMP+1
2399	31FD	17					RETC, UN	
2400	31FE	*						
2401	31FE	00	00					
2402	3200	*						
2403	3200	00	7C	RINPT			LODR, R0	STYP
2404	3202	CC	04	5F			STRA, R0	INPT
2405	3205	00	78				LODR, R0	STEMP+1
2406	3207	CC	04	60			STRA, R0	INPT+1
2407	320A	17					RETC, UN	
2408	320B	*						
2409	320B	CC	04	5F	CSINPT		LDA, R0	INPT
2410	320E	CC	06				STR, R0	CINPT
2411	3210	CC	04	60			LDA, R0	INPT+1
2412	3213	CC	02				STR, R0	CINPT+1
2413	3215	17					RETC, UN	
2414	3216	*						
2415	3216	00	00	CINPT	RES	2		
2416	3218	*						
2417	3218	00	7C	CRINPT			LODR, R0	CINPT
2418	321A	CC	04	5F			STRA, R0	INPT
2419	321E	00	78				LODP, R0	CINPT+1
2420	321F	CC	04	60			STRA, R0	INPT+1
2421	3222	17					RETC, UN	
2422	3223	*						
2423	3223	00	00	OP1	RES	2		
2424	3225	*						
2425	3225	00	7D	INCOP1	LODR, R0	OP1+1	OPP# +7	
2426	3227	84	01				ADDI, R0	1
2427	3229	00	79				STR, R0	OP1+1
2428	322B	15					RETC, GT	
2429	322C	16					RETC, LT	
2430	322D	08	74				LODR, R0	OP1
2431	322F	04	01				ADDI, R0	1
2432	3231	08	70				STR, R0	OP1
2433	3233	17					RETC, UN	
2434	3234	*						
2435	3234	00	00	OP2	RES	2		
2436	3236	*						
2437	3226	00	7D	INCOP2	LODR, R0	OP2+1	OPP# +7	
2438	3238	84	01				ADDI, R0	1
2439	323A	08	79				STR, R0	OP2+1
2440	323C	16					RETC, LT	
2441	323D	15					RETC, GT	
2442	323E	08	74				LODR, R0	OP2
2443	3240	84	01				ADDI, R0	1
2444	3242	08	70				STR, R0	OP2
2445	3244	17					RETC, UN	
2446	3245	*						
2447	3245	CC	34	FOP			STR, R0	UTEMP
2448	3247	CC	33				STR, R1	UTEMP+1
2449	3249	3P	32	POPNL			BSTA, UN	UTOP
2450	324C	04	03				LDT, R0	3
2451	324E	3P	1A				BSTR, UN	APT
2452	3250	00	04				LDT, R1	4

LINEN	BULB	BL	BC	BD	DATALEN	URGCODE	URGBAND
2514	32E7	FC	60	60	C0MA, R0	ENDRAM+1	
2511	32BA	1D	30	62	BCTA, GT	ERR8	
2512	32BD	08	10		LODR, R0	SP	
2513	32EF	IC	15	24	INCSP2	COMA, R0	TABEND
2514	32C2	15			RETC, GT		
2515	32C3	1E	30	62	BCTA, LT	ERR8	
2516	32C6	08	08		*LODR, R0	SP+1	
2517	32C8	1C	1E	25	CUMA, R0	TABEND+1	
2518	32CB	1F	30	62	BCTA, LT	ERR8	
2519	32CE	17			RETC, UN		
2520	32CF	*					
2521	32CF	00	00		SP	RES	2
2522	32D1	*			*		
2523	32D1	08	7D		DECSP	LODR, R0	SP+1
2524	32D3	A4	01		SUBI, R0	1	
2525	32D5	08	79		STRR, R0	SP+1	
2526	32D7	77	08		PPSL	WC	
2527	32D9	08	74		LODR, R0	SP	
2528	32DE	A4	00		SUBI, R0	0	
2529	32DD	08	70		STRR, R0	SP	
2530	32DF	75	08		CPSL	WC	
2531	32E1	1F	48	*	BCTR, UN	INCSP1	
2532	32E3	*					
2533	32E3	*					
2534	32E3	*					
2535	32E3	3F	32	0B	GETDAT	BSTA, UN	C\$INPT
2536	32E6	0C	0C	5F	LODA, R0	DATPNT	
2537	32E9	0C	04	FF	STRA, R0	INPT	
2538	32EC	0C	0C	60	LODA, R0	DATPNT+1	
2539	32EF	0C	24	6C	STRA, R0	INPT+1	
2540	32F2	08	0E		LODR, R0	PDATA	
2541	32F4	18	2B		BCTR, EQ	GETD2	
2542	32F6	3F	33	E0	BSTA, UN	SKPSP	
2543	32F9	F7	2C		COMI, R3		
2544	32FB	18	06		BCTR, EQ	GETD3	
2545	32FD	3F	31	DE	BSTA, UN	DECPT	
2546	3300	1B	3C		BCTR, UN	GETD4	
2547	3302	*					
2548	3302	*					
2549	3302	*					
2550	3302	00			PDATA	RES	1
2551	3303	*			*		
2552	3303	*			*		
2553	3303	*					
2554	3303	3F	35	4B	GETD3	BSTA, UN	EVAL
2555	3306	3F	34	14	BSTA, UN	STROP1	
2556	3309	13			SPSL		
2557	330A	C3			STRZ, R3		
2558	330B	04	FF		LODI, R0	FF	
2559	330D	C8	73		STRR, R0	PDATA	
2560	332F	0C	04	FF	LODA, R0	INPT	
2561	3312	CC	0C	5F	ST A, R0	DATPNT	
2562	3315	0C	04	6C	LODA, R0	INPT+1	
2563	3318	CC	0C	6C	STRA, R0	DATPNT+1	
2564	331B	3F	32	18	BSTA, UN	CRINP1	
2565	331E	03			LODZ, R3		
2566	331F	93			LPSL		

267 20 F C,I GETLIN SKIP OVER POSSITIVE LINE NUMBER

2568	3321	3F 33 FF	GETD2	ESTA,UN	GETLIN	SKIP OVER POSSITIVE LINE NUMBER
2569	3324	04 29		L0DI,R0	COMTR2	
2570	3326	05 CE		L0DI,R1	COMTB2	
2571	3328	3F 28 E7		BSTA,UN	TAUP	
2572	332B	98 05		BCFR,EQ	GETD4	
2573	332D	0C 08 FE		L0DA,R0	DST+1	
2574	3330	18 51		BCTR,EQ	GETD2	
2575	3332	3F 33 D5	GETD4	BSTA,UN	GETCHR	
2576	3335	E7 0D		COMI,R3	CR	
2577	3337	98 79		BCFR,EQ	GETD4	
2578	3339	0C 84 FF		L0DA,R0	*INPT	
2579	333C	9A 63		BCFR,LT	GETD2	
2580	333E	07 0B		L0DI,R3	CB	
2581	3340	1F 30 77		BCTA,UN	ERROR	
2582	3342	**				
2583	3343	**				
2584	3343	**				
2585	3343	0F 14 A5	MOVEB	L0DA,R3	OPLTH	
2586	3346	14		RET,C,EQ		
2587	3347	0C 92 23	MOVEB1	L0DA,R0	*OP1	
2588	334A	3F 2B 2E		BSTA,UN	PUSOP2	
2589	334D	3F 32 25		BSTA,UN	INCOF1	
2590	3350	FB 7E		BDRR,R3	MOVEF1	
2591	3352	17		RETC,UN		
2592	3353	**				
2593	3353	**				
2594	3353	**				
2595	3353	**				
2596	3353	**				
2597	3352	**				
2598	3353	**				
2599	3353	**				
2600	3353	06 FF	GETNAME	L0DI,R2	FF	
2601	3353	3F 33 E0		RSTA,UN	SKPSF	
2602	3355	3F 24	GETNMS	COMI,R3	,\$	
2603	335A	18 1A		BCTR,EQ	GETNM3	
2604	335C	3B 2E		BSTR,UN	CKALPH	
2605	335E	98 13		BCFR,EC	GETNM6	
2606	3360	03	GETNM1	L0DZ,R3	F	
2607	3360	03		COMI,R2	ERR11	NAME TCC LONG
2608	3361	06 0F		BCTA,EQ	NAMBUF,+	
2609	3362	1C 30 66		STRA,P2		
2610	3366	CF 27 36		GETCHR		
2611	3369	3F 33 D5		BSTA,UN	CKNUM@	char of char is copied to J@, CC=0
2612	336C	3F 30 BD		BSTA,UN	GETNM1	char of char is copied to J@, CC=0
2613	336F	18 6F		BCTR,EQ	GETNM5	char of char is copied to J@, CC=0
2614	3371	1B 65		FCTR,UN	RETNLT	char of char is copied to J@, CC=0
2615	3373	3F 31 DE	GETNAME	ESTA,UN	DEFCT	char of char is copied to J@, CC=0
2616	3376	8C 01	GETNM3	ADTI,R2	1	char of char is copied to J@, CC=0
2617	3378	18 07		PCTR,EQ	GETNM7	char of char is copied to J@, CC=0
2618	337A	E7 24		COMI,R3	,\$	char of char is copied to J@, CC=0
2619	337C	1C 37 75		BCTA,EQ	RETNLT	char of char is copied to J@, CC=0
2620	337F	20		K0RZ,R2	CLEAR CC	
2621	3380	17		BETC,UN	SET GT INTO CC	
2622	3381	04 01	GETNM7	L0DI,R0	1	
2623	3383	17		RETC,UN		

also number 1 don't use, in fact \$ CC = LT
also number 1 don't use, in fact \$ CC = LT

SET GT INTO CC

LINE	ADDR	R1	R2	R3	LABEL	OPCODE	OPERAND
2624	3384	*	*	*			
2625	3384	*	*				
2626	3384	E? 41	CKALPH	COMI, R3	A		
2627	3384	E? 1E		RET, LT			
2628	338C	1E		COMI, R2	Z		
2629	3387	E? EA		RET, GT			
2630	3389	1S		CFSL	CZ		
2631	338A	75	CE				
2632	338C	17		RET, UN			
2633	338D	*					
2634	338D	*					
2635	338D	*					
2636	338D	00 00 00	CBUF1	RES	4		
2637	3391	00 00 00	CBUF2	RES	4		
2638	3395	*					
2639	3395	*					
2640	3395	*					
2641	3395	*					
2642	3395	*					
2643	3395	E8 77	COMMUM	LODR, R0	CBUF1+1		
2644	3397	28 79		EORR, R0	CBUF2+1		
2645	3399	9A 77		BCFR, LT	COMN1	SIGN(MANT1)	
2646	339B	08 71		LODR, R0	CBUF1+1		
2647	339D	9A 0D		BCFR, LT	COMGT		
2648	339F	*					
2649	339F	V7 V2	COMET	LODI, R3	LT	LESS THAN CONDITION	
2650	33A1	17		RET, UN			
2651	33A2	*					
2652	33A2	08 69	COMM1	LODR, R0	CBUF1		
2653	33A4	28 6B		EORR, R0	CBUF2		
2654	33A6	CA C7		BCFR, LT	COMN3		
2655	33A8	08 63		LODR, R0	CBUF1		
2656	33AA	1A 73		BCTR, LT	COMLT		
2657	33AC	*					
2658	33AC	27 01	COMGT	LODI, R3	GT	GREATER THAN CONDITION	
2659	33AE	17		RET, UN			
2660	33AF	*					
2661	33AF	0C FF	COMN3	LODI, R2	FF		
2662	33B1	07 04		LODI, R3	4		
2663	33B3	0E 33 8D	COMM4	LODA, R2	CBUF1.		
2664	33B6	EE 73 91		COMA, R2	CBUF2. I		
2665	33C9	1A 64		BCTR, LT	COMIT		
2666	33BP	19 EF		BCTB, GT	COMGT		
2667	33BD	FB 74		BDRR, R3	COMN4		
2668	33BF	17		RET, UN			
2669	33C0	*					
2670	33C0	*					
2671	33C2	*					
2672	33C2	3B 1F	NXTLIN	ESTR, UN	SKPSP		
2673	33C2	F7 0L		COM1, R3	CR		
2674	33C4	1C A8 96		BCTA, EG	*RTNADR		
2675	33C7	07 11	ERR1	LODI, R3	11		
2676	33C9	1E 32 72		BCTA, UN	ERROR		
2677	33CC	*					
2678	33CC	*					
2679	33CC	*					
2680	33CC	3P 27	SKPLIN	BSTR, UN	GETCHR		

LINE ALIAS FILE FOR LANGUAGE TRANSLATION

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2681 33CE FF AD COM1.R3
2682 33D0 1C A8 96 BCTA,RC *RTNADR
2683 33D2 1E 77 BCTR,UN SKPLIN
2684 33D5 *
2685 33D5 *
2686 33D5 *
2687 3315 0F 64 5F GETCHR LODA,R3 *INPT GET CHARACTER
2688 33D8 9F 31 C8 BCFA,LT INCPY IF NC*, UPDATE INPT AND RETURN
2689 33D8 07 08 ERR10 LODI,R3 Q
2690 33DD 1F 32 77 BCTA,UN ERROR effect des Plan 2000
26C1 3310 *
26C2 33E0 *
2693 33F0 *
2694 33FC 3B 73 SKPSP BSTR,UN GETCHR
2695 33F2 E7 20 COMI,R3
26C6 33F4 18 FQ BCTR,FQ SKPSP
2697 33E6 17 RETC,UN
2698 33F7 *
26C9 33F7 *
2700 33E7 3B 77 SKPCOM BSTR,UN SKPSP
2701 33E9 E7 2C COMI,R3
2702 33F9 5A BCFR,FQ FRR1
2703 33FB 5A RETC,UN
2704 33ED 17 *
2705 33EE *
2706 33EF *
2727 33EE *
2708 33EE 3B 70 GETLIN BSTR,UN SKPSP SKIP THE SPACES
2709 33FC 20 FORZ,RC
2710 33F1 05 04 LODI,RI 4
2711 33F3 CD 47 E9 GETL11 STRA,R1 LINNUM,- ZERO LINNUM
2712 33F6 59 7B BNR,R1 GETL11
2713 33F8 05 FF LODI,RI FF
2714 33FA 3F 30 BD GETL12 BSTA,UN CKNUM0
2715 33FD 9C 31 DF ECFA,EQ TECPT 4 to size, begin with the decimal point in action
2716 3400 E5 04 COMI,RI 4
2717 3402 1C 30 6A BCTA,EQ FRR12 LINE NUMBER TOO LONG
2718 340E CD 27 E9 STRA,R1 LINNUM,+ STORE THE NUMBER IN THE BUFFER
2719 3408 3F 33 D5 BSTA,UN GETCHR GETL12 get next character
2720 340B 1B 6D BCTR,UN GETL12
2721 340D *
2722 3401 *
2723 340D *
2724 340D CC 12 34 STROF2 STRA,RC OP2
2725 3410 CD 12 35 STRA,RC OP2+1
2726 3413 17 RETC,UN
2727 3414 *
2728 3414 *
2729 3414 *
2730 3414 CC 12 23 STRCP1 STRA,RC OP1
2731 3417 CD 12 24 STRA,RC OP1+1
2732 341A 17 RETC,UN
2733 341B *
2734 341B *
2735 341B *
2736 341F 00 LOP1 RES 1
2737 341C 00 LOP2 RES

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LINE	ADDR	R1	B2	B3	LABEL	OPCODE	OPERAND
738	341D	*					
739	341D	*					
740	341D	*					
741	341D	*					
742	341D	*					
743	341D	05	FF		GETLUP	LDT, R1	FF
744	341F	C9	7B		STRB, R1	LOP2	
745	3421	3F	33	EQ	GETL6	BSTA, UN	SKPSP
746	3424	F7	31		COMI, R3	=	
747	3426	18	21		BCTR, EQ	GETLI	
748	3428	E7	3C		COMI, R3	<	
749	342A	18	01		BCTR, EQ	GETLZ	
750	342C	F7	3E		COMI, R3	>	
751	342E	9C	34	42	BCFA, EQ	GETLP	→ SOUTX over R1 plus next to be operated.
752	3431	04	01		LODI, R0	GT	
753	3433	1B	06		BCPR, UN	GETL4	
754	3435	04	00		LODI, R0	EQ	
755	3437	1B	02		BUTH, UN	GETL4	
756	3439	04	02		GETL2	LODI, R0	LT
757	343B	CL	34	1F	GETL4	LOPI, +	STORE IT
758	343E	01			LOD2, R1		CHECK RI FOR FIRST CHAR
759	343F	15			RETC, GT		→ also, type return RETC
760	3440	1B	5F		BCTR, UN	GETL6	to 1st blank R7=FF, then separator
761	3442	01			LODZ, R1		
762	3443	1E	33	C7	BCTA, LT	ERR1	SYNTAX ERROR
763	3446	1F	31	DE	BCTA, UN	DECPT	because 1st operator point, -1 too many.
764	3449	*					
765	3449	*					* compare 3 bytes? → OP1 ≠ OP2 → order 2 op's = length of
766	3449	*					cc = R3, else jld R7 = R3 = cc = 0
767	3449	07	00		COMOP	LDT, R3	OP1 < OP2 da cc is LT ab OP1 < OP2 da cc is LT ab OP1 < OP2
768	344B	01	14	A5	LODA, R2	OPLTH	INITIALIZE RETURN STATUS
769	344E	14			RETG, EQ		GET LENGTH OF COMPARE
770	344F	0C	92	23	COMOP1	LODA, R0	*OP1
771	3452	EC	92	34	COMA, R0	*OP2	
772	3455	1F	33	9F	BCTA, LT	COMIT	
773	3458	1F	33	AC	BCTA, GT	COMGT	
774	345B	3F	32	25	BSTA, UN	INCOP1	OP1 + 1
775	345E	3F	32	36	BSTA, UN	INCOP2	OP2 + 1
776	3461	FA	6C		BDRR, R2	COMOP1	
777	3463	22			EORZ, R0	CC = 0	
778	3464	17			RETC, UN		
779	3465	*					
780	3465	*					
781	3465	*					
782	3465	00			GCS1	RES	1
783	3466	00			GCS2	RES	1
784	3467	*					
785	3467	*					
786	3467	*					
787	3467	20			GCVAR	EORZ, R0	
788	3468	C8	35		STRB, R0	CREATD	
789	346A	3F	3C	DA	BSTA, UN	LOKVAR	
790	346D	14			RETC, EQ		
791	346E	16			RETG, LT		
792	346F	3F	33	53	GCVAR2	BSTA, UN	GETNAME
793	3472	15			RETC, GT		
794	3473	CA	3A		STMD, D2		OPIMU

25 345 11 AC A, L1
 2796 3478 3F 33 EO BSTA, UN SKSP
 2797 347B F7 28 COMI, R3
 2798 347D 1C 33 AC BCTA, EQ COMGT
 2799 3482 3F 31 DF BSTA, UN DECP
 2800 3483 04 02 LODI, R0 2
 2801 3485 05 04 LODI, R1 LEN
 2802 3487 0A 10 LODR, R2 OPLTH
 2803 3489 07 00 LODI, R3 C
 2804 348B 3F 34 D0 BSTA, UN GCSUE
 2805 348E 05 05 BSTA, UN
 2806 349C 2C GCFPT1 LODI, R1 5
 2807 3491 3F 2B GCFPT1 LODI, R1
 2808 3494 F9 7A BSTA, UN PUSOP2
 2809 3496 0C 08 FA GETDST BDRR, R1
 2810 3499 0D 08 FB LODA, R0 GCFPT1
 2811 349C 75 C0 CPSL DST+1
 2812 349E 17 RETC, UN C0
 2813 34CF *
 2814 349F 00 CREATD RES 1
 2815 34A0 *
 2816 34A0 04 FF GCSTR LODI, RC FF
 2817 34A2 C9 7F STRR, R0 CREATD
 2818 34A4 17 *
 2819 34A5 00 OPLTH RES 1
 2820 34A5 00 GCSSTG RES 1
 2821 34A6 00 RETC, UN
 2822 34A7 *
 2823 34A7 C9 7D GCSTRA STRR, R1 GCSSTG
 2824 34A9 7A 7A LODR, R2 OPLTH
 2825 34AF 6E 80 IORI, R2 80 MAKE IT A STRING
 2826 34AD 04 03 LODI, R0 3
 2827 34AF 07 02 LODI, R3 0
 2828 34B1 3F 34 D0 BSTA, UN GCSUB
 2829 34B4 08 70 LODR, R0 GCSSTG
 2830 34B6 C1 GCSTR1 STRZ, R1
 2831 34B7 3F 2F BSTA, UN PUSOP2
 2832 34EA 04 20 GCSTR3 LODI, R2
 2833 34EC 3F 2E 2E BSTA, UN PUSOP2
 2834 34EF F9 79 BDRR, R1 GCSTR3
 2835 34C1 2C EORZ, R0
 2836 34C2 3F 2F 2F BSTA, UN PUSOP2
 2837 34C5 06 0A LODI, R2 SDFLT
 2838 34C7 3F 34 96 BSTA, UN GETDST
 2839 34CA 07 FF LODI, R3 FF SET LT CONDITION
 2840 34CC 17 RITC, UN
 2841 34CD 00 GCVT1 RES 1
 2842 34CE 07 GCVT2 RES 1
 2843 34CF 00 GCVT3 RES 1
 2844 34D0 *
 2845 34D0 C8 7B GCSUE STRR, R0 GCVT1 2 OR 3
 2846 34D2 C9 7A STRR, R1 GCVT2 LENGTH OF VARIABLE
 2847 34D4 CE 95 24 STRA, R2 *TABEND LENGTH OF NAME
 2848 34D7 CF 76 STRR, R3 GCVT3 HIGH BYTE OF LEN OF VAR
 2849 34D9 0C 15 24 LODA, R0 TABEND
 2850 34DC CC 12 34 STRA, R0 OP2
 2851 34DF 0C 15 25 LODA, R0 TABEND+1

LINE	ADDR	B1	B2	R3	LARET	OPCODE	OPERAND
2852	34E2	CC	12	3E		STRA,R0	OP2+1
2853	34E5	04	27			LODI,R0	NAMRUF
2854	34E7	CC	12	23		STRA,R0	OP1
2855	34EA	04	36			LODI,R0	NAMBUF
2856	34EC	CC	12	24		STRA,R0	OP1+1
2857	34EF	3F	32	36		BSTA,UN	INCOP2
2858	34F2	01	14	A5		*LODA,R1	OPTLH
2859	34F5	8D	12	35		ADDA,R1	OP2+1 addtive)
2860	34F8	77	08			PPSL	WC
2861	34FA	7C	12	34		LODA,R0	OP2
2862	34FD	84	00			ADDI,R0	0
2863	34FF	75	01			CPSL	CRY
2864	3501	89	4A			ADDR,R1	GCVT1)
2865	3503	84	00			STRA,R0	DST
2866	3505	CC	08	FA		STRA,R1	DST+1
2867	3508	CD	08	FB		CPSL	CRY
2868	350B	75	01			ADDA,R1	GCVT2
2869	350D	8D	14	CE		ADDA,R0	GCVT3
2870	3510	8C	14	CF		CPSL	WC
2871	3513	75	08			STRA,R0	TABEND
2872	3515	CE	0D			STRA,R1	same in TABEND
2873	3517	C9	0C			BSTA,UN	PUSOP2
2874	3519	3F	2B	2E		LODZ,R1	AO → *OP2, E92+1
2875	351C	01				PUSOP2	store begin of byte variable in R0
2876	351D	3F	2B	2F		BSTA,UN	MOVEB
2877	3520	3F	33	43		BSTA,UN	RETC,UN
2878	3523	17					
2879	3524	*					
2880	3524	*					
2881	3524	*					
2882	3524	00	00			TABEND	RES 2
2883	3526	*					
2884	3526	02				PUSHOP LODZ,R3	
2885	3527	09	0F			LODR,R1	OPSP
2886	3529	CD	67	55		STRA,R1	OPSTK,I
2887	352C	85	01			ADDI,R1	1
2888	352E	C9	08			STRR,R1	OPSP
2889	3530	F5	10			COMI,R1	10
2890	3532	16				RETC,LT	
2891	3533	07	12			LODI,R3	12
2892	3535	1F	30	77		BCTA,UN	ERROR
2893	3538	*					Stack overflow error
2894	3538	00				OPSP	RES 1
2895	3539	*					
2896	3539	09	7D			LODR,R1	OPSP
2897	353B	A5	01			SUBI,R1	1
2898	353D	1A	74			BCTR,LT	ERR5
2899	353F	01	67	55		LODA,R1	OPSTK,I
2900	3542	C3				STRZ,R3	
2901	3543	C9	73			STRR,R1	OPSP
2902	3545	17				RETC,UN	
2903	3546	*					
2904	3546	*					
2905	3546	*					
2906	3546	00				GOT	RES 1
2907	3547	*					
2908	3547	*					

אָמֵן וְאָמַנְתִּי בְּבָשָׂר וְבְדָם

LINE ADDR E1 E2 E3 LABEL OPCODE OPERAND

2966 35AF 61 IORZ,R1
 2967 35B0 C8 1B STRR,R0 TEMP0P SAVE OPERATOR
 2968 35B2 3F 35 39 EOP1 BSTA,UN POP0P GET OPERATOR FROM STACK
 2969 35B5 03 LODZ,R3
 2970 35B6 C1 STRZ,R1
 2971 35F7 47 07 ANDI,R3 ?
 2972 35B9 08 12 *ODR,R0 TEMP0P
 2973 35BB 44 27 ANDI,R0 ?
 2974 35BD E3 COMZ,R3
 2975 35BF 9A 0F BCFR,IN TOP2 IF INPUT = STACK, DO OPERATION ON STACK
 2976 35C0 01 LODZ,R1
 2977 35C1 C3 STRZ,R3
 2978 35C2 3F 35 26 BSTA,UN PUSH0P
 2979 35CE 0B 06 LODR,R3 TEMP0P GET INPUT OPERATOR
 2980 35C7 3F 35 26 BSTA,UN PUSH0P
 2981 35CA 1F 35 59 BCTA,UN EVAL2
 2982 3FCD *
 2983 35CD *
 2984 35CD 00 *
 2985 35CD 00 TEMP0P RES 1
 2986 35CE *
 2987 35CE 01 TOP2 LODZ,R1
 2988 35CF C3 STRZ,R3
 2989 35D0 3F 35 F8 BSTA,UN DOOP
 2990 35D3 1F 51 BCTR,UN EOP1
 2991 35D5 *
 2992 35D5 07 25 EDEL LODI,R3 5
 2993 35D7 3F 35 26 BSTA,UN PUSH0P
 2994 35DA 3F 36 47 BSTA,UN CKNEG
 2995 35DD 1F 35 59 BCTA,UN EVAL2
 2996 35E0 *
 2997 35E0 3F 35 39 FEEL1 BSTA,UN POP0P
 2998 35E3 03 LODZ,R3
 2999 35F4 44 07 ANDI,R0 ?
 3000 35F6 F4 07 COMI,R0 7
 3001 35F8 1C 32 C7 BCTA,EQ ERRI
 3002 35EB F4 05 COMI,R0 5
 3003 35ED 1C 35 6C BCTA,EQ EVAL1
 3004 35F0 F4 06 COMI,R0 6
 3005 35F2 18 21 BCTR,EQ EFCNEX
 3006 35F4 3B 02 BSTR,UN DOOP
 3007 35F6 1B 68 BCTR,UN EDFL1
 3008 35F8 *
 3009 35F8 F7 03 DOOP COMI,R3 3
 3010 35FA 98 06 BCFR,EQ DOOP1
 3011 35FC 3F 3D 11 BSTA,UN POP0PB
 3012 35FF 1F 3C D9 BCTA,UN FPABSI
 3013 3602 53 DOOP1 RRR,R3
 3014 3603 53 RRR,R3
 3015 3604 47 0E ANDI,R3 ?E
 3016 3626 0F 76 5E LODA,R3 OPJUMP,I
 3017 3609 CC 08 FA STRA,R0 DST
 3018 360C 0F 36 5E LODA,R3 OPJUMP,+
 3019 360F CC 0E FB STRA,R0 DST+1
 3020 3612 1F A8 FA BCTA,UN *DST
 3021 3615 53 EFCNEX RRR ,R3
 3022 3615 53 *

2022 3616 52 DDP R7
 2024 3617 52 ANDI R3
 2025 3618 47 1F FCNJMP.1
 2026 361A 2F 76 3E LODA,R3
 2027 361B CC 02 FA STRA,EQ DST
 2028 3622 0F 36 F0 LODA,R3 FCNJMP.+
 2029 3623 CC 28 FB STRA,R0 DST+1
 2030 3626 3F A8 FA BSTA,UN *DST
 2031 3629 1F 35 CC ECTA,UN EVAL1
 2032 362C *
 2033 362C 3F 33 EC EFCN BSTA,UN SKPSP
 2034 362F 17 28 COMI,R3
 2035 3631 9C 33 C7 PCFA,EQ ERR1 SYNTAX ERROR
 2036 3634 0D 08 2B LODA,R1 DST+1
 2037 3637 D1 RRL,R1
 2038 3638 11 RRL,R1
 2039 3639 D1 RRL,R1
 2040 363A 65 26 IORI,R1
 2041 363C 01 LODZ,R1
 2042 363L C3 ST Z,R3
 2043 363E 3F 35 26 BSTA,UN PUSHOP
 2044 3641 3F 36 47 BSTA,UN PUSH
 2045 3644 1F 35 59 CKNEG
 2046 3647 * BCTA,UN EVAL2
 2047 3647 3F 33 EC CKNEG BSTA,UN SKPSP
 2048 364A E7 2D COMI,R3
 2049 364C 9C 31 DF PCFA,EQ
 2050 364F 07 23 LODI,R3
 2051 3651 1F 35 26 ECTA,UN
 2052 3654 *
 2053 3654 FF 2A 2F OPTEL ALIT ^**/+/-
 2054 3659 00 JPCDN DATA 0 *
 2055 365A C1 DATA 1 *
 2056 365E C1 DATA 1 /
 2057 365C C2 DATA 2 *
 2058 365D C2 DATA 2 *
 2059 365F *
 2060 36EF 3F C7 CPJUMP ACN EXP.
 2061 3662 38 C1 ACN FPMULT
 2062 3662 38 94 ACN FPDIV
 2063 3664 37 FF ACN FPADD
 2064 2666 37 FC ACN FPSUR
 2065 3668 *
 2066 3668 *
 2067 3668 45 58 FCNTAB ALIT TAN.
 2068 366C 00 00 ACN 0
 2069 366F 43 4F F3 ALIT COS.
 2070 3672 20 02 ACN 2
 2071 3674 53 49 4F ALIT SIN.
 2072 367C 00 04 ACN 4
 2073 367A 54 41 4F ALIT TAN.
 2074 367E 00 06 ACN 6
 2075 3682 41 42 53 ALIT ABS.
 2076 3684 00 08 ACN 8
 2077 36EF 53 47 4E ALIT SGN.
 2078 368A 00 0A ACN A
 2079 368C 52 4F 44 ALIT

LINE ADDR R1 R2 B3 LABEL OPCODE OPERAND

3680 3690 00 00 CC ACON C
 3681 3692 53 51 52 ALIT SQR.
 3682 3696 00 00 E ACON E
 3683 3698 40 4F 54 ALIT INT.
 3684 369C 00 10 ACON 10 FRC.
 3685 369F 45 52 43 ALIT FR.
 3686 36A2 00 12 ACON 12 IN.
 3687 36A4 40 4F 2E ALIT 14.
 3688 36A7 00 14 ACON 14.
 3689 36A9 40 4F 47 ALIT LOG.
 3690 36AD 00 16 ACON 16.
 3691 36AF FF DATA FF
 3692 36B0 *
 3693 36B0 3F 2F FCNJMP ACON FPEXP2
 3694 36B2 3D 87 ACON FPCOS
 3695 36B4 3F 68 ACON FFSIN
 3696 36B6 31 D6 ACON FPTAN
 3697 36B8 3C D0 ACON FPABS
 3698 36BA 3C C4 ACON FPSGN
 3699 36BC 3F 68 ACON FPRND
 3100 36BE 3F C1 ACON FPSQT
 3101 36C0 3C E6 ACON FPINT
 3102 36C2 3D 20 ACON FPERC
 3103 36C4 3F AD ACON FPIN
 3104 36C6 3F AC ACON FPLOG
 3105 36C8 *
 3106 36C8 *
 3107 36C8 *
 3108 36C8 08 0E INCL LODR, R0 LTEMP+1
 3109 36CA 84 01 ADDI, R0 1
 3110 36CC C8 CA STRR, R0 LTEMP+1
 3111 36C1 15 RETC, GT
 3112 36CF 16 RETC, LT
 3113 36D0 08 05 LODR, R0 LTEMP
 3114 36D2 84 01 ADDI, R0 1
 3115 36D4 C8 01 STRR, R0 LTEMP
 3116 36D6 17 RETC, UN
 3117 36D7 *
 3118 36D7 *
 3119 36D7 *
 3120 36D7 00 00 LTEMP RES 3
 3121 36DA * *Procedure needed to been*
 3122 36DA * *Procedure needed to been*
 3123 36DA *
 3124 36DA 3F 31 DB LOKVAR BSTA, UN SKPDEC *will skip to first branch - see right pointer on STEM*
 3125 36DD 3F 31 F3 BSTA, UN SINPT INPT SET UP AT BEGINNING OF WORD *see right pointer on STEM*
 3126 36E0 E7 27 CCM1, R3
 3127 36E2 10 37 59 BCWA, EQ LOKV0
 3128 36E5 0C 00 04 LODA, R0 BST
 3129 36E8 C8 6D STRR, R0 LTEMP
 3130 36FA 22 EOR2, R0
 3131 36FB C8 6F STRR, R0 LTEMP+1 SET UP TABLE POINTERS
 3132 36ED C8 F8 LOKV1A LODR, R0 *LTEMP GET DATA BYTE / 64 bit
 3133 36F1 10 33 AC BCWA, EQ CMMT *Get data from stack*
 3134 36F2 C8 65 STRR, R0 LTEMP+2 SAVE IT
 3135 36F4 44 0F ANDI, R0 OF MASK OFF TYPE
 3136 36F6 C1 STRZ, R1

137 36F9 08 DC 38 4 F TR,I GET HIGH BYTE OF FORWARD REFERENCE
 3138 36FB C8 2E 38 4 F LODR,R0 SAVF IT
 3139 36FD 3B 4C STR,R0 INCL
 3140 36FF 08 D6 BSTR,UN *ITEMF
 3141 3700 08 D6 LODR,R0 GET LOW BYTE OF FORWARD REFERENCE
 3142 3701 C8 29 STR,R0 FREE+1
 3143 3703 3B 43 LOKV2 BSTR,UN INCL
 3144 3705 3F 33 D5 BSTA,UN GETCHR GFT CHARACTER FROM INPUT
 3145 3708 EB CD COMR,R3 *LTEMP CHECK FOR MATCH
 3146 370A 98 0F BCFR,EQ LOKV3 NO MATCH, SKIP VARIABLE
 3147 370C F9 75 BDRR,R1 LOKV2 SEE IF END
 3148 370E 3F 33 D5 BSTA,UN GETCHR GET NEXT CHARACTER OR R3
 3149 3711 3F 30 BD BSTA,UN CKNUM0
 3150 3714 18 05 BCTR,EQ LOKV3 NOT A MATCH, STILL A NUMBER LEFT
 3151 3716 3F 33 24 BSTA,UN CKALPH
 3152 3719 98 12 BCFR,EQ LOKV5 *alpha decimal*
 3153 371B 3F 32 00 LOKV3 BSTA,UN RINP
 3154 371F 08 0B LODR,R0 FREE+1
 3155 3720 09 0A LODR,R1 FREE+1 GET THE FORWARD REFERENCE
 3156 3722 CC 16 D7 STRA,R0 LTTEMP
 3157 3725 CD 16 D8 STRA,R1 LTTEMP+1 RESET TABLE POINTER
 3158 372E 1F 36 FD BCTA,UN LOKV1A
 3159 372B *
 3160 372B 00 00 FREE RES 2
 3161 372D *
 3162 372D 3F 36 C8 LOKV5 BSTA,UN INCL POINT TO FIRST BYTE OF VARIABLE
 3163 3730 F7 24 COMI,R3 *Set up* *initial value*
 3164 3732 98 09 BCFR,EQ LOKV8
 3165 3734 3F 31 C8 BSTA,UN INCPT
 3166 3737 0F 96 D7 LODA,R2 *ITEMP
 3167 373A 3F 36 C8 ESTA,UN INCL
 3168 373D 3F 31 DE LOKV8 BSTA,UN DECP
 3169 3740 0C 16 D7 LODA,R0 LTTEMP
 3170 3743 0D 16 D8 LODA,R1 LTTEMP+1 GET THE POINTERS
 3171 3746 F7 24 COMI,R3
 3172 3748 98 07 BCFR,EQ LOKV6 NOT A STRING
 3173 374A 0F 16 D9 LODA,R3 LTTEMP+2
 3174 374D 9E 37 1B BCFA,LT LOKV3 *Cc = LT start string*
 3175 3750 17 *
 3176 3751 *
 3177 3751 0F 16 D9 LOKV6 LODA,R3 LTTEMP+2 GET DATA BYTE
 3178 3754 47 C0 ANDI,R3
 3179 3756 19 22 BCTR,GT LOKV7 BRANCH IF DIMENSIONED
 3180 3758 17 RTC,UN
 3181 3759 *
 3182 375C 06 00 LOKVS LODI,R2
 3183 375B 3F 31 C8 BSTA,UN INCPT
 3184 375E 3F 33 D5 LOKV10 BSTA,UN GETCHR
 3185 3761 E7 27 COMI,R3
 3186 3763 1E 04 ECTR,EQ LOKV11
 3187 3765 86 01 ADDI,R2 1
 3188 3767 1E 75 BCTR,UN LOKV10
 3189 3769 0C 11 FE LOKV11 LODA,R0 STEMF
 3190 376C 0F 11 FF LODA,R1 STEMF+1
 3191 376F 85 01 ADDI,R1 1
 3192 3771 98 02 BCFR,EQ RETNL
 3193 3773 84 01 ADDI,R0 1

PRINT "Sally" *R2 = length* *BU PRINT "Sally"*

LIN#	ABTR	M1	B7	D7	LAPTR	OPCNT	OPRND	OPRND	SET LT CONDITION	R0, R1 & others ref sub, CC is LR
3164	3775	07	FF		RETNT	ICDI,RS	FF			
3165	3777	17								
3196	3776									
3197	3778									
3198	3778	*								
3199	3776	00	00		LVT2		RES			
3200	377A	*								
3201	377A	*								
3202	377A	*								
3203	377A	C8	7C		LCKV7		STRR,R0		LVT2	
3204	377C	CD	17	79			STRA,R1		LVT2+1	
3205	377F	3F	33	E2			BSTA,UN		SKPSP	
3206	3782	E7	28				COMI,RS		(
3207	3784	6C	36	C7			BCFA,EQ		ERR1	
3208	3787	3F	36	DA			BSTA,UN		LOKVAR	
3209	378A	3Y	32	7D			PSTA,UN		FUSH	
3212	378D	3F	31	C8			BSTA,UN		INCPT	
3211	3790	3F	30	F5			BSTA,UN		POU1	
3212	3793	3F	2A	17			BSTA,UN		DTOBNL	
3213	3796	20					TORZ,R0			
3214	3797	A5	01		SUB1,RI	1				
3215	3798	77	08		PPSL		WC			
3216	379B	75	01		CPSL		CRY			
3217	379D	D1			RRL		R1			
3218	379E	D2			RRL		R0			
3219	379F	D1			RRL		R1			
3220	37A0	D2			RRL		R0			
3221	37A1	ED	17	76			ADDA,R1		LVT2+1	
3222	37A4	8C	17	76			ADDA,R0		LVT2	
3223	37A7	75	05	C8			CPSL		C2+WC	
3224	37A9	17			RET1,UN					
3225	37AA	*								
3226	37AA	*								
3227	37AA	*								
3228	37AA	*								
3229	37AA	*								
3230	37AA	*								
3231	37AA	*								
3232	37AA	C4	27		TRAN		IODI,RC		TOPB	
3233	37AC	25	4T				IODI,RI		OFF	
3234	37AF	3F	32	45			PSTA,UN		PCP SECOND OPERAND OFF STACK	
3235	37B1	24	27				IODI,RI		OPA	
3236	37B3	05	48				IODI,RI		OPA	
3237	37E6	3F	32	45			PSTA,UN		POP FIRST OFFRND OFF STACK	
3238	37F8	27	00				LODI,RS		00	
3239	37BA	77	08				PPSL		WC	
3240	37BC	17					RETC,UN			
3241	37ED	*								
3242	37RD	*								
3243	37BD	*								
3244	37FD	*								
3245	37ED	*								
3246	37BD	*								
3247	37BD	*								
3248	37BF	3P	6B		FPSUP		PSTR,UN		TRAN	
3249	37E1	34	4R				ESTA,UN		TC05	
3240	37E2	1P	27				DCP,UN		PERFORM TWO'S COMPLEMENT	
3241	37C2	1P	27				ADDI			

THIS ROUTINE SUBTRACTS TWO BINARY FLOATING POINT NUMBERS

THIS ROUTINE SUBTRACTION ROUTINE

TRANSFER OPERANDS

PERFORM TWO'S COMPLEMENT

51 37E2 37C4 06 27 ADDC LODI,R2 OPR
 32E5 37C6 07 41 LODI,R3 CPB
 3254 37C8 1B 07 * BCTR,UN ADDF
 3255 37CA 06 27 ADDE LODI,R2 OPA
 32E6 37CA 07 48 LODI,R3 OPA
 3257 37CE 0D 07 4D LODA,R1 OPB
 3258 37CE 0E 07 45 ADDE STRA,R2 ADR
 3259 37D1 CE 07 46 STRA,R3 ADR+1
 3260 37D4 CF 07 46 STRA,R3 1 SFT BYTE COUNTER
 3261 37D7 07 01 ADDF LODI,R3 1 CRY
 3262 37D9 07 01 FFSL CRY
 3263 37LB 0F 17 4E LODA,R3 *ADR,I SET INDIRECT ADDRESS WITH TO ADDR IN REGS
 3264 37DE 1A 02 BCTR,LT ADDG
 3265 37E2 75 01 CPSL CRY
 3266 37E2 06 04 ADDG LODI,R2 LEN SET END OF BYTE COUNTER
 3267 37E4 3F 38 33 BSTA,UN RRIN ROTATE RIGHT MANTISSA AND INCR EXPONENT
 3268 37E7 0C 87 45 LODA,RO *ADR TEST TWO EXPONENTS
 3269 37EA E1 COMZ,R1
 3270 37EB 98 6A BCFR,FQ ADDF IF NOT EQUAL, CONTINUE
 3271 37ED 1B 16 BCTR,UN ADDH IF EQUAL, ALIGN READY, GO BACK
 3272 37EF *
 3273 37EF ***
 3274 37EF *
 3275 37EF * ADDITION ROUTINE
 3276 37EF *
 3277 37EF * THIS ROUTINE ADDS TWO BINARY FLOATING POINT NUMBERS
 3278 37EF *
 3279 37EF 3F 37 AA FPADD BSTA,UN TRAN TRANSFER OPERANDS FROM STACK TO OPA, OPE
 3280 37F2 75 02 ADDJ CFSL COM ARITHMETIC COMPARE
 3281 37F4 20 FORZ,RC
 3282 37F5 CC 07 4C STRA,RO OPA+LEN
 3283 37FB CC 07 51 STRA,RO OPA+LEN
 3284 37FB 0D 07 48 LODA,R1 OPA COMPARE EXPONENTS OF THE TWO OPERANDS
 3285 37FE ED 07 4D COMA,R1 OPA
 3286 3801 19 41 BCTR,GT ADDC ALIGN OPERAND 2 OPA>OPB
 3287 3803 01 45 BCTR,LT ADDD ALIGN OPERAND 1 OPB>OPA
 3288 3805 75 01 ADDH CPSL CRY
 3289 3807 07 04 LODI,R3 LEN SET BYTE COUNTER
 3290 3809 0F 67 4D ADDK LODA,R3 OPB,I ADD MANT OF OPER 1 TO MANT OF OPER 2 AND
 3291 380C 01 67 48 ADDA,R3 OPA,I STORE INTO OPER 2
 3292 380F CF 67 4D STRA,RO OPB,I
 3293 3812 FB 75 BDRR,RS ADDK DECR BYTE COUNTER AND BRANCH IF NOT DONE
 3294 3E14 04 27 ROOF LODI,RQ OPB
 3295 3816 05 41 LCDI,R1 CPB
 3296 3818 3F 38 28 ESTA,UN OVERFLOW
 3297 381B 3F 39 94 BSTA,UN NORM NORMALIZE RESULT
 3298 381F 24 02 PUSHRS LODI,RQ
 3299 3820 93 LPSL
 3300 3821 04 27 LODI,RQ OPR
 3301 3823 05 4D LODI,R1 OPB
 3302 3825 1F 32 7D ECTA,UN PUSH
 3303 3828 ***
 3304 382E ***
 3306 3828 * OVERFLOW ROUTINE
 3327 3828 *

LINE ADDR B1 B2 B3 LABEL OPCODE OPERAND

THIS ROUTINE INCREMENTS THE EXPONENT AND ROTATES THE MANTISSA.

3308 3828	*	*					
3310 3828	*	*					
3311 3828	CC 07 45 OVFL		STRA, R2	ADR			
3312 382B	CD 07 46		STRA, R1	ADR+1			
3313 382E	05 04	OVFL	LODI, R2	LEN			
3314 3832	B5 04	OV45	TPSL	OVF	NO OVERFLOW		
3315 3832	16		RET, LT				
3316 3833	07 00	RRIN	LODI, R3	0			
3317 3835	0F F7 45		LODA, R3	*ADR, I			
3318 3838	F4 7F		COMI, R0	7F			
3319 383A	1C 30 6E		BCTA, EQ	ERR15			
3320 383D	D8 00		BIRR, R0	\$+2			
3321 383F	CF F7 45	LPA	STRA, R3	*ADR, I			
3322 3842	02		LODZ, R2				
3323 3843	E3		CCMZ, R3				
3324 3844	14		RETC, EQ				
3325 3845	0F A7 45		LODA, R3	*ADR, +			
3326 3848	50		RRA, RC				
3327 3849	1F 74	*	BCTR, UN	LPA			
3328 384B	*						
3329 384B	*						
3330 384B	*						
3331 384B	*						
3332 384B	*						
3333 384B	*						
3334 384B	*						
3335 384B	*						
3336 384B	07 03	TCOM	LODI, R3	LEN-1			
3337 384D	06 27	TWOA	LODI, R2	OPB			
3338 384F	04 41		LODI, R0	OPB			
3339 3851	C8 07 45	TWOB	STRA, R2	ADR			
3340 3854	CC 07 46		STRA, R0	ADR+1			
3341 3857	03	TWOC	LODZ, R3				
3342 3858	C2		STRZ, R2				
3343 3859	77 01		PPSL	CRY			
3344 385B	20	LPB	EORZ, R0				
3345 385C	AF E7 45		SUBA, R3	*ADR, I			
3346 385F	CF E7 45		STRA, R3	*ADR, I			
3347 3862	FB 77		BDRR, R3	LIP			
3348 3864	1B 4A		BCTR, UN	OV45			
3349 3866	*						
3350 3866	*						
3351 3866	*						
3352 3866	0C 07 47	MDIB	LODA, R0	FLAG			
3353 3869	9C 30 72		BCEA, EQ	ERR16	DIVIDE BY ZERO ERROR		
3354 386C	20	MDIC	EORZ, R0				
3355 386D	CF 27 4D	MDIN	STRA, R3	OPB, +			
3356 3870	F7 03		COMI, R3	LEN-1			
3357 3872	98 79		BCEP, EQ	MDIN			
3358 3874	04 80		LODI, R0	80			
3359 3876	CC 27 4D		STRA, R0	OPB			
3360 3879	1F 38 1E		BCTA, UN	PUSHRS			
3361 387C	*						
3362 387C	06 27	MDIE	LODI, R2	OPA			
3363 387E	04 48		LODI, R0	OPA			
3364 3880	07 03		LODI, R3	LEN-1			

LINE NUMBER, ADDRESS, BYTES, LABEL, OPERAND, OPERAND

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3365 38E5 35E5 3B 4L      LODI, R1      T
3366 38E4 01      LODZ, R1
3367 38E5 19 07      BCTR, CT      MDIL
3368 38E7 22      FORZ, R0
3369 38E8 CC 27 4C      STRA, R0      SIGN
3370 38E8 3F 38 4F      MPID      BSTA, UN      TCOM
3371 38E8 26      MDIL      FORZ, R0
3372 38E8 1F 24      MDIF      BCTR, UN      MDIF
3373 3891      *      *****
3374 3891      *      *****
3375 3891      *      *****
3376 3891      *      *****
3377 3891      *      *****
3378 3891      *      *****
3379 3891      *      *****
3380 3891 20      FPMULT FORZ, R0
3381 3892 1B 02      BCTR, UN      MDIA
3382 3894      %      *****
3383 3894      %      *****
3384 3894      %      *****
3385 3894      %      *****
3386 3894      %      *****
3387 3894      %      *****
3388 3894      %      *****
3389 3894 04 FF      FFDIV      LODI, R0      FF
3390 3895 CC 07 47      FDIA      STRA, R0      FLAG
3391 3899 3F 37 AA      RSTA, UN      PAN
3392 389C 0D 07 4E      LODA, R1      OPB+1
3393 389F 18 45      BCTR, FQ      MDIB
3394 38A1 04 FF      LODI, R0      FF
3395 38A3 CC 07 4C      STRA, R0      SIGN
3396 38A6 0E 07 49      LODA, R2      OPA+1
3397 38A9 1C 38 6C      BCTA, EQ      MDIC
3398 38AC 1A 4F      BCTR, LT      MDIF
3399 38AE 01      LODZ, R1
3400 38AF 1A 5A      BCTR, LT      MDID
3401 38B1 20      FORZ, R0
3402 38B2 CC 07 4C      STRA, R0      SIGN
3403 38B5 07 04      MDIF      LODI, R3      LEN
3404 38B7 0F 47 51      FDIG      STRA, R3      OPB+LEN
3405 38B8 FB 7B      BRNR, R3      MDIG
3406 38B9 0C 07 47      LODA, R0      FLAG
3407 38B9 9C 39 1F      BCFA, EQ      DIV
3408 38C2 0E 19      MUL      LODI, R2      MLEN
3409 38C4 75 01      MULA      CPSL, CRY
3410 38C6 07 06      LODI, R3      LEN2-2
3411 38C8 0F 67 4D      MULB      LODA, R3      OFB, I
3412 38CB D0      RRL, R0
3413 38CC CF 67 4D      STRA, R3      OPR, I
3414 38CF Y3 77      BDRR, R3      MULB
3415 38D1 P5 01      TPSL, CRY
3416 38D3 98 1B      BCFR, EQ      MULE
3417 38D5 07 03      LODI, R3      LEN-1
3418 38D7 0F 01      CPSL, CRY
3419 38E9 0F 47 51      MULC      LCDA, R3      OPB+LEN
3420 38D0 8F 67 40      ADDA, R3      OPA+1, I
3421 38D1 CF 67 51      STRA, R3      OPB+LEN, I

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LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
3422	38EF2	5B	75			BRNR,R3	MULC
3423	38EF4	07	03			LODI,R3	LEN-1
3424	38EF6	0F	67	4D	MULD	LODA,R3	OPR,I
3425	38EF9	84	00			ADDI,RC	0
3426	38EFB	CF	67	4D		STRA,R3	OPB,I
3427	38EFF	FB	76			BTDP,R3	MULD
3428	38EFE	FA	52		MULF	BDRR,R2	MULA
3429	38F2	75	01			CFSL	CRY
3430	38F4	0D	07	48		LODA,R1	OPA
3431	38F7	8D	07	4D		ADDA,RI	OPB
3432	38FA	B5	04			TPSL	OPF
3433	38FC	9C	35	E2		BCFA,EQ	FDIH
3434	38FF	20				FORZ,R0	
3435	3900	B5	01			TPSL	CRY
3436	3902	9C	39	64		BCFA,EQ	MDII
3437	3902F	1F	30	6F	ERRG	BCTA,UN	ERRIE
3438	3908		*				ARITHMETIC ERROR
3439	3908	E7	03		DIVA	CONTI,R3	LEN-1
3440	390A	9E	17			BCFR,EQ	DIVD
3441	390C	77	01		TIVE	FPSL	CRY
3442	390E	07	03			LODI,R3	LEN-1
3443	3910	0F	67	48	DIVC	LODA,R3	OPA,I
3444	3912	AF	67	4D		SUBA,R3	OPB,I
3445	3914	CF	67	48		STRA,R3	OPA,I
3446	3919	FB	75			BDRR,R3	DIVC
3447	391B	77	01			FPSL	CRY
3448	391E	1B	10			BCTR,UN	DIVE
3449	391F	*	*	*	*		
3450	391F	66	1F		DIV	LODI,R2	DLEN
3451	3921	77	02			PP,L	COM
3452	3923	0F	27	48	TIVD	LODA,R3	OPA,+
3453	3926	EF	C7	4D		COMA,R3	OPB,I
3454	3929	18	5D			BCTR,EC	DIVA
3455	392B	19	5F			PCTR,GT	DIVB
3456	392D	75	01			CPSL	CRY
3457	392F	07	04		DIVE	LODI,R3	LEN
3458	3931	0F	47	51	DIVF	LODA,R3	OPB+LEN,-
3459	3934	I0				RRL,R0	
3460	3935	CF	67	51		STRA,RS	OPR+LEN,I
3461	3938	5B	77			BRNR,R3	DIVF
3462	393A	07	03			LODI,R3	LEN-1
3463	393C	0F	67	48	TIVG	LODA,R3	OPA,I
3464	393F	LC				RRL,RC	
3465	3940	CF	67	48		STRA,R3	OPA,I
3466	3943	FB	77			BDRR,R3	DIVG
3467	3945	FA	5C			BCFR,EQ	DIVD
3468	3947	EF	27	50	DIVH	LODA,R3	OPB+LEN-1,+
3469	394A	CF	67	4D		STRA,R3	OPB,I
3470	394T	EF	04			COMI,R3	LEN
3471	394T	98	76			BCFR,EQ	DIVF
3472	3951	77	01			FPSL	CRY
3473	3953	01	07	48		LODA,R1	OPA
3474	3956	AD	07	4D		SUBA,R1	OPB
3475	3959	94	01			LODI,R2	1
3476	395F	F5	04			TP,L	OFV
3477	396D	98	1A			BCFR,EQ	MDIK
3478	395F	R5	01			TPSL	CRY

3460	3964	CC	07	6E	1, EC	
3461	3967	3B	2B		STRA, R0	C, B
3462	3969	75	01		BSTR, UN	NORM
3463	396B	0C	07	4D	CPSL	CRY
3464	396F	81			LODA, R0	OPB
3465	396F	CC	07	4D	ADDZ, R1	
3466	3972	B5	04		STRA, R0	OPB
3467	3974	18	11		TPSL	OPF
3468	3976	1F	30	6E	BCTR, EQ	MDIJ
3469	3979	75	01		BCTA, UN	ERR1E
3470	397B	81			CPSL	CRY
3471	397C	C1			ADDZ, R1	
3472	397D	20			STRZ, R1	
3473	397E	B5	04		FORZ, R0	
3474	3980	18	62		TPSL	OPF
3475	3982	CD	07	4D	BCTR, EQ	MDII
3476	3985	3B	0D		STRA, R1	OPB
3477	3987	07	04		BSTR, UN	NORM
3478	398E	0C	07	4C	LODI, R3	LEN
3479	398E	BC	38	4D	LODA, R0	SIGN
3480	398F	75	04		BSFA, EQ	TWOA
3481	3991	1F	38	14	CPSL	OPF
3482	3994				BCTA, UN	ROUND RESULT
3503	3994				*****	*****
3504	3994				*****	*****
3505	3994			*	NORMALIZE ROUTINE	
3506	3994			*	THIS ROUTINE NORMALIZES THE RESULT	
3507	3994			*	THIS ROUTINE NORMALIZES THE RESULT	
3508	3994			*	THIS ROUTINE NORMALIZES THE RESULT	
3509	3994	0E	84	3	LODI, R2	LEN
3510	3996	75	02		CPSL	COM
3511	3998	02			LODZ, R2	
3512	399C	C3			STRZ, R3	
3513	399A	0C	07	4E	LODA, R0	OPB+1
3514	399D	E4	00		COMI, R0	CO
3515	399F	16			RETC, LT	
3516	39A0	E4	3F		COMI, R0	3F
3517	39A2	15			RETC, GT	
3518	39A3	0C	07	4D	LODA, R0	OPB
3519	39A6	F4	80		COMI, R0	80
3520	39AB	18	12		BCTR, EQ	LPE
3521	39AA	F8	00		BDRR, R0	\$+2
3522	39AC	CC	07	4D	STRA, R0	OPB
3523	39AF	75	01		CPSL	CRY
3524	39B1	0F	67	4D	LODA, R3	OPB,I
3525	39B4	D0			RRL, R0	
3526	39B5	CF	67	4D	STRA, R3	OPB,I
3527	39B8	FB	77		BDRR, R3	LPE
3528	39BA	1B	5C		BCTR, UN	NOR1
3529	39BC	0F	67	4D	LODA, R3	OPB,I
3530	39BF	9C	30	6E	BCFA, EQ	ERR1E
3531	39C2	FB	78		BDRR, R3	LPE
3532	39C4	17			RETC, UN	
3533	39C5	3F	33	E0	ECONST BSTA, UN	SKPSP
3534	39C8	20			EORZ, R0	
3535	39C9	C8	2D		STRR, R0	ECONSS

LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
3536	39CB	F7	2B			COMI,R3	
3537	39CD	18	0D			BCTR,EQ	
3538	39CF	F7	2D			COMI,R3	ECONS2
3539	39D1	9E	0E			BCFR,EQ	ECONS4
3540	39D3	04	FF			LODI,R0	FF
3541	39D5	C8	21			STRR,R7	ECONSS
3542	39D7	1F	03			BCTR,UN	ECONSE
3543	39D9	3F	31	DE	ECONS4	ESTA,UN	DECPT
3544	39DC	3F	3A	CA	ECONS0	ESTA,UN	EASCII
3545	39DF	3F	33	D5		ESTA,UN	GETCHR
3546	39E2	I7	2E			COMI,R3	GETNEXTCHARACTER
3547	39E4	I8	1C			BCTR,EQ	DECIMALPCINT
3548	39E6	E6	0E			COMI,R2	ECONS1
3549	39E8	I8	0F			BCTR,EQ	ECONS2
3550	39EA	I7	4E			COMI,R3	ECONS9
3551	39EC	I0	3A	26		BCTR,EQ	EXPOENTNOTATIONFOLLOWING
3552	39EF	3F	31	DE		BCTR,UN	ECONS5
3553	39F2	3F	3A	61		BCTR,UN	EVALUATETHEEXPONENTNOW
3554	39F5	20				RETZ,R0	
3555	39FC	I7				RETZ,UN	
3556	39F7	00				RES	1
3557	39F8	00				ECONS3	RES
3558	39F9			*			1
3559	39F9	3F	3D	11	ECONS9	BSTA,UN	POPPOP
3560	39FC	3F	31	DE		BSTA,UN	DECPT
3561	39FF	04	21			LODI,R0	1
3562	3A01	17				RETC,UN	
3563	3A02	3F	3A	CA	ECONS1	BSTA,UN	EASCII
3564	3A05	CA	70		ECONS2	STRR,R2	GETTHEFRACTIONALPARTOFTHENUMBER
3565	3A07	02				ECSTR	STORETHENUMBEROFCHARACTERSGOTTENIN
3566	3A28	18	0A			LODZ,R2	
3567	3A2A	3F	3A	8E		BCTR,EQ	ECONS3
3568	3A0D	3F	38	C4		BSTA,UN	PUSH10
3569	3A10	0A	65			BSTA,UN	FPDIV
3570	3A12	FA	71			LODR,R2	ECSTR
3571	3A14	3F	37	FF	ECONS3	BDRR,R2	ECONS2
3572	3A17	3F	3A	61		FPADD	ADDINTEGERANDFRACTIONALPARTS
3573	3A1A	3F	33	E7		BSTA,UN	PUSH10
3574	3A1D	E7	45			BSTA,UN	FDIV
3575	3A1F	I8	0E			COMI,R3	ECSTR
3576	3A21	3F	31	DE		BCTR,EQ	ECONS5
3577	3A24	20				ECSTR,UN	DECPT
3578	3A2E	17				RETZ,R0	RESTORETHEINPUTPOINTERT
3579	3A26	20				RETZ,UN	RETURNWITHTHENUMBER
3580	3A27	C8	4F		ECONS5	ECFR,H2	
3581	3A2G	3F	33	E0		STRR,R2	ECONSS
3582	3A2C	F7	2B			BSTA,UN	SKFSPP
3583	3A2E	I8	2D			CCMI,R3	
3584	3A32	I7	2D			BCTR,EQ	ECONS7
3585	3A32	9E	0C			COMI,R3	
3586	3A34	04	FF			ECFR,EQ	ECONSE
3587	3A36	04	40			LODI,R0	FF
3588	3A36	1B	03			STRR,R0	ECONSS
3589	3A36	1B	03			BCTR,UN	
3590	3A3A	3F	31	DE	ECONS6	BSTA,UN	DECPT
3591	3A3D	3F	3A	AA	ECONS7	BSTA,UN	GET3C
3592	3A40	22				LODZ,R2	CONVERTUPTO3ASCIICHARSTONUMBERTINR2
	3A41					FF,C,FC	

(See Block 162)

LINE	ADDR	OPCODE	CLEARANCE	DATA	REGS	MEM	PC
3555	3A42	LA					
3594	3A45	CE 19	F7	ECONSS	BSTA, UN	PUSH81	PUSH 6,1 CNTC, UN STACK
3595	3A48	3F 3A	88		BSTA, UN	ECSTR	
3596	3A4B	3F 38	91		BSTA, UN	PUSH10	PUSH A 10 ONTO THE STACK
3597	3A4E	0E 19	F7		BSTA, UN	FPMULT	MULTIPLY THE RUNNING EXPONENT BY 10
3598	3A51	FA 72			LODA, R2	ECSTR	
3599	3A53	0C 19	F8		LODA, R2	ECONSS	
3600	3A56	3C 38	91		BSTA, EQ	FPMULT	
3601	3A59	0C 19	F8		LODA, R0	ECONSS	
3602	3A5C	3E 38	94		BSTA, LT	FPDIV	
3603	3A5F	20			EORZ, R0		
3604	3A60	17			RETC, UN		
3605	3A61	*					
3606	3A61	*					
3607	3A61	*					
3608	3A61	0C 19	F8	NEGATE LODA, R0			
3609	3A64	14			RETC, EQ		
3610	3A65	3F 3D	11		BSTA, UN	POPUPB	
3611	3A68	77	08		PPSL	WC	
3612	3A6A	3F 38	4B		BSTA, UN	TCOM	
3613	3A6D	75	08		CPSL	WC	
3614	3A6F	3F 3D	18		BSTA, UN	PUSOPB	
3615	3A72	17			RETC, UN		
3616	3A73	*					
3617	3A73	04	3A	PUSHC LODI, R0			
3618	3A75	05	96		LODI, R1	FP0	
3619	3A77	1F 32	7D		BCTA, UN	PUSH	
3620	3A7A	04	3A	PPUSH1 LODI, R0			
3621	3A7C	05	9A		LODI, R1	FP1	
3622	3A7F	1F 32	7D		BCTA, UN	PUSH	
3623	3A81	04	3A	PPUSH2 LODI, R0			
3624	3A83	05	9E		LODI, R1	FP2	
3625	3A85	1F 32	7D		BCTA, UN	PUSH	
3626	3A88	04	3A	PPUSH3 LODI, R0			
3627	3A8A	05	A2		LODI, R1	FP10	
3628	3A8C	1F 32	7D		BCTA, UN	PUSH	
3629	3AEF	04	3A	PPUSH4 LODI, R0			
3630	3A91	0E	A6		LODI, R1	FP1	
3631	3A93	1F 32	7D		BCTA, UN	PUSH	
3632	3A96	*					
3633	3A96	*					
3634	3A96	*					
3635	3A96	80			DATA	80	
3636	3A97	00			DATA	00	
3637	3A98	00			ACON	0000	
3638	3A9A	01	40		ACON	0140	
3639	3A9C	00	00		ACON	0000	
3640	3A9E	02	40		ACON	0240	
3641	3AA0	00	00		ACON	0000	
3642	3AA2	04	50		ACON	0450	
3643	3AA4	02	00		ACON	0200	
3644	3AA6	01	C0		ACON	0100	
3645	3AA8	00	00		ACON	0000	
3646	3AAA	*					
3647	3AAA	20			GET3C EORZ, R0		
3648	3AAB	CC 19	F7	GET3C3 STRA, R0			
3649	3AAE	3F 33	DE		BSTA, UN	ECSTR	
						GETCHAR	(162)

LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
3650	3AB1	3F	32	BD		ESTA,UN	CNUM0
3651	3AB4	9E	0E			BCFR,EQ	GET3C1
3652	3AB6	0C	19	F7		LODA,R0	ECSTR
3653	3AES	0E	09			LODI,R2	9
3654	3ABB	C1				STRZ,R1	
3655	3ABC	81				GET3C2 ADDZ,R1	
3656	3ABD	FA	7D			•BD R,R2	GET3C2
3657	3ABF	47	0F			ANDI,R3	F
3658	3AC1	83				ADDZ,R3	
3659	3AC2	1B	57			BCTR,UN	GET3C3
3660	3AC4	0E	19	F7	GET3C1	LODA,R2	ECSTR
3661	3AC7	1F	31	DE		DECP	
3662	3ACA	*					
3663	3ACA	3F	31	DE	EASCII BSTA,UN	SKPDEC	
3664	3ACD	3F	3A	73	BSTA,UN	PUSH0	INITIALIZE THE NUMBER
3665	3AD0	20				EORZ,R0	
3666	3AF1	08	3E			FASTG	
3667	3AD3	C2				STRZ,R2	
3668	3AD4	0F	84	5F	LODA,R3	*INPT	
3669	3AD7	3F	30	ED	ESTA,UN	CNUM0	
3670	3ADA	1E				RETC,GT	
3671	3ADB	16				RET,LT	
3672	3ADC	3F	3A	88	BSTA,UN	PUSH1Z	
3673	3ADF	3F	38	91	BSTA,UN	FPFLUT	
3674	3AE2	3F	33	D5	BSTA,UN	GETCHR	
3675	3AE5	47	0F		ANDI,R3	OF	MAKE IT DECIMAL
3676	3AE7	18	24			BCTR,EG	EASCII2
3677	3AE9	D2				RRL,R3	
3678	3AEA	D3				RRL,R3	
3679	3AEB	D3				RRL,R3	SET IT UP TO BE THE FIRST BYTE OF MANTISSA
3680	3AEC	CF	07	4E	STRA,R3	CP+1	
3681	3AFF	04	04		LODI,R0	4	
3682	3AF1	0C	07	4D	STRA,R0	OPB	
3683	3AF4	2C			EORZ,R2		
3684	3AF5	CC	07	4F	STRA,R0	OPB+2	
3685	3AF8	CC	07	50	STRA,R0	OPB+3	
3686	3AFB	77	08		PPSL	WC	
3687	3AID	3F	39	94	BSTA,UN	NORM	NORMALIZE THE DIGIT
3688	3P00	04	02		LODI,R0	2	
3689	3B02	93			LPSL		
3690	3B03	04	27		LODI,R0	^OPB	
3691	3B05	05	4D		LODI,R1	OPB	
3692	3B07	3F	32	7D	BSTA,UN	PUSH	PUSH THE DIGIT
3693	3B0A	3F	37	EF	ESTA,UN	EPADD	ADD THIS DIGIT TO ALL THE REST
3694	3BED	08	02			LODR,R0	EASTG
3695	3B0F	18	4C			BIRR,R0	EASCII1
3696	3B11	*					
3697	3B11	*					
3698	3B11	*					
3699	3P11	00					
3700	3B12	00					
3701	3B13	00					
3702	3B14	00					
3703	3B15	*					
3704	3B15	*					
3705	3B15	*					
3706	3B15	*					
3707	3B15	*					
3708	3B15	*					
3709	3B15	*					
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3711	3B15	*					
3712	3B15	*					
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3870	3B15	*					
3871	3B15	*					
3872	3B15	*					

07 7 2 07, R.
 3708 3B18 CD 47 2D FIXNL1 STRA,R1 INTSTG,-
 3709 3B1B 59 7B BRNR,R1 FIXNL1
 3710 3B1D CC 1B B5 STRA,R0 INTEXP
 3711 3B20 C8 70 STRR,R0 EXPSEN
 3712 3B22 C8 6F STRR,R0 INTSGN
 3713 3B24 0C 13 8E LODA,R0 CBUF1+1
 3714 3B27 F4 80 TMI,R0 80
 3715 3B29 98 20 BCFR,EQ FIXNL2
 3716 3B2B 05 04 LODI,R1
 3717 3B2D 0D 53 8D FIXNL3 LODA,R1 CBUF1,-
 3718 3B2E 0D 67 4D STRA,R1 OPB,I
 3719 3B33 59 78 BRNR,R1 FIXNL3
 3720 3B35 77 08 PPSL WC
 3721 3B37 3F 38 4B BSTA,UN TCOM
 3722 3B3A 75 08 CPSI WC
 3723 3B3C 05 04 LODI,R1 4
 3724 3B3E 0D 47 4D FIXNL4 LODA,R1 OPB,-
 3725 3B41 CD 73 8D STRA,R1 CBUF1,I
 3726 3B44 E9 78 BRNR,R1 FIXNL4
 3727 3B46 04 FF LODI,R0 FF
 3728 3B48 CC 1B 13 STRA,R0 INTSGN
 3729 3B4B 0C 13 8D FIXNL2 LODA,R0 CPUF1 EXPONENT
 3730 3B4E 91 3D CC BCFA,GT FIXNL6
 3731 3B51 04 01 LODI,R0 1
 3732 3B53 CC 1F 14 STRA,R0 BYTON
 3733 3B56 C2 STRZ,R2
 3734 3B57 07 40 LODI,R3 40
 3735 3B59 3F 3C 5B FIXNL6 BSTA,UN INTX2
 3736 3B5C 0D 1F 14 LODA,R1 BYTON
 3737 3B5F 0D 73 8D LODA,R1 CBUF1,I
 3738 3B62 43 ANDZ,R3
 3739 3B63 E3 COM2,R3
 3740 3B64 98 03 BCFR,EQ FIXNL7
 3741 3B66 3F 3C 47 BSTA,UN INTAD
 3742 3B69 86 01 FIXNL7 ADDI,R2 1
 3743 3B6B FI 13 8D COMA,R2 CBUF1
 3744 3B6E 19 30 BCTR,GT FIXNL8
 3745 3B70 53 RRR,R3
 3746 3B71 F7 80 TMI,R3 80
 3747 3B73 98 64 BCFR,EQ FIXNL6
 3748 3B75 0C 1F 14 LODA,R0 BYTON
 3749 3B78 84 01 ADDI,R0 1
 3750 3B7A CC 1B 14 STRA,R0 BYTON
 3751 3B7D E4 04 COMI,R0 4
 3752 3B7F 9C 3B 59 LODA,R1 CBFA,EQ FIXNL6
 3753 3B82 *
 3754 3B82 07 00 LODI,R3 0
 3755 3B84 3F 3C 5B FIXNL11 BSTA,UN INTX2
 3756 3B87 0C 07 3C LODA,R0 INTSTG+3
 3757 3B8A 44 F0 ANDI,R0 F0
 3758 3B8C 18 09 BC,R,EQ FIXNL3
 3759 3B8E 87 01 ADDI,R3 1
 3760 3B90 05 04 LODI,R1 4 ROTATE 4 BITS
 3761 3B92 3F 3C B2 ROTL11 BSTA,UN INTROT
 3762 3B95 F9 7B BDRR,R1 PRTL11
 3763 3B97 86 01 FIXNL3 ADDI,R2 1

LINE ADDR R1 B2 B3 LABEL OPCODE OPERAND

3764	3B99	EE	13	8D	COMA,R2	CBUF1
3765	3B9C	99	66		BCFR,GT	FIXN11
3766	3B9E	CB	15		ST,R,R3	INTEXP
3767	3BA0	05	04		FIXN10 LODI,R1	4
3768	3BA2	0D	47	2D	FIXN60 LODA,R1	INTSTG,-
3769	3BA5	FF	FF		COMI,R1	
3770	3BA7	18	17		STRZ,R2	FIYN16
3771	3BA9	C2			ANDI,R0	F0
3772	3PA0	44	F0		PCTR,EQ	
3773	3BAC	98	09		BCFR,EQ	FIYN15
3774	3BAE	46	0F		ANDI,R2	0F
3775	3BB0	18	70		BCTR,EQ	FIYN60
3776	3BP2	E1			RRL,R1	
3777	3BB3	1B	05		BCTR,UN	FIYN17
3778	3BB5	*				
3779	3BB5	*				
3780	3BB5	*				
3781	3BB5	2E			INTEXP RES	1
3782	3BB6	00			BIT0 RES	1
3783	3BB7	*				
3784	3BB7	*				
3785	3BB7	*				
3786	3BB7	D1			FIXN15 RBL,R1	
3787	3BB8	85	01		ADDI,R1	1
3788	3BBA	89	79		ADDR,R1	INTEXP
3789	3BBC	85	01		ADDI,R1	1
3790	3BBD	C9	75		STRR,R1	INTEXP
3791	3BC0	0E	13	8D	FIXN16 LODA,R2	CBUF1
3792	3BC3	75	02		CPSL	COM
3793	3BC5	E6	16		COMI,R2	16
3794	3BC7	77	02		PPSL	COM
3795	3BC9	15			RET,C,GT	
3796	3BCA	0C	13	8E	LODA,R0	CBUF1+1
3797	3BCC	14			RET,C,EQ	
3798	3BCE	24	17		LODI,R0	17
3799	3BD0	A2			SUBZ,R2	
3800	3BD1	CC	1C	46	STRA,RC	FIYT2
3801	3BD4	04	03		LODI,R0	3
3802	3BD6	CC	1R	14	STRA,RC	BYTON
3803	3BD8	0C	01		LODI,R2	1
3804	3BDB	CA	59		STRR,R2	BYTON
3805	3BDD	CD	1B	14	FIXN18 LODA,R1	BYTON
3806	3BE0	ED	73	8E	LODA,R1	CBUF1,I
3807	3BE2	07	00		LODI,R3	0
3808	3BE5	42			ANDZ,R2	
3809	3BE6	E2			COMZ,R2	
3810	3BI7	98	02		BCFR,EQ	FIYN20
3811	3BF9	07	50		LODI,R3	0
3812	3BFB	3F	3C	7A	BSFA,UN	FRCD2
3813	3BFF	0E	4C		LODR,RC	BITON
3814	3BF0	84	01		ADDI,R0	1
3815	3BF2	C8	42		STRR,RC	BITON
3816	3BF4	EC	1C	46	COMA,RC	FIYT2
3817	3BF7	1E			RET,C,GT	
3818	3BF8	D2			RRL,R2	
3819	3BFG	F6	01		TMI,R2	1
3820	3BIB	SC	3P	DD	BCFA,EQ	FIYN18

3821	3C01	FF 6	3 14		A, F
3822	3C01	A4 01		SUB1, R0	
3823	3C03	CC 1B 14		STRA, R0	
3824	3C06	9C 3B DD		BYTON	
3825	3C09	07 00		FIXN18	
3826	3C0B	3F 3C 7A		BCFA, EQ	
3827	3C0E	2C 1B B6		LOD1, R3	
3828	3C11	84 01		FRCD2	
3829	3C13	CC 1B B6		BITON	
3830	3C16	E8 2E		ADDI, R0	
3831	3C18	15		STR4, R0	
3832	3C19	0F 07 31		BITON	
3833	3C1C	02		RET C, GT	
3834	3C1D	44 F0		FRCSTG	
3835	3C1F	98 68		LOD2, R2	
3836	3C21	0C 1B B5		AND1, R0	
3837	3C24	84 01		BCFR, EQ	
3838	3C25	CC 1B B5		FIXN22	
3839	3C29	04 FF		INTEXP	
3840	3C2B	CC 1B 12		LODA, R0	
3841	3C2E	77 18		ADD1, R0	
3842	3C30	06 04		STR4, R0	
3843	3C32	75 01		INTEXP	
3844	3C34	05 04		LOD1, R0	
3845	3C36	0D 47 31		EXPSGN	
3846	3C38	D2		PPSL, RS+WC	
3847	3C3A	CD 67 31		RRL, R0	
3848	3C3D	59 77		STRA, R1	
3849	3C3F	FA 71		FRCSTG, I	
3850	3C41	?E 18		BRNP, R1	
3851	3C43	1F 3C 09		FIXN24	
3852	3C46	*		LOD1, R1	
3853	3C46	*		04	
3854	3C46	*		LODA, R1	
3855	3C46	00		FRCSTG, -	
3856	3C47	*		RRL, R0	
3857	3C47	*		STRA, R1	
3858	3C47	*		INTSTG, +	
3859	3C47	0E FF		LOD1, R1	
3860	3C49	?7 ?9		PPSL, WC+CRY	
3861	3C4B	ED 27		INTSTG, +	
3862	3C50	84 66		ADDI, R0	
3863	3C50	94		66	
3864	3C51	CD 67 2D		DA, R0	
3865	3C54	E5 23		STRA, R1	
3866	3C56	98 73		COM1, R1	
3867	3C58	?5 08		INTSTG, I	
3868	3C5A	17		CPSL, EQ	
3869	3C5B	*		INTALI	
3870	3C5B	*		WC	
3871	3C5B	*		RETC, UN	
3872	3C5B	?7 ?1E		WC+RS	
3873	3C5D	05 FF		LOD1, R1	
3874	3C5F	?F ?1		PPSL, R2	
3875	3C61	0D 27		CRY	
3876	3C64	C2		INTSTG, +	
3877	3C65	13		SPSL	

LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
3878	3C66	75	01			CPSL	CRY
3879	3C68	86	66			ADDI,R2	66
3880	3C6A	93				LPSL	
3881	3C6B	02				LODZ,R2	
3882	3C6C	6D	67	2D		ADDA,R1	INTSTG,I
3883	3C6F	94				DAR,R0	
3884	3C70	CD	67	2D		*STRA,R1	INTSTG,I
3885	3C73	E5	E3			COMI,R1	3
3886	3C75	98	6A			ECFR,EQ	INTX2A
3887	3C77	75	18			CPSL	WC+RS
3888	3C79	17				RETC,UN	
3889	3C7A	*					
3890	3C7A	*					
3892	3C7A	05	FF			FRCD2	LODI,R1
3893	3C7C	01	27	31		FRCD2A	LODA,R1
3894	3C7F	E4	20			FRCD2C	COMI,R2
3895	3C81	1A	06			BCTR,LT	20
3896	3C83	A4	20			SUBI,R0	20
3897	3C85	87	10			ADDI,R3	10
3898	3C87	1B	76			RCTR,UN	FRCD2C
3899	3C89	F4	12			FRCD2E	TMI,RC
3900	3C8B	68	04			ECFR,EQ	10
3901	3C8F	87	05			ADDI,R3	E
3902	3C8F	44	0F			ANDI,R0	OF
3903	3C91	E4	02			FRCD2D	COMI,RV
3904	3C93	1A	06			ECTR,LT	FRCD2E
3905	3C95	A4	02			SUBI,R0	2
3906	3C97	87	01			ADDI,R3	1
3907	3C99	1B	76			ECTR,UN	FRCD2D
3908	3C9F	F4	01			FRCD2E	TMI,RC
3909	3C9D	98	04			ECFR,EQ	FRCD2F
3910	3C9F	04	50			LODI,R0	50
3911	3CA1	1F	01			BCTR,UN	FRCD2G
3912	3CAA	0B	05			LODR,R3	FIXTMP
3913	3CA3	22				FRCD2F	FORZ,RC
3914	3CA4	C8	0B			FRCD2G	FIXTMP
3915	3CA7	CD	67	31		ST A,R1	FRCSIG,I
3916	3CAA	0B	05			LODR,R3	FIXTMP
3917	3CAC	E5	03			COMI,R1	3
3918	3CAF	68	4C			BCFR,EQ	FRCD2A
3919	3CB0	17				RETC,UN	
3920	3CB1	*					
3921	3CB1	*					
3922	3CP1	*					
3923	3CB1	00				FIXTMP RES	1
3924	3CB2	*					
3925	3CP2	*					
3926	3CB2	*					
3927	3CB2	77	18			INTROT PPSL	RS+WC
3928	3CB4	75	01			CPSL	CRY
3929	3CF6	05	04			LODI,R1	4
3930	3CP8	01	47	2D		LODA,R1	INTSTG,-
3931	3CBB	56				RRR,R2	
3932	3C8C	67	2D			STRA,R1	INTSTG,I
3933	3CPF	EC	77			ERNR,R1	INTR1
3934	3CC1	75	18			CPSL	WC+RS

335 3 1 * 'C, U

336 3CC4 *
337 3CC4 *
3938 3CC4 *
3939 3CC4 3F 3C F5 EPSCN BSTA, UN POPC1
3940 3CC4 0C 13 8E LODA, R0 CBUF1+1
3941 3CCA 9E 3A 7A BCFA, LT PPUSH1
3942 3CCD 1F 3A 8F BCTA, UN PPUSM1
3943 3CD0 *
3944 3CD0 *
3945 3CD0 *
3946 3CD0 3F 3D 11 FPABS BSTA, UN POPOPB
3947 3CD3 0C 07 4E LODA, R0 OPB+1
3948 3CD6 9E 3D 18 BCFA, LT PUSOPB
3949 3CD9 3B 03 EPABSI BSTR, UN INVOPB
3950 3CDB 1F 3D 18 BCTA, UN PU\$OFB
3951 3CDE *
3952 3CDE *
3953 3CDE *
3954 3CDI 77 08 INVOPB FPSSL WC
3955 3CE0 3F 38 4B BSTA, UN TCOM
3956 3CE3 75 08 CPSSL WC
3957 3CE5 17 RETC, UN
3958 3CF6 *
3959 3CI6 *
3960 3CE6 *
3961 3CE6 3F 3C F5 EPINT BSTA, UN POPC1
3962 3CE6 3F 3C FC BSTA, UN PUSHCI
127 3963 3CEC 3F 3C FC BSTA, UN FUSHCI
3964 3CEF 3F 3D 20 BSTA, UN FPFRG
3965 3CF2 1F 37 BD BCTA, UN FPSUB
3966 3CF5 *
3967 3CF5 *
3968 3CF5 04 33 POPC1 LODI, R0 ~CBUF1
3969 3CF7 05 8D LODI, R1 CBUF1
2970 3CF9 1F 32 45 BCTA, UN PCP
3971 3CFC 04 33 PUSHCI LODI, R0 ~CBUF1
3972 3CFE 05 8D LODI, R1 CBUF1
3973 3D00 1F 32 7D BCTA, UN PUSH
3974 3D03 04 33 POPC2 LODI, R0 ~CBUF2
3975 3D05 05 91 LODI, R1 CBUF2
3976 3D07 1F 32 45 BCTA, UN POF
3977 3D0A 04 33 PUSHC2 LODI, R0 ~CBUF2
3978 3D0C 05 91 LODI, R1 CBUF2
3979 3D0E 1F 32 7D BCTA, UN PUSH
3980 3D11 04 27 POPCFB LODI, R0 OPB
3981 3D13 05 4D LODI, R1 OPB
3982 3D15 1F 32 45 BCTA, UN POP
3983 3D18 04 27 PUSOPB LODI, R2 OPB
3984 3D1A 05 4D LODI, R1 OPB
3985 3D1C 1F 32 7D BCTA, UN PUSH
3986 3D1F *
3987 3D1F *
3988 3D1F *
3989 3D1F 00 INVERT RES 1
3990 3D20 *
3991 3D20 *

LINE ADDR B1 R2 RS LARET. OPCODE OPERAND

3992	3D20	*				
3993	3D20	3B 6F	FPPRC	BSTA,UN	POPPOP	
3994	3D22	20		EORZ,R0		
3995	3D23	C8 7A		STRR,R0	INVERT	
3996	3D25	0C 07 4E		LODA,R0	OPB+1	
3997	3D28	9A 07		BCFR,LT	FPPRC1	
3998	3D2A	04 FF		LODI,R2	FF	
3999	3D2C	C8 71		STRR,R0	INVERT	
4000	3D2F	3F 3C DE		BSTA,UN	INVOPB	
4001	3D31	0C 07 4D	FPPRC1	LODA,R0	OPB	
4002	3D34	99 29		BCFR,GT	FRC4	
4003	3D36	T4 17		COMI,R0	17	
4004	3D38	9E 3A 73		BCFA,LT	PUSH@	
4005	3D3B	00		LODZ,R0		
4006	3D3C	C2		STRZ,R2		
4007	3D3D	0E 00		LODI,R1	0	
4008	3D3F	07 40		LODI,R3	40	
4009	3D41	2C	FRCV	FORZ,RC		
4010	3D42	E6 00	FRC1	COMI,R2	0	
4011	3D44	18 0C		BCTR,EQ	FRC3	
4012	3D46	A6 01		SUBI,R2	1	
4013	3D48	63		IORZ,R3		
4014	3D49	53		RRR,R3		
4015	3D4A	9A 76		BCFR,LT	FRC1	
4016	3D4C	24 FF	FRC3	EORI,R2	FF	
4017	3D4F	41 27 4D		ANDA,R1	OPB,+	
4018	3D51	CD 67 4D		STRA,R1	OPB,I	
4019	3D54	02		LODZ,R2		
4020	3D55	98 6A		BCFR,EC	FRC6	
4021	3D57	77 78		PPSL	WC	
4022	3D59	3F 39 94		BSTA,UN	NORM	
4023	3D5C	04 22		LODI,R2	2	
4024	3D5F	93		LPSL		
4025	3D6F	0C 1D 1F	FRC4	LODA,R0	INVERT	
4026	3D62	3E 3C DE		BSTA,LT	INVOPB	
4027	3D65	1F 3D 18		BCTA,UN	FUSOPB	
4028	3D68	*				
4029	3D68	*				
4030	3D6E	*				
4031	3D6E	3F 3C F2	FESIN	BSTA,UN	QUAD	<i>beta</i> $\int \frac{dx}{x^2}$ $\int \frac{dx}{x^2}$
4032	3D6B	3F 3C F5		BSTA,UN	POPC1	<i>sin x</i> - $\frac{1}{2}x^3 + \frac{1}{4}x^5$
4033	3D6E	06 04		LODI,R2	4	
4034	3D70	3F 3C FC	EPSIN1	BSTA,UN	PUSHC1	
4035	3D73	FA 7B		BDRR,R2	EPSIN1	
4036	3D75	3F 38 91		BSTA,UN	FPMULT	
4037	3D78	3F 38 91		BSTA,UN	FPMULT	
4038	3D7B	3F 3D E3		BSTA,UN	POPC2	
4039	3D7E	04 3D		LODI,R0	SINFA0	
4040	3D80	05 A6		LODI,R1	SINFA0	
4041	3D82	06 FF		LODI,R2	FF	
4042	3D84	1F 3F 0E		BCTA,UN	SERIES	
4043	3D87	*				
4044	3D87	*				
4045	3D87	*				
4046	3D87	3F 3D F2 FPCOS		BSTA,UN	QUAD	
4047	3D8A	3F 3C F5		BSTA,UN	POPC1	
4048	3D8D	3F 3A 7A		BSTA,UN	PPUSH1	

LINE	ADDR	B1	R2	B3	IARFL	OPCODE	OPDATA
4106	3D10	06				DATA	06
4107	3D11	C2				DATA	C2
4108	3DD2	E4				DATA	E4
4109	3DD3	47				DATA	47
4110	ZDE4	BB				DATA	BB
4111	3DD5	61				DATA	61
4112	3DD6	*					
4113	3DD6	*					
4114	3DDE	*					
4115	3DDE	3F	3T	68	FPTAN	BSTA,UN	FPSIN
4116	3DD9	3F	3C	FC		BSTA,UN	PUSHC1
4117	3DDC	3F	3D	87		BSTA,UN	FPCOS
4118	3DDF	1F	38	94		BCTA,UN	FPDIV
4119	3DE2	*					
4120	3DF2	*					
4121	3DE2	*					
4122	3DE2	3F	3C	FF	QUAD	BSTA,UN	POPC1
4123	3DE5	3F	3C	FC		BSTA,UN	PUSHC1
4124	3DE8	3F	3C	FC		BSTA,UN	PUSHQU
4125	3DEF	3F	0F			BSTR,UN	PUSHQU
4126	3DED	3F	38	94		BSTA,UN	FPDIV
4127	3DFF	3F	3C	F6		BSTA,UN	FPINT
4128	3DF3	3B	07			BSTR,UN	PUSHQU
4129	3DFF	3F	38	91		ESTA,UN	FPMULT
4130	3DF8	3F	37	BD		BSTA,UN	FPSUB
4131	3DFB	17				RTIC,UN	
4132	3DFC	*					
4133	3DFC	*					
4134	3DFC	*					
4135	3DFC	04	3E			PUSHQU	LODI,RC
4136	3DFE	05	03			LODI,R1	QUADC
4137	3E00	1F	32	7D	*	BC A,UN	PUSH
4138	3E03	*					
4139	3E03	*					
4140	3E03	*					
4141	3E03	02	64		ACON	0264	
4142	3E05	87				DATA	87
4143	3E06	EE					
4144	3E07	00	00		SRTMP	EE	
4145	3E0B	*			RES	4	
4146	3E0B	*					
4147	3E0B	*					
4148	3E0B	C8	7A		SERIES	STRR,RC	SRTMP
4149	3E0D	C9	79			STRK,R1	SRTEMP+1
4150	3E0F	CA	79			STRR,R2	SRTEMP+3
4151	3E11	20				FORZ,RC	
4152	3E12	C8	75			STRR,RC	SRTEMP+2
4153	3E14	3F	3D	2A	SERIEZ	BSTA,UN	PUSHC2
4154	3E17	08	6E			LODR,RC	SRTEMP
4155	3E19	C9	6D			LODR,R1	SRTEMP+1
4156	3E1B	3F	32	7D		BSTA,UN	PUSH
4157	3E1K	3F	38	91		BSTA,UN	FPMULT
4158	3E21	3F	37	EF		BSTA,UN	FPADD
4159	3E24	3F	3D	FA		BSTA,UN	PUSHC2
4160	3E27	3F	3C	FC		BSTA,UN	PUSHC1
4161	3E2A	08	6E			LODR,RC	SRTTEMP+3
4162	3E2C	18	06			PCDP,RC	SRTEMP

33	E 31	FC	A,UN	
4164	3E31 3F 3E 91	BSTA,UN	I-ULT	
4165	3E34 3F 38 91	SERIES BSTA,UN	FPMULT	LST A UN BASHCS
4166	3E37 3F 3D 03	BSTA,UN	POPC2	
4167	3E3A CC 13 91	LODA,R0	CBUF2	
4168	3E3D ?F 02	CPSL	COM	
4169	3E3F E4 E9	COMI,R0	E9	-17
4170	3E41 7F 02	PPSL	COM	
4171	3E43 16	RETIC,LT		
4172	3E44 08 43	LODR,R0	SRTEMP+2	
4173	3E46 84 01	ADDI,R0	1	
4174	3E48 F4 06	COMI,R0	6	→ 3 photons present
4175	3E4A 14	RETIC,EQ		some NR factor
4176	3E4B CC 1E 09	STRA,R0	SRTEMP+2	
4177	3E4E EC 1E 08	LODA,R0	SRTEMP+1	
4178	3E51 84 04	ADDI,R0	4	
4179	3E53 CC 1E 08	STRA,R0	SRTEMP+1	
4180	3E56 9C 3E 14	BCFA,EQ	SERIE2	
4181	3E59 DC 1E 27	LODA,R0	SRTEMP	
4182	3E5C 84 01	ADDI,R0	1	
4183	3E5E CC 1E 07	STRA,R0	SRTEMP	
4184	3E61 1F 3F 14	BCTA,UN	SERIE2	
4185	3E64 *			
4186	3E64 *			
4187	3E64 *			
4188	3E64 CC 00 00 RNDSTR RES	4		
4189	3E68 *			
4190	3E68 *			
4191	3E68 *			
4192	3E68 08 7B	FPRND	LODR,R0	RNDSTR+1
4193	3E6A 3E 1C	ESTR,UN	RANDOM	
4194	3E6C 44 7F	ANDI,R0	7F	
4195	3E6E 08 75	STRR,R0	RNDSTR+1	
4196	3E70 07 02	LODI,R3	2	
4197	3E72 06 01	LODI,R2	1	
4198	3E74 0F 3F 64 FPRND1	LODA,R2	RNDSTR,+ RANDOM	
4199	3E77 3B 0F	BSTR,UN		
4200	3E79 C# ?I 64	STRA,R2	RNDSTR,I	
4201	3E7C FB 76	BDRR,R3	FPRND1	
4202	3E7E 04 3F	LODI,R0	RNDSTR	
4203	3E80 05 64	LODI,R1	RNDSTR	
4204	3E82 3F 32 7D	BSTA,UN	PUSH	
4205	3E85 1F 38 91	BCTA,UN	FPMULT	
4206	3E88 *			
4207	3E88 *			
4208	3E88 *			
4209	3E88 00	RANDOM LODZ,R0	00	LOAD, R0
4210	3E89 08 02	BCFR,EQ	RAND1	
4211	3E8B 24 01	ADDI,R0	1	BCFR, EQ ADD, R0
4212	3E8L C1 RAND1	STRZ,R1	3E8D C1	RAND, R0
4213	3E8E 45 8E	ANDI,R1	8E	AND, R1
4214	3E92 77 28	FFSL	WC	RR2, R1
4215	3E92 18 0F	BCTR,EQ	RAND3	3E93 00 00
4216	3E94 D1 RAND2	RRL,R1	3E92 01	ADD, R0 RR2, R1
4217	3E95 45 FE	ANDI,R1	FE	ADD, R1
4218	3E97 B5 01	TFSL	CRY	ADD, R1

LINE	ADDR	B1	R2	R3	LABEL	OPCODE	OPERAND
4220	3E9B	45	FF		ANDI,R1	FF	3E92 70 00 RNDIZE
4221	3E9D	18	06		BCTR,EQ	RAND4	3E92 F4 00 RNDIZERO
4222	3E9F	00			RANDS	FRL,RC	3E92 1C 25 BE RNDIZERL
4223	3EA0	44	FF		ANDI,R0	FE	3E92 CC 1E 65 RNDIZERF
4224	3EA2	75	08		CPSL	WC	3E92 84 01 RNDIZERWC
4225	3EA4	17			RETC,UN		3E92 A3 44 7F RNDIZERRET
4226	3EA5	00			RAND4	*RRL,RO	3E92 C2 65 RNDIZERRRL
4227	3EA6	44	FF		ANDI,RO	FE	3E92 3E 98 RNDIZERANDI
4228	3EA8	84	01		ADDI,RC	1	3E92 3E 98 RNDIZERADDI
4229	3EAA	75	08		CPL	WC	3E92 3E 98 RNDIZERCPL
4230	3EAC	17			RETC,UN		3E92 3E 98 RNDIZERRET
4231	3EAD	*					
4232	3EAD	*					
4233	3EAD	*					
4234	3EAD	3F	3C	FF	FPLN	BSTA,UN	POPC1
4235	3FB0	04	07		LODI,RO	'	
4236	3EB2	CC	27	4D	STRA,RC	OPB	
4237	3EB5	00	13	ED	LODA,RO	CBUF1	
4238	3FB8	9A	04		BCFR,LT	FPLN1	
4239	3EBA	24	FF		FORI,RO	FF	
4240	3EBC	84	01		ADDI,RC	1	
4241	3EBF	CC	07	4F	FPLN1	STRA,RO	OPB+1
4242	3FC1	20			EORZ,RO		
4243	3FC2	CC	07	4F	STRA,RO	OPB+2	
4244	3FC5	CC	07	50	STRA,RO	OPB+3	
4245	3FC6	00	13	81	LODA,RO	CFUF1+1	
4246	3FCB	ED	30	6E	BCEA,GT	ERR15	OVERFLOW--IN OF 0 OR NEG NUMBER
4247	3FCE	77	08		PPSL	WC	
4248	3E10	3F	39	94	BSTA,UN	NORM	
4249	3ED3	04	02		LODI,RO	2	
4250	3ED5	93			PPSL		
4251	3FD6	CC	13	8D	LODA,RC	CBUF1	
4252	3ED9	3E	3C	DE	BSTA,LT	INVOPB	
4253	3E1C	20			EORZ,RO		
4254	3EDD	CC	13	8D	STRA,RO	CBUF1	
4255	3EE0	04	3F		LODI,RC	FPLN2	
4256	3EE2	05	12		LODI,RI	1	
4257	3EE4	3F	32	7D	BSTA,UN	PUSH	
4258	3EE7	3F	3D	18	BSTA,UN	PUSOPB	
4259	3EEA	3F	38	51	BSTA,UN	PPMULT	
4260	3EED	3F	3C	FC	BSTA,UN	PUSHC1	
4261	3EF0	3F	3A	7A	BSTA,UN	PPUSH1	
4262	3EF3	3F	37	BD	BSTA,UN	PPSUB	
4263	3EF6	3F	3C	FC	BSTA,UN	POPC1	
4264	3EF9	06	03		LODI,RI	3	
4265	3FB3	3F	3C	FC	FPLN4	BSTA,UN	PUSHC1
4266	3FFF	FA	7F		BDRR,RI	FPLN4	
4267	3F0C	3F	38	91	BSTA,UN	PPMULT	
4268	3F03	3F	3D	03	BSTA,UN	POPC2	
4269	3F05	3F	37	EF	BSTA,UN	PPFADD	
4270	3F09	04	3F		LODI,RO	LNFACT	
4271	3F0B	05	16		LODI,RI	2	
4272	3F0D	06	20		LODI,RI	2	
4273	3F0F	1F	3F	0P	ECTA,UN	SERIES	
4274	3F12	*					
4275	3F12	*					
4276	3F12	*					

4277	3F12	0A	59	FDTN2	ACN	LIA	DATA	09
4278	04	14	10					
4279	3F15	09						
4280	3F16	*						
4281	3F16	*						
4282	3F16	*						
4283	3F16	00		INFAC	DATA	00		
4284	3F17	C0		DATA	C0			
4285	3F18	00		DATA	00			
4286	3F19	00		DATA	00			
4287	3F1A	FF		DATA	FF			
4288	3F1B	55		DATA	55			
4289	3F1C	55		DATA	55			
4290	3F1D	55		DATA	55			
4291	3F1E	FF		DATA	FF			
4292	3F1F	FF		DATA	FF			
4293	3F20	FF		DATA	FF			
4294	3F21	FC		DATA	FC			
4295	3F22	FF		DATA	FF			
4296	3F23	66		DATA	66			
4297	3F24	66		DATA	66			
4298	3F25	66		DATA	66			
4299	3F26	FF		DATA	FF			
4300	3F27	AA		DATA	AA			
4301	3F28	AA		DATA	AA			
4302	3F29	AA		DATA	AA			
4303	3F2A	FF		DATA	FF			
4304	3F2B	49		DATA	49			
4305	3F2C	24		DATA	24			
4306	3F2D	96	*	DATA	96			
4307	3F2E	*						
4308	3F2F	*						
4309	3F2F	*						
4310	3F2F	00		FFESTG RES	1			
4311	3F2F	*						
4312	3F2F	*						
4313	3F2F	*						
4314	3F2F	3F	3C	FPEXP2	ESTA,UN	P0P0T	FFESTG	46
4315	3F32	3F	3C	F1EAT3	PSTA,UN	PUSHC1		
4316	3F32	3F	2A	17	BSTA,UN	DT0BNL		
4317	3F33	01			LODZ,R1			
4318	3F39	C2			STRZ,R2			
4319	3F3A	3F	3A	7A	PSTA,UN	PPUSH1		
4320	3F3D	02			LODZ,R2			
4321	3F3E	18	10		ECTR,EQ	FPEXPD		
4322	3F40	CA	60	FPEXPA	STRR,R2	FFESTG		
4323	3F42	04	3F		LODI,P0	FPPE		
4324	3F44	05	7B		LODI,R1	FPPE		
4325	3F46	3F	32	7D	BSTA,UN	FUSH		
4326	3F49	3F	38	91	BSTA,UN	FPMULT		
4327	3F4C	0A	60		LODR,R2	FPESTG		
4328	3F4E	FA	72		BDRR,R2	FPEXPA		
4329	3F50	3F	3D	03	FPEXFD	BSTA,UN	FOFC2	
4330	3F52	3F	3D	20		FPFR1		
4331	3F56	3F	3C	F5	BSTA,UN	POPC1		
4332	3F59	3F	3D	0A	BSTA,UN	FUSHC2		
4333	3F5C	3F	3A	7A	BSTA,UN	PPUSH1		

LINR	ADRD	B1	P0	V3	LADR	OPCNG	OPERAUD
4334	3F5F	06	03		LODI, R2	3	
4335	3F61	3F	3C	FC	FPEXPB	BSTA, UN	PUSHC1
4336	3F64	FA	7B		BDRR, R2		FPEXPB
4337	3F66	3F	38	C1	BSTA, UN	FPMULT	
4338	3F69	3F	3D	03	BSTA, UN	POPC2	
4339	3F6C	3F	37	EF	BSTA, UN	FPMULT	
4340	3F6F	04	3F		LODI, R2	FPADD	
4341	3F71	0E	7F		LODI, R1	EXPFAC	
4342	3F73	06	00		LODI, R2	EXPFAC	
4343	3F75	3F	3E	CB	BSTA, UN	SERIES	
4344	3F78	1F	38	S1	BSTA, UN	FPMULT	
4345	3F7B	*					
4346	3F7B	*					
4347	3F7B	*					
4348	3F7B	02		FPE	DATA	02	
4349	3F7C	E6			DATA	E6	
4350	3F7D	FC			DATA	FC	
4351	3F7E	29			DATA	29	
4352	3F7F	*					
4353	3F7F	*					
4354	3F7F	*					
4355	3F7F	00		EXPFAC	DATA	00	
4356	3FE0	40			DATA	40	
4357	3FE1	00			DATA	00	
4358	3F82	00			DATA	00	
4359	3F83	FE			DATA	FE	
4360	3F84	55			DATA	55	
4361	3F85	E5			DATA	E5	
4362	3F86	55			DATA	55	
4363	3F87	FC			DATA	FC	
4364	3F88	55			DATA	55	
4365	2F89	E5			DATA	E5	
4366	3F8A	55			DATA	55	
4367	3F8B	FA			DATA	FA	
4368	3F8C	44			DATA	44	
4369	3F8D	44			DATA	44	
4370	3F8E	48			DATA	48	
4371	3F8F	F7			DATA	F7	
4372	3F90	5E			DATA	5E	
4373	3F91	05			DATA	05	
4374	3F92	B0			DATA	B0	
4375	3F93	F4			DATA	F4	
4376	3F94	68			DATA	68	
4377	3F95	06			DATA	06	
4378	3F96	86			DATA	86	
4379	3F97	*					
4380	3F97	*					
4381	3F97	*					
4382	3F97	3F	3C	F5	FPEXP	BSTA, UN	POPC1
4383	3FGA	3F	3D	03	BSTA, UN	FOPC2	
4384	3F9D	3F	3C	FC	BSTA, UN	PUSHC1	
4385	3FA0	3F	3D	0A	BSTA, UN	PUSHC2	
4386	3FA3	3F	3F	AD	BSTA, UN	FPLN	
4387	3FAC	3F	38	91	BSTA, UN	FPMULT	
4388	3FA9	1F	3F	2F	RCTA, UN	FEXP2	
4389	3FAC	*					

1	4392	3FAC	3F 3E AD FPLOG	BSTA,UN	FPLN
	4393	3FAF	04 3F	LODI,RI	LOGCON
	4394	3FB1	05 B9	LODI,RI	LOGCON
	4395	3FB3	31 32 7D	BSTA,UN	PUSH
	4396	3FB6	1F 38 91	BCTA,UN	FPMULT
	4397	3FB9	*		
	4398	3FP9	*		
	4399	3FB9	*		
	4400	3FB9 FF	LOGCON	DATA	FF
	4401	3FBBA 6F	DATA	6F	
	4402	3FBP 2D	DATA	2D	
	4403	3FBBC EB	DATA	EB	
	4404	3FBDD *			
	4405	3FBBD *			
	4406	3FBD *			
	4407	3FBFD 00 40	FP.S	ACON	0040
	4408	3FBF 00 00	ACON	0000	
	4409	3FC1	*		
	4410	3FC1	*		
	4411	3FC1	*		
	4412	3FC1 3F 3E	AD FFSORT	ESTA,UN	FPLN
	4413	3FC4 04 3F	LODI,RI	EP.5	
	4414	3FC6 05 81	LODI,RI	FP.5	
	4415	3FC8 32 7D	BSTA,UN	PUSH	
	4416	3FCB 3F 38 91	BSTA,UN	FPMULT	
	4417	3FCE 1F 3F 2F	BCTA,UN	FPFXE2	
	2	3F02	E6 C0	CMT, R2	CC
	3F04	1F 03	BCTR, Z	A	
	3FD7	1B 26	A L75L	LPSL	
	3FD9	33	BCTR, UN	B	
	3FDA	1H 09	BCTR, UN	C	
	3FDC	0C 13	LODA, RO	CBAF1+1	
	3FDF	1E 33	B	CBAT, A	CC is CT or return.
	3FE2	1F 33	AC	BCTR, UN	CC is CT or return.
	3FE5	0C 13	RE	C LODA, RD	SBAF1+1
	3FE8	1E 33	AC	BCTR, A	CBAT, C
	3FE9	1F 33	AC	BCTR, UN	CC is CT
	3FE3	1F 33	AC	BCTR, UN	CC is CT
					*
	3FEE	CE 14 HJ	STRA STRA, R2	CPLT	
	1F 34 OD		RCTR AN	STRTZ	

Central Data Corporation
PO Box 2484, Station A
Champaign, IL 61820
(217) 359-8010

Dear BASIC Customer:

The following following changes have been made to
the 8K BASIC program. These changes are in
versions 1.3 and higher.

→ x 33B9 9C 3F D1 C0
→ x 3FD1 13 E6 00 18 03 93 1B 06 93 1A 09 0C 13 8E
1E 33 9F 1F 33 AC 0C 13 8E 1E 33 AC 1F 33
9F
→ x 3995 03
x 25B9 1F 3E 98
x 3E88 00 98 02 84 01 C1 D1 D1 45 FC 81 D1 45 F8
81 17 70 F4 80 1C 25 BE 0C 1E 65 84 01 44
7F CC 1E 65 1F 3E 98
x 1780 33 8E 3F 38 91 0C 17 AF 14 15 3F 3D 03 3F
3A 7A 3F 3D 0A 1F 38 94 3F 3C F5 0C 97 80
CC 17 AF 3F 3C FC 3F 3C D0 3F 3C F5 1F 3F
32
3F2F → *2F2F 1F 17 96
*3F78 1F 17 82
x 2C25 3F 3F EE
x 3FEE CE 14 A5 1F 34 0D

2E41 2A 1 2 3 4 5 6 7 8
2E5C 2A 1 2 3 4 5 6 7 8
2E5D 2A 1 2 3 4 5 6 7 8

5. 8K BASIC Program Listing

This section contains the program listings for the editor and BASIC.

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LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
00002	00000				FRNT	03	
00003	00000				ETX	EQU	03
00004	00000				BS	EQU	08
00005	00000				CTRLP	EQU	10
00006	00000				CTRLP	EQU	CTRL P
00007	00000				CTRLU	EQU	0F
00008	00000				CTRLU	EQU	CTRL O
00009	00000				ESCAPE	EQU	15
00010	00000				ESC	EQU	1B
00011	00000				CRCD	EQU	1D
00012	00000	*	*	*	CARRIAGE RETURN	EQU	7CTRL M
00013	00000	*	*	*	THE FOLLOWING ARE DEFINITIONS FOR THE SUPERVISOR SUBROUTINES		
00014	00000	*	*	*			
00015	00000				IFCR	EQU	0024
00016	00000				FASEL	EQU	003A
00017	00000				WRTCUR	EQU	0064
00018	00000				HNOT	EQU	005A
00019	00000				SUPENT	EQU	0053
00020	00000				SERC	EQU	024F
00021	00000				SERI	EQU	0249
00022	00000				KBIN	EQU	030F
00023	00000				SWCHR	EQU	0306
00024	00000				*	*	*
00025	00000	*	*	*	THE FOLLOWING ARE DEFINITIONS FOR THE FLOPPY PORTS		
00026	00000	*	*	*			
00027	00000	*	*	*			
00028	00000	*	*	*	FCSR	EQU	0
00029	00000	*	*	*	FLR	EQU	1
00030	00000	*	*	*	FSR	EQU	2
00031	00000	*	*	*	FDR	EQU	3
00032	00000	*	*	*	FMRH	EQU	10
00033	00000	*	*	*	FDRH	EQU	10
00034	00000	*	*	*	FDRH	EQU	13
00035	00000	*	*	*	*	*	*
00036	00000	*	*	*	BRANCH INSTRUCTION CONDITION DEFINITIONS		
00037	00000	*	*	*			
00038	00000	*	*	*			
00039	00000	*	*	*			
00040	00000	*	*	*	EQ	EQU	0
00041	00000	*	*	*	GT	EQU	1
00042	00000	*	*	*	LT	EQU	2
00043	00000	*	*	*	UN	EQU	3
00044	00000	*	*	*	*	*	*
00045	00000	*	*	*	REGISTER DEFINITIONS		
00046	00000	*	*	*			
00047	00000	*	*	*			
00048	00000	*	*	*			
00049	00000	*	*	*			
00050	00000	*	*	*			
00051	00000	*	*	*	R2	EQU	0
00052	00000	*	*	*	R3	EQU	1
00053	00000	*	*	*	R1	EQU	2
00054	00000	*	*	*	R1	EQU	3
00055	00000	*	*	*	*	*	*
00056	00000	*	*	*	PROGRAM STATUS WORD DEFINITIONS		
00057	00000	*	*	*			
00058	00000	*	*	*			

R1	C1	E1	
0060 0000	0VF	EQU	4
0061 0000	WC	EQU	8
0062 0000	RS	EQU	10
0063 0000	*		
0064 0000	*		
0065 0000	*		GENERAL DEFINITIONS
0066 0000	*		
0067 0000	*		
0068 0000	EBC	EQU	83 END OF TEXT BUFFER CODE
0069 0000	START	ORG	2000
0070 2002 1F 20 4F	BCTA.UN	EDITOR	
0071 2003 40	RSTART	DATA	40
0072 2004 5C	LBST	DATA	5C
0073 2005 60	ENDRAM	DATA	60
0074 2006 42 4C 4F	LITS	ALIT	BLOCKS LEFT:
0075 2014 FF	DATA	FF	FF 4E 43 2D 4C 45 46 54 3A 21 23 2D 25 2C
0076 2015 43 4F 4D	COMMMSG	ALIT	COMMAND:
0077 201F FF	DATA	FF	FF 4E 4D 41 4E 45 3A 20 23 2C
0078 2020 22 4F 4B	OKMSG	ALIT	OK: FF 4E 4B
0079 2023 FF	DATA	FF	FF 4E 42 4D 53 43 48
0080 2024 54 4F 4F	TMMMSG	ALIT	TOO MUCH: FF 4E 42 4D 53 43 48
0081 2022 FF	DATA	FF	FF 4E 42 4D 53 43 48
0082 202D 53 55 4D	SCMSG	ALIT	SUMHECK ERROR: FF 4E 42 4D 53 43 48
0083 203A FF	DATA	FF	FF 4E 42 4D 53 43 48
0084 203B 00 COMS	RES	1	
0085 203C 00 00 NAME	RES	10	
0086 204C 00 TMPS	RES	1	
0087 204D 00 TEMP	RES	1	
0088 204E 04 02	EDITOR	LODI, R0	02
0089 2050 93	LPSL		
0090 2051 76 40	PPSU	40	SFT FLAG BIT
0091 2053 3F 22 4E	PSTA.UN	BEGIN	
0092 2056	*		
0093 2056	*		
0094 2056	*		
0095 2056 3F 21 4E	FBDN	PSTA.UN	DISP
0096 2059	*		
0097 2059	*		
0098 205C	*		
0099 2059 0F 0F	COMD	LODI, R1	0F
0100 205B 06 10	*	LODI, R2	10
0101 205D 3F 21 45	BSTA.UN	SETCUR	
0102 2060 FF 24	ZBSR	LFCR	
0103 2062 06 F2	LODI, R1	FO	
0104 2064 06 10	*	LODI, R2	10
0105 2066 3F 21 45	BSTA.UN	SETCUR	
0106 2069 0F 06	LODI, R1	LIMS	
0107 206D 3F 24 23	BSTA.UN	BLKW	
0108 20CE 3F 21 F9	ESTA.UN	FINDD	
0109 2071 0F 00 04	LODA, R3	IPST	
0110 2074 AF 24 61	SURA, R3	DUMA	
0111 2077 A7 01	SUB1, R3	01	
0112 2079 3F 21 09	BSTA, UN	BTODCT	
0113 207C 06 13	LODI, R2	13	
0114 207E 05 20	LODI, R1	20	
0115 2080 3F 21 45	BSTA, UN	SETCUR	

LINE	OPCODE	OPERAND	DATA
1116	ADDI E1 E2 P3 LAPP		
1117	20E3 E5 15	LDDI,R1	COMM SG
1118	2E5 3F 24 23	PSTA,UN	BKK
1119	22E8 72	REFT,R2	
1120	20E9 F4 80	TMI,R2	82
1121	20EF 1F 7B	BCTR,EC	PL1
1122	20ED 3F 21 2C	PSTA,UN	OIC
1123	22E2 24 22	LODI,R2	COMS
1124	2E62 05 3F	LODI,R1	
1125	20E4 E6 11	LODI,R2	11
1126	20E6 22 E9	PSTA,UN	ARROW
1127	20E9 0C A2 83	FCFA,EQ	SUPENT
1128	209C 0C 07 3B	LODA,R2	COMS
1129	20CF 3F 21 2C	PSTA,UN	OLC
1130	20A2 27	FORZ,BQ	
1131	2PA3 C1	STRZ,R1	
1132	2CA4 07 FF	LODI,R3	PF
1133	29AC 0F 22 3C	LODA,R3	NAME,4
1134	29A9 16 76	FCTR,YQ	CKQ
1135	29AP E7 17	COMI,R3	10
1136	29AL 9A EC	FCFR,LT	EADD
1137	29AF E4 3A	COMI,EC	O
1138	29B3 E4 39	BCTR,LT	DS
1139	20F5 1G 22	FCTR,GT	DS
1140	2937 01	LODZ,R1	
1141	26E6 2C 0G	LODI,R2	29
1142	20EA E1	CNE	ADDZ,R1
1143	20EB P6 21	TPSL	CRY
1144	20BD 1E 2F	BCTR,EQ	D255
1145	20BF FA 79	BDRR,R2	ONE
1146	29C1 C1	STRZ,R1	NAME,1
1147	20C2 01 60 3C	LODA,R3	Q
1148	20CS A4 32	SURI,RO	
1149	2CC7 81	ADDZ,R1	
1150	20CE C1	STRZ,R1	CPY
1151	20CC B5 01	TPSL	NI
1152	20CB 98 59	BCPR,FQ	
1153	20CD 75 FF	D255	LODI,R1
1154	20CF 1F 9A	FF	FADE
1155	20D1 E7 22	BCTR,UN	
1156	20D3 98 66	COMI,R3	00
1157	20D5 25 01	BCFR,EQ	EADD
1158	20D7 1B 02	LODI,R1	Q1
1159	2019 25 20	FCTR,UN	EADD
1160	20DE 0F 00 3B	FADD	LODI,R1
1161	20DF E7 42	LODA,R3	00
1162	20F2 1C 22	COMI,P3	B
1163	22E3 F7 42	BCTA,EC	DELT
1164	20F5 1C 25 E2	COMI,R3	
1165	20FE F7 44	BCTA,EQ	FORWD
1166	22FA 1C 24 2L	COMI,R3	I
1167	20FD F7 46	BCTA,EC	BACK
1168	22F1 1C 22 1L	COMI,R3	C
1169	22F2 F7 45	BCTA,LQ	INST
1170	20F4 1C 22	COMI,R3	L
1171	22F7 E9 4C	PCTA,EQ	LOADER
1172	22F9 1C 24 BB		

0174 20FF 1C 27 E1 BCTA, EQ R3 BAS, S
 0175 2101 E7 53 COMI, R3 S
 0176 2103 1C 25 41 BCTA, EQ TAFO
 0177 2106 1F 20 59 PCTA, UN COMD
 0178 2109 *
 0179 2109 *
 0180 2109 *
 0181 2109 E7 63 BCTDCT COMI, R2 63
 0182 210B 99 07 BCFR, GT NO100
 0183 210D 04 31 LODI, RO '1
 0184 210F 3F 21 E5 BSTA, UN WRT
 0185 2112 A7 64 SUBI, R3 64
 0186 2114 06 07 NO100 LODI, R2 00
 0187 2116 E7 09 SUB10 COMI, R3 09
 0188 2118 99 06 BCFR, GT TENIN
 0189 211A A7 0A SUBI, R3 A
 0190 211C 86 01 ADDI, R2 1
 0191 211E 1B 76 BCTR, UN SUB10
 0192 2120 02 TENIN LODZ, R2 '0'
 0193 2121 64 30 IORI, R0 '0'
 0194 2123 3F 21 F5 BSTA, UN WRT
 0195 2126 03 LODZ, R3 '0'
 0196 2127 64 30 IO, I, R0 '0'
 0197 2129 1F 21 F5 BCTA, UN WRT
 0198 212C *
 0199 212C *
 0200 212C *
 0201 212C E4 2B OLC COMI, R2 2B GO TO END OF FILE
 0202 212E 1C 21 FF BCTA, EQ ENDF
 0203 2131 E4 2D COMI, R0 2D GO TO BEGINNING OF FILE
 0204 2133 1C 22 49 BCTA, EQ BEGN FORWARD 15 LINES
 0205 2136 E4 2C COMI, HC
 0206 2139 1C 22 0E BCTA, EQ F15
 0207 2139 E4 2F COMI, R2 / BACKWARD 15 LINES
 0208 213D 1C 22 08 BCTA, EQ R15
 0209 2140 17 RETC, UN
 0210 2141 *
 0211 2141 *
 0212 2141 *
 0213 2141 17 FF MCUL ACON 17FF
 0214 2143 17 FF MCUR ACON 17FF
 0215 2145 *
 0216 2145 *
 0217 2145 *
 0218 2145 3F 23 F4 SETCUR BSTA, UN ERASS2
 0219 2148 CA F7 STRR, R2 *MCU1
 0220 214A CG F7 STRR, R1 *MCUR
 0221 214C 17 RETC, UN
 0222 214D *
 0223 214D *
 0224 214D *
 0225 214D 00 LINE RES 1
 0226 214E *
 0227 214E *
 0228 214E 3F 24 87 DISP BSTA, UN MTPA MOVE LINE ADDRESS TO DUMMY ADDRESS
 0229 214E 3F 24 87

LINE ALDR PI E2 #3 LABEL OPCOFF OPEN

0288	21B3	*		
0289	21P3	*		
0290	21B3	3F 24 87 FWDX	ESTA,UN	MTDA
0291	21P6	C2	FWDX2	STRZ,R2
0292	21F7	01	L0DZ,R1	
0293	21P8	14	RETC,EQ	
0294	21B9	20	E0RZ,R0	DUM2
0295	21BA	CC	04 62	STRA,R0
0296	21BD	0E	F4 61	NXTCHR L0DA,R2
0297	21CE	1A	1D	BCTR,LT
0298	21C2	C6	EE	ENDFW
0299	21C4	DA	11	STRR,R0
0300	21C6	3F	24 9D	FTEMP
0301	21C9	1A	0C	BIRR,R2
0302	21CP	3F	24 69	CRCK
0303	21CE	06	FF	S1DA
0304	21D0	04	83	L0DI,R2
0305	21D2	CE	61	FF
0306	21D5	1B	09	ERG
0307	21I7	08	59	*DUMA,I
0308	21D9	E4	0D	STRZ,R2
0309	21DB	98	60	BCTR,UN
0310	21D1	F9	EE	ENDFW
0311	21DF	CE	04 62	FTEMP
0312	21E2	17	*	COMI,R0
0313	21E3	*	*	CRCD
0314	21E3	*	*	
0315	21E3	*	*	
0316	21E3	*	*	
0317	21E3	04 20	WRBLK LODI,R0	
0318	21E5	*	*	
0319	21E5	*	*	
0320	21E5	*	*	
0321	21E5	77 10	WRT	PPSL RS
0322	21E7	C3	*	STRZ,R3
0323	21E8	3F	03 96	BSTA,UN
0324	21EB	75	10	SWCHR
0325	21ED	17	*	RS
0326	21EE	*	*	RETc,UN
0327	21EE	*	*	
0328	21EE	*	*	
0329	21EE	3B 07	ENDE	PSTR,UN
0330	21F0	3F 24	92	FINDND
0331	21F3	25	01	ESTA,UN
0332	21F5	1B	13	MTCA
0333	21F7	*	*	FF
0334	21F7	*	*	ENDX2
0335	21F7	*	*	*DUMA
0336	21F7	3F 24	87	ESTA,UN
0337	21FA	25	FF	LODI,R1
0338	21FC	3F	21 B6	BTSA,UN
0339	21FF	0C	84 61	LODA,R0
0340	2202	15	*	RTFC,LT
0341	2203	0C	04 62	L0DA,P0
0342	2206	1B	72	DUM2
0343	2208	*	*	FNDND2

LINE	ADDR	R1	R2	B3	LABEL	OPCODE	OPERAND
0344	2208	*	*	*	*	L0DI,R1	F
0345	2208	05	0F	*	R15	L0DI,R1	F
0346	2208	*	*	*	*	L0DI,R1	F
0347	220A	*	*	*	*	L0DI,R1	F
0348	220A	*	*	*	*	L0DI,R1	F
0349	220A	3B	2D	BACK	*BSTR,UN	BACKX	
0350	220C	1B	25	*	*BSTR,UN	FBD	
0351	220E	*	*	*	*		
0352	220E	*	*	*	*		
0353	220E	*	*	*	*		
0354	220E	*	*	*	*		
0355	220E	V5	2F	R15	L0DI,R1	F	DECIMAL 15
0356	2210	*	*	*	*		
0357	2210	*	*	*	*		
0358	2210	*	*	*	*		
0359	2212	3F	21	B3	FORWD	BSTA,UN	FWDX
0360	2213	3F	24	S2	FBD	BSTA,UN	MTCA
0361	2216	1F	20	F6	*	BCTA,UN	FBDN
0362	2219	*	*	*	*		
0363	2219	*	*	*	*		
0364	2219	*	*	*	*		
0365	2219	3F	24	87	BACKX	BSTA,UN	MTPDA
0366	221C	C2	*	*	*	SSTRZ,R2	
0367	221D	2F	*	*	*	E0RZ,R0	
0368	221F	CC	04	62	*	STRA,R0	DUM2
0369	2221	85	01	*	*	ADDI,R1	1
0370	2223	1B	03	*	*	BCTR,UN	CHEK
0371	2225	0F	C4	61	SUBL	L0DA,R2	*DUMA,-
0372	2228	C3	*	*	CHEK	SSTRZ,R3	
0373	2229	F6	00	*	*	COMI,R2	00
0374	222B	98	08	*	*	ECCR,EQ	NOSU
0375	222D	3F	24	69	*	BSTA,UN	SIDA
0376	2230	F0	00	03	*	COMA,R0	BSTART
0377	2233	1A	14	*	*	BCTR,LT	BEGN
0378	2235	E7	ED	NOSU	*	COMI,R3	CRCD
0379	2237	98	6C	*	*	ECCR,EQ	SUBL
0380	2239	19	6A	*	*	BD,R,R1	SUBL
0381	223B	F6	30	*	*	COMI,R2	02
0382	223D	30	24	9D	*	BSTA,EQ	A1DA
0383	2240	0E	21	*	*	ADDI,R2	1
0384	2242	3C	24	9T	*	BSTA,EQ	A1DA
0385	2245	0F	04	62	*	STRA,R2	DUM2
0386	2248	17	*	*	*	RETC,UN	
0387	2249	*	*	*	*		
0388	2249	*	*	*	*		
0389	2249	*	*	*	*		
0390	2249	3B	03	PFGN	*BSTR,UN	BEGIN	
0391	224P	1F	20	56	*	BCTA,UN	FBDN
0392	224E	*	*	*	*		
0393	224F	*	*	*	*		
0394	224F	*	*	*	*		
0395	224F	0C	00	03	PFGN	Y0DA,R0	ESTART
0396	2251	CC	04	5F	*	STRA,R0	CURA
0397	2254	26	*	*	*	E0RZ,R0	
0398	2255	0C	04	60	*	STRA,R0	CUR2
0399	2259	17	*	*	*	RET0,UN	
0400	2259	*	*	*	*		

LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
P456	2ACB	18	05	03		COMI,R0	BYFAS
P459	2ACB	18	05	06		BCTR,IC	CXCTR,
C460	22CD	31	25	06		BSTA,UN	NEXI
P461	22D0	1A	6F			BCTR,LT	*TMPA,I
P462	22D2	CD	E4	63	BYPAS	STRA,R1	ETX
P463	22D5	E4	F3			STRA,R1	ETX
P464	22D7	18	3D			BCTR,F0	ENDI
P465	22D9	E4	6F			COMI,F0	CRCD
P466	22DB	3C	00	24		BSTA,EQ	LCFR
P467	22DE	3F	02			ESTR,UN	INSTS
P468	22FF	1B	5F			ESTR,UN	NEXI
P469	22FF	*	*	*		ESTR,UN	
P470	22E2	04	01		INSTS	LCDI,R0	1
P471	22F4	06	02			LODI,R2	2
P472	2216	3F	24	A9		ESTA,UN	ADDAN
P473	22E9	FC	00	04		COMA,R0	IBST
P474	22FC	1A	CA			BCTR,LT	INCR
P475	22FE	3F	24	69		BSTA,UN	SIDA
P476	22F1	04	FE			LODI,R0	FE
P477	28Y3	CC	04	62		STRA,R0	DUM2
P478	22F6	1B	19			BCTR,UN	ENDINS
P479	22F8	19	0D			INCR	FEIR,R1
P480	22FA	04	01			LODI,R0	1
P481	22FC	8C	24	63		ADDA,R0	TMPA
P482	22FF	EC	00	05		COMA,R0	ENDRAM
P483	2302	6A	04	04		BCPR,LT	STRIMP
P484	2304	CC	04	63		STRA,R0	TMPA
P485	2307	17			RETCSN	RETC,UN	
P486	2308	04	01			STRTMP	LODI,R0
P487	230A	06	02			LODI,R2	2
P488	230C	3F	24	C3		BSTA,UN	SUBANY
P489	230F	05	FF			LODI,R1	FF
P490	2311	04	23			ENDINS	LODI,R0
P491	2313	CP	E4	63		STRA,R1	*TMPA,I
P492	2316	*	*	*			
P493	2316	*	*	*		DUMA	HAS THE ADDRESS OF NEW LAST BYTE OF FUFFER
P494	2316	*	*	*			
P495	2316	9C	04	61	ENDI	LODA,R0	DUMA
P496	2319	CC	04	63		STRA,R0	TMPA
P497	231C	0F	04	62		LODA,R3	DUM2
P498	231F	3F	21	F7		BSTA,UN	FINDME
P499	2322	3F	24	7C		BSTA,UN	SDCA
P500	2325	0D	04	62		LODA,R1	DUM2
P501	2328	20				FORZ,R0	
P502	2329	CC	04	62		STRA,R0	DUM2
P503	232C	CC	04	64		STRA,R0	TMY2
P504	232F	01	F4	61	DOWN	LODA,R1	*DUMA,I
P505	2332	CF	E4	63		STRA,R3	*TMPA,I
P506	2335	04	71			LODI,R0	1
P507	2337	06	76			LODI,R2	6
P508	2339	3F	24	03		BSTA,UN	SUBANY
P509	233C	98	05			ECER,EQ	NOCK
P510	233F	0C	04	66		LODA,R0	BSA2
P511	2341	1E	1F			ESTR,EC	INSTDN
P512	2343	*	*	*			
P513	2343	A1	21		NCCK	SUPI,R1	1
P514	2345	E5	FF			COMI,R1	PP

0515	2347	08 08	8		L...	EQ	JS1
0516	2349	3F 24 69		BSTA,UN	S1L		
0517	234C	EC 00 23		COMA,RC	BSTART		
0518	234F	1A 10		BCTR,LT	INSTDN		
0519	2351	A7 C1	NS1DA	SUBI,R3	Q1		
0520	2353	E7 FF		COMI,R3	FF		
0521	2355	08 58		BCTR,EQ	DOWN		
0522	2357	0C 04 63		LODA,RC	TMPA		
0523	235A	A4 C1		SUBI,RC	Q1		
0524	235C	CC 04 63		STRA,RC	TMPA		
0525	235F	1B 4E		BCTR,UN	DOWN		
0526	2361	*					
0527	2361	3F 23 89	INSTDN	PSTA,UN	IBADD		
0528	2364	3F 24 87		BSTA,UN	MTDA		
0529	2367	C1		STRZ,R1			
0530	2368	20		FORZ,RC			
0531	2369	CC 04 62		STRA,RC	DUM2		
0532	236C	07 FF		LODI,R3	FF		
0533	236E	0F A4 63	INSERT	LODA,R3	*TMPA,+		
0534	2371	E4 E3		COMI,RC	ETX		
0535	2372	18 0F		ECTR,EQ	INSTE		
0536	2375	CD E4 61		STRA,R1	*DUMA,I		
0537	2378	E7 FF		COMI,R3	FF		
0538	237A	3C 24 1A		BSTA,RC	AI7A		
0539	237D	DC 6F		DIRR,RC	INSERT		
0540	237F	3E 24 9D		BSTA,UN	A1DA		
0541	2382	1A 6A		BCTR,LT	INSERT		
0542	2384	0E 01	INSTE	LODI,R1	1		
0543	2386	1F 22 0A	*	ECTA,UN	BACK		
0544	2389	*					
0545	2389	0C 00 04	IBADD	LODA,RC	IBST		
0546	238C	CC 04 63	*	STRA,RC	TMPA		
0547	238F	20	*	FORZ,RC			
0548	2390	CC 04 64		STRA,RC	*MP2		
0549	2393	17		ETC,UN			
0550	2394	*					
0551	2394	3R 0D	PACKN	BSTR,UN	BACK1		
0552	2396	1E 22 01		BCTA,LT	NEXI		
0553	2399	04 01		LODI,RC	1		
0554	239B	06 02		LODI,RC	2		
0555	239D	3F 24 03		BSTA,UN	SUBANY		
0556	23A0	1F 22 01	*	BCTA,UN	NFXI		
0557	23A3	*					
0558	23A3	*					
0559	23A3	*					
0560	23A3	3F 23 D6 BACK1		BSTA,UN	FRASI		
0561	23A6	16		RETC,LT			
0562	23A7	0C 04 66		LODA,RC	ESAA2		
0563	23AA	A4 10		SUBI,RC	10		
0564	23AC	CC V4 66		STRA,RC	BSAA2		
0565	23AF	CC 01 43		STRA,RC	*MCUR		
0566	23B2	77 08		EPSE	WC		
0567	23B4	0C 04 65		LODA,RC	BSAA1		
0568	23B7	A4 00		SUBI,RC	0		
0569	23B9	CC 04 65		STRA,RC	PSA1		
0570	23BC	CC 81 41		STRA,RC	*MCU1		
0571	23BF	75 08		CPSL	WC		

0631	2431	3B	05	*	P	.,.	UN	HIT
0632	2433	0F	01	*	LCDI, RI	1		
0633	2435	1F	22	0A	*	PCTA, UN	BACK	
0634	2438	0F	74	5F	SHIF	LODA, R2	CURA	
0635	243B	CF	04	63	*	STRA, R3	TMPA	
0636	243E	0F	04	60	*	LODA, R3	CUR2	
0637	2441	0D	24	62	*	LODA, RI	DUM2	
0638	2444	20	*		*	EORZ, R0		
0639	2445	CC	04	64	*	STRA, R0	TMP2	
0640	2448	CC	04	62	*	STRA, R0	DUM2	
0641	244B	0D	14	61	UP	LODA, RI	*DUMA, I	
0642	244E	0F	14	63	*	STRA, R3	*TMPA, I	
0643	2451	16	*		*	RETC, LT		
0644	2452	87	01	*	*	ADDI, R3	1	
0645	2454	3C	24	1A	*	ESTA, EQ	A1TA	
0646	2457	D9	72	*	*	BIRR, RI	UP	
0647	2459	3F	24	9D	*	BSTA, UN	A1DA	
0648	245C	1A	6D	*	*	BCTR, LT	UP	
0649	245F	*		*	*	RETC, UN		
0650	245F	00	*	CURA	RES	1		
0651	2460	00	*	CUR2	RES	1		
0652	2461	00	*	DUMA	RES	1		
0653	2462	00	*	DUM2	RES	1		
0654	2463	00	*	TMPA	RES	1		
0655	2464	00	*	TMP2	RES	1		
0656	2465	00	*	BSA1	RES	1		
0657	2466	00	*	BSA2	RES	1		
0658	2467	00	*	CHGA	RES	1		
0659	2468	00	*	CHG2	RES	1		
0660	2469	*		*	*			
0661	2469	08	76	*	S1DA	LODR, R0	DUMA	
0662	246B	A4	01	*	SUB1, R0	1		
0663	246D	CE	72	*	STRR, R0	DUMA		
0664	246F	17	*	*	*	RETC, UN		
0665	2470	*		*	*			
0666	2470	08	70	SDCA	LOFR, R0	DUM2		
0667	2472	A8	6C	*	SUBR, R0	CUR2		
0668	2474	C8	70	*	STRR, R0	BSA2		
0669	2476	77	08	*	FFSL	WC		
0670	2478	08	67	*	LODR, R0	DUMA		
0671	247A	A8	63	*	SURR, R0	CUBA		
0672	247C	08	67	*	STRR, R0	BSA1		
0673	247E	75	08	*	CFSL	WC		
0674	2480	04	01	*	Lodi, R0	1		
0675	2482	06	06	*	Lodi, R2	6		
0676	2484	1F	24	A9	*	FCTA, UN	ADDANY	
0677	2487	*		*	*			
0678	2487	08	56	MEDA	LODR, R0	CUBA	MOVE CURRENT ADDRESS TO DUMMY ADDRESS	
0679	2489	08	56	*	STRR, R0	DUMA		
0680	248B	00	04	60	LODA, R0	CUR2		
0681	248E	CC	04	62	STRA, R0	DUMA+1		
0682	2491	17	*	*	*	RETC, UN		
0683	2492	*		*	*			
0684	2492	08	4D	RTCA	LODR, R0	DUMA		
0685	2494	CE	49	*	STRR, R0	CURA		

0736 ADDI E2 TARE OPCON COMMAND
 0737 2496 CC 04 62 LODA,R0 DUM2
 0738 2499 CC 04 60 STRA,R0 CUR2
 0739 249C 17 RETC,UN
 0740 24C1 249D 24 01 A1DA LODA,R0 C1
 0741 249F CC 04 61 ADDA,R0 DUMA
 0742 24A2 CC 04 61 STRA,R0 DUMA
 0743 24A5 EC 07 04 TEST
 0744 24A8 17 CUMA,R0 TEST
 0745 24A9 RETC,UN
 0746 24AC 8E 64 60 ADDANY ADDA,R2 CUR2,I
 0747 24AC CE 04 60 STDA,R2 CUR2,I
 0748 24AF 77 08 PPSL WC
 0749 24B1 20 FORZ,R0
 0750 24B2 FF 64 5F ADDA,R2 CURA,I
 0751 24B5 CF 64 5F STRA,R2 CURA,I
 0752 24B8 75 08 CPSL WC
 0753 24EA 17 RETC,UN
 0754 24FB *
 0755 24FF 3F 25 33 LOADER BSTA,UN AOK WRITE THE OK MESSAGE
 0756 24BE 3F 24 C9 ESTA,UN LOADA LOAD THE TEXTBUFFER FROM TAPE
 0757 24C1 CC 25 3C BCFA,EQ SCFR IF CONDITION NOT 0, IT WAS A SUMCHECK ERROR
 0758 24C4 1F 20 56 BCTA,UN FBDN OTHERWISE GET A NEW COMMAND
 0759 24C7 *
 0760 24C7 17 FG SUMK AC0N 1719
 0761 24C7 17 FG SUMK AC0N 1719
 0762 24C9 *
 0763 24C9 3F 24 87 LOADA BSTA,UN MTDA MOVE THE START ADDRESS TO DUMA
 0764 24C9 3F 24 87 WAIT EORZ,R0 CLEAR R0
 0765 24CC 20 WAIT STRR,R0 *SUMK
 0766 24CD CE FG ESTA,UN SERI
 0767 24CF 3F 02 FG COMI,R3
 0768 24D2 F7 3B FCER,EQ WAIT
 0769 24D4 08 76 LODI,R1 IF NOT, WAIT
 0770 24D6 25 FF FCER,EQ
 0771 24D8 3F 02 10 NARL BSTA,UN
 0772 24DB 0D 20 3C LODA,R1
 0773 24E1 18 03 BCTR,EQ
 0774 24E2 E3 COMZ,R3
 0775 24E1 98 69 BCFR,EQ
 0776 24E3 F5 07 CVERS1 COMI,R1 07
 0777 24E5 98 71 FCER,EQ NAML
 0778 24F7 3F 02 09 BSTA,UN SERI
 0779 24FA 0C 84 C7 LODA,R0 *SUMK
 0780 24FD 16 RETC,LT
 0781 24FE 15 RETC,GT
 0782 24FF CD 04 62 LODA,R1 DUM2 LOAD LOW BYTE OF POINTER INTO INDEX REGISTER
 0783 24F2 CC 04 62 STRA,R2 DUM2 CLEAR LOW BYTE IN MEMORY
 0784 24F5 CC 00 4C LODZ,R3 TMPS
 0785 24F8 3F 02 F9 ASCII BSTA,UN SERI
 0786 24FB 23 LODZ,R3
 0787 24FC CD 04 61 STRA,R1 *DUMA,I STORE IT INTC MEMORY
 0788 24FF 1A 2B ECTR,LT ENDINC
 0789 2501 DG 12 BIRR,RI L1
 0790 2503 3F 24 CD ESTA,UN ALPA ADD 1 TO R1 AND CHECK FOR OVERFLOW
 0791 5526 1A 0D FCTR,LT L1
 0792 5528 3F 24 60 RSTA,UN S1PA
 0793 5529 3F 24 60

3	250B	05 FF E7	EE	SUMCHECK, NAME, INDEX
0744	25ED	04 83	L0DI,R0	PREPARE TO STORE DUMMY END CF FILE CCDE
0745	252F	CD F4 61	STRA,R1	STORE IT
0746	2512	1F 25 C1	EC7A,UN	*DUMA,I TIME
0747	2515	01 00 4C 111	L0DA,R2	TELL THE OPERATOR THAT HE TRIED TO LOAD
0748	2518	86 01	ADDI,R2	TMPS
0749	251A	CE 00 4C	STRA,R2	LOAD TMPS
0750	251D	98 59	BCFR,EQ	1 ADD 1
0751	251F	*	STORF IT	STORF IT
0752	251F	3F 02 E9 ENDTF	BSTA,UN	GET SUMCHECK CHARACTER
0753	2522	CD 04 62	STRA,R1	RESTORE THE LOW BYTE OF THE POINTER
0754	2525	2F 84 C7	L0DA,R3	LOAD THE SUMCHECK CHARACTER
0755	2528	1C 24 CC	BCA,EQ	IF EQUAL, NO ERRORS--BRANCH
0756	252B	17	RET,UN	RETURN OTHERWISE
0757	252C	*		
0758	252C	3F 02 E9 FINDING BSTA,UN	SERI	GET SUMCHECK CHARACTER
0759	252F	CC 84 C7	LODA,RC	LOAD THE SUMCHECK CHARACTER
0760	2532	17	RET,UN	
0761	2533	*		
0762	2533	05 20 ACK	L0DI,R1	OKMSG GET THE ADDR OF FIRST BYTE OF MESSAGE "C"
0763	2535	3F 24 23	BSTA,UN	BLKW
0764	2538	3F 23 16	BSTA,UN	WRITE THE LITERAL
0765	253B	17	RET,UN	ERASE THE CURSOR
0766	253C	*		
0767	253C	07 2E SCERR	L0DI,R3	SCMSG SETUP FOR FRRCR RCUITNE
0768	253E	1F 25 94	BCTA,UN	ERRORE WRITE ERROR MESSAGE
0769	2541	*		
0770	2541	3F 25 33 TAPEO	BSTA,UN	AOK WRITE THE MESSAGE "OK" ON THE SCREEN
0771	2544	00 00 03	LODA,R0	PSTART LOAD THE FIRST ADDR OF TXTBUF
0772	2547	CC 04 61	STRA,R0	DUMA STORE INTO DUMA
0773	254A	20 84 C7	FORZ,R0	CLEAR RC
0774	254B	CC 84 C7	STRA,RO	*SUMK CLEAR LOW BYTE OF POINTER
0775	254E	CC 84 62	STRA,RO	DUMA
0776	2551	07 3B	L0DI,R3	; BEGINNING OF TAPE BLOCK IS SEMICOLON
0777	2553	3F 02 4F	BSTA,UN	SERO SEND IT OUT
0778	2556	05 FF	L0DI,R1	FF SETUP THE INDEX REGISTER OF THE FILE NAME
0779	2558	0D 20 3C NAMO	L0DA,RI	NAME,+ GET THE NEXT CHARACTER
0780	255B	C3 02 4F	STRZ,R3	STORE INTO R3
0781	255C	3F 02 4F	ESTA,UN	SERO SEND IT OUT
0782	255F	E7 07	COMI,RI	?? SEE IF END OF NAME
0783	2561	08 75	BCFR,EQ	NAMO IF NOT, DO NEXT CHARACTER
0784	2563	0F 84 C7	L0DA,R3	*SUMK LOAD THE SUMCHECK SO FAR
0785	2566	3F 02 4F	BSTA,UN	SERO SEND IT OUT
0786	2569	0E 00	L0DI,R1	C CLEAR R1
0787	256B	CD 84 C7	STRA,RI	*SUMK STORE INTO SUMCHECK--START AGAIN
0788	256E	0D E4 61 BYTEO	L0DA,RI	**DUMA,I GET NEXT BYTE OF TEXT
0789	2571	C3	STRZ,R3	STORE INTO R3
0790	2572	1A 14	BCTR,LT	ENTO IP END, FINISH UP
0791	2574	3F 02 4F	BSTA,UN	SERO SERIAL OUT IT
0792	2577	1C 75	FIRE,RI	INCR R1, CHECK FOR OVERFLOW
0793	2579	0F 84 C7	L0DA,R3	*SUMK LOAD THE SUMCHECK CHARACTER
0794	257C	3F 02 4F	BSTA,UN	SERO SEND IT OUT
0795	257F	3F 24 CD	AI DA INCRIMENT THE ADDRESS BY 256	
0796	2582	91 20 5C	PCFA,LT	FRDN IF STILL IN TEXT HUFFER, GO ON
0797	2585	1F 25 4A	BCTA,UN	TAEFTQ OTHERWISE QUIT
0798	2588	*		
0799	258A	3F 02 4F ENTO	BSTA,UN	SERO SEND OUT THE CHARACTER :END OF BLOCK

LINE	ADDR	R1	R2	W1	LAPTR	OPCODE	OPRANT
0800	25EF 0F 84 C7	ENDT	LODA, R3	*SUMK	LOAD SUMCHECK	BYTE	
0801	258E 3F 02 4F		BSTA, UN	SEKO	SEND IT OUT		
0802	2591 1F 26 56	*	BCTA, UN	FBDN	GET A NEW COMMAND		
0803	2594						
0804	2594 06 13	EERORE LODI, R2	13				
0805	2596 05 C9		LODI, R1	C9			
0806	2598 3F 21 45	*	BSTA, UN	SETCUR			
0807	259B 02		TODZ, R3				
0808	25C0 C1		STRZ, R1				
0809	25D0 3F 24 23	*	BSTA, UN	BLKW			
0810	25A0 3F 23 F4		BSTA, UN	ERAS2			
0811	25A3 3F 01	*	FSTR, UN	PAUSE			
0812	25A5 1F 20 56	*	BCTA, UN	FBDN			
0813	25A6 *						
0814	25A9 3F 25 F2	GFTKB	PSTA, UN	FAUSE			
0815	25AB 3F 21 E6		BSTA, UN	WRT			
0816	25AE 08 01	*	LODR, R2	PAUSES			
0817	25B0 17	*	RETC, UN				
0818	25B1 00	*	PAUSES RES	1			
0819	25B1 00	*	PAUSES RES	1			
0820	25B2	*					
0821	25B2 74	*	PAUSE REDD, R0				
0822	25B3 F4 80		TMI, R0	80			
0823	25B3 16 7B	*	BCTR, EQ	PAUSE			
0824	25B7 C8 78	*	STRR, R0	PAUSES			
0825	25B9 74	*	FL	REDD, R0			
0826	25BA F4 82	*	TMI, R0	80			
0827	25BC 98 7B	*	BCFR, EQ	PL			
0828	25BF 28 71	*	PLDR, R2	PAUSES			
0829	25C0 17	*	RETC, UN				
0830	25C1 07 24	TIME	LODI, R3	TMMSG			
0831	25C3 1F 30 77	*	BCTA, UN	ERROR			
0832	25C6	*					
0833	25C6 F4 01	*	CKCTRL COMI, R0	CRCD			
0834	25C8 98 05	*	PCFR, EQ	CKLP12			
0835	25CA 75 80	*	CPSL	80			
0836	25CC 77 40	*	PPSL	40			
0837	25CF 17	*	RETC, UN				
0838	25CF 24 FF	*	CKLP12 FORI, R0	FF			
0839	25D1 77 10	*	PPSL	RS			
0840	25D3 C1		STRZ, R1				
0841	25D4 24 FF		FORI, R0	FF			
0842	25D6 F5 F0		TMI, R1	F0			
0843	25D8 98 25		BCFR, EQ	NOCTCK			
0844	25EA 77 00		FFSL	80			
0845	25DC 7F 50		CPSL	50			
0846	25DF 17		RETC, UN				
0847	25DF 95 D0		NOCTCK CPSL	D0			
0848	25F1 17		RETC, UN				
0849	25F2 01	*	CHANGE LODZ, R1				
0850	25F2 01 79	*	BCTA, EQ	CCMD			
0851	25F3 1C 20 79	*	BSTA, UN	IBADD			
0852	25F6 3F 23 86	*	SUBI, R1	1			
0853	25F9 A5 01	*					
0854	25FB 3F 21 F3	*	ESTA, UN	FWDX			
0855	25FE 3F 24 92	*	BSTA, UN	MTCA			
0856	25F1 3F 21 9F	*	ESTA, UN	ERASE			

LINE - AUDIT BY BO LADELL - URGENT - OFFICIAL

					F1	ND
8857	6294	3F 21	E7	BSLA,UN		
8858	25F7	2C 04	5F	LODA,R0	CUNA	
8859	25FA	CC 24	E7	STRA,RO	CHGA	
8860	25FD	EC 24	60	LODA,RO	CUR2	
8861	2600	CC 04	68	STRA,RO	CHG2	
8862	2603	05	22	LODI,R1	00	
8863	2605	3F 00	24	DISPL	BSTA,UN	LFCR
8864	2608	0C 81	43	LODA,RE	*MCUR	
8865	260F	F4	0F	TMI,RO	F	
8866	262D	3C 21	0F	BSTA,EQ	ERASE	
8867	2610	2E 04	67	IODA,R2	CHGA	
8868	2613	CF 04	65	STRA,R2	FSAI	
8869	2616	CF 04	68	LODA,R3	CHG2	
8870	2619	0C 84	67	DISPL	LODA,RO	*CHGA
8871	261C	1E 27	19	BCTA,LT	ENDCHG	
8872	261F	F4 01	01	COMI,RO	CRCD	
8873	2621	18 12	12	BCTR,FO	ELFND	
8874	2623	3F 21	05	BSTA,UN	WRT	
8875	2626	04 01	01	LODI,RC	1	
8876	2628	0C 08	08	IODI,R2	8	
8877	2C2A	3F 24	A9	COMA,RO	ADDANY	
8878	262D	EC 00	04	BCTA,UN	IBST	
8879	2630	1A 67	67	BCTR,LT	DISPLP	
8880	2632	1F 27	19	BCTA,UN	ENDCHG	
8881	2635	CF 34	68	ELFND	STRA,R3	CHG2
8882	2638	0C 04	65	LODA,RO	BSAI	
8883	263B	CC 04	67	STRA,RO	CHGA	
8884	263E	3F 00	24	BSTA,UN	LFCP	
8885	2641	3F 25	A8	CHGL	BSTA,UN	GETKB
8886	2644	F4 04	08	COMI,RE	ES	
8887	2646	98 05	05	BCTR,FO	NOCHRS	
8888	2648	3F 27	21	BSTA,UN	CHBACK	
8889	264B	1B 74	74	BCTR,UN	CHGL	
8890	264D	E4 15	15	NOCHBS	COMI,RO	CTRLU
8891	264F	98 0A	0A	BCFR,FO	NOCFFY	
8892	2651	3F 26	CA	BSTA,UN	LOADD	
8893	2654	18 6B	6B	BCTR,FO	CHGL	
8894	2656	3F 26	E1	BSTA,UN	STRTMS	
8895	2659	1B 66	66	ECTR,UN	CHGL	
8896	265B	E4 10	10	NOCOPY	COMI,PO	CTRLP
8897	265D	98 0A	0A	BCFR,FO	NOCEOL	COPY TO END OF LINE
8898	265F	3F 26	CA	COPYLP	BSTA,UN	LOADD
8899	2662	1E 51	51	BCTR,FO	CHGL	
8900	2664	3F 26	E1	ESTA,UN	STRTMS	
8901	2667	1B 76	76	ECTR,UN	COPYLP	
8902	2669	14 0F	0F	NOCEOL	COMI,PO	ETX
8903	266B	98 06	06	BCFR,FO	CTRL	BYPASS
8904	266D	3F 26	CA	BSTA,UN	NODISC	CKCTRL
8905	2670	1F 26	41	ECTA,UN	LOADD	CEGL
8906	2672	05	05	NODISC	CHGL	STRT2
8907	2674	F4 03	03	COMI,FO	ETX	
8908	2676	18 26	26	BCTR,FO	BSTA,UN	
8909	2678	3F 25	06	ECTA,UN		
8910	267B	1E 26	41	FCTA,LT		
8911	267E	3F 26	E5	RYPASS	BSTA,UN	
8912	2681	23	23	LDDZ,R3		
8913	2682	F4 0D	0D	COMI,RO	CRCD	


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1 CC #4 63      .,R0   TMV
 0972 270F 17    RETCN RETC,UN
 0973 2710 04 01  ABRUPT LODI,R0  1
 0974 2712 06 02  LODI,R2  2
 0975 2714 3F 24 03  BSTA,UN
 0976 2717 05 FF  LODI,R1  FF
 0977 2719 04 03  ENDCH LODI,R0  EXX
 0978 271B 0D E4 63  STRA,R1  *TMA,I
 0979 271E 1F 26 AE  BCTA,UN
 0980 2721 *      ENDCH LODI,R0  EXX
 0981 2721 3F 23 A3  CHRACK BSTA,UN
 0982 2724 16    RETC,LT
 0983 2725 04 01  LODI,R0  1
 0984 2727 06 02  LODI,R2  2
 0985 2729 3F 24 03  BSTA,UN
 0986 272C 17    SUPANY
 0987 272D ON    RETC,UN
 0988 272D *      PRNT   O
 0989 272D *      ON
 0990 272D *      *      FLOATING POINT ROUTINE EQUATES
 0991 272D *
 0992 272D *
 0993 272D IEN   EQU   4      LENGTH (IN BYTES) OF A FLOATING PT NUMBER
 0994 272D LEN2  EQU   LEN+LEN 2 X THE LENGTH
 0995 272D LEN4  EQU   LEN2+LEN2 4 X THE LENGTH
 0996 272D LEN8  EQU   LEN4+LEN4 8 X THE LENGTH
 0997 272D FLEN  EQU   LEN8-7 USED IN THE MULTIPLY ROUTINE
 0998 272D DLEN  EQU   LEN8-1 USED IN THE DIVIDE ROUTINE
 0999 272D *
 1000 272D *
 1001 272D *      MAKE THE INPT POINTER EQUAL TO THE CURA POINTER IN THE EDITOR
 1002 272D *
 1003 272D INFTR EQU   CURA
 1004 272D *
 1005 272D *
 1006 272D *
 1007 272D *      DIRCUR SETS UP THE CURSOR ADDRESS TO LINE 14 POS 4
 1008 272D *
 1009 272D DIRCUR EQU   10
 1010 272D DIRCUR EQU   4E
 1011 272D DIRCUR EQU   4
 1012 272D *
 1013 272D *
 1014 272D *      GENERAL DEFINITIONS
 1015 272D *
 1016 272D *
 1017 272D SDFLT EQU   A      DEFAULT LENGTH OF STRING IF NOT DIMENSIONED
 1018 272D CR    EQU   ED      CARRIAGE RETURN
 1019 272D 00 00 00 INTSTG RES   4
 1020 2731 00 00 00 FCSIG RES   4
 1021 2735 00      DATA   00      KEEP THIS IN FOR THE PRINT ROUTINE
 1022 2736 00 00 00 NAMPUF RES   F
 1023 2745 00 00 00 ADR   RES   2
 1024 2747 00      FLAG   RES   1
 1025 2748 00 00 00 OPA   RES   LEN
 1026 274C 00      SIGN   RES   1
 1027 274F 00 00 00 OFB   RES   LEN

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LINE ADDR B1 R2 R3 LABEL OPCODE OPERAND

1028	2755	00 00 00	CPSIK	RFS	10
1029	2765	00 00 00	LIN	RFS	4
1030	2769	00 00 00	LINNUM	RFS	4
1031	276D	00 00 00	INBUF	RFS	14
1032	2781	*			
1033	2781	*			
1034	2781	CC CC C4	BASIC	L0DA,R0	TEST GET START OF BASIC'S RAM
1035	2784	CC 15 24	STRA,R0	TABEND	INITIALIZE END OF VARIABLE TABLE
1036	2784	CC 15 24	STRA,R0	ENDRAN	GET THE END OF RAM LOCATION
1037	2787	CC 05 05	L0DA,R0	SP	INITIALIZE GOSUB STACK POINTER
1038	278A	CC 12 CF	STRA,R0	ESTART	START OF WHERE TO LOOK FOR DATA STATEMENTS
1039	278D	CC CC 03	L0DA,R0	DATPN	
1040	278D	CC CC EF	STRA,R0		
1041	2783	22	E0RZ,R0	CLEAR RO	
1042	2794	CC 08 48	STRA,R0	PLINE	NO LINE BREAKPOINT YET
1043	2797	CC 13 22	STRA,R0	PDATA	NO DATA READY YET
1044	279A	CC 1E 25	STRA,R0	TABEND+1	*-----
1045	279D	CC 0C 60	STRA,R0	DATPN+1	*----- ZERO LOW BYTES OF POINTERS
1046	27A0	CC 12 D0	STRA,R0	SP+1	*-----
1047	27A3	CC JE 64	STRA,R0	RNDSTR	
1048	27A6	CC 95 24	STRA,R0	*TABEND	
1049	27A9	3F 21 0F	*	RSTA,UN	ERASE ERASE THE SCREEN
1050	27AC	CC 07 01	CPTION L0DI,R3	1	OPTION
1051	27AC	CC 07 01	E8,A,UN	DIRWRT	WRITE IT ON DIRECTIVE LINE
1052	27AE	3F 30 9B	BSTA,UN	GETKB	GET KEY. WRITE ON SCREEN
1053	27B1	3F 25 A8	OPT1	ESC	
1054	27B4	E4 1B	COMI,R0	EDITOR	ESCAPE, DONE WITH BASIC
1055	27B6	1C 22 4F	BCTA,FQ	R	
1056	27B9	E4 52	COMI,R0	R	
1057	27BB	18 14	BCTR,FQ	NORMCP	R IS FOR NORMAL EXECUTION
1058	27ED	F4 53	COMI,R0	'S	
1059	27BF	1C 28 04	E0TA,FQ	STEPR	S IS STEP MODE
1060	27C2	E4 4C	COMI,R0	'L	
1061	27C4	1C 28 29	BCTA,FQ	BLINE	L IS TO SET BREAKPOINT LINE
1062	27C7	F4 45	COMI,R0	I	
1063	27C9	1C 28 60	BCTA,FQ	INSVS	I IS TO INSPECT VARIABLES
1064	27CC	3F 30 F6	BSTA,UN	RECUR	RECURSE
1065	27CF	1B 5E	BCTR,UN	OPTION	NO MATCH. TRY AGAIN
1066	27D1	*			
1067	27D1	07 06	NORMOP L0DI,R3	6	EXECUTING
1068	27D3	3F 32 C7	BSTA,UN	WRTM	' EXECUTING' TEST FOR KEY
1069	27D6	3F 22 4E	BSTA,UN	BEGIN	
1070	27D9	3F 30 F6	BSTA,UN	RECUR	
1071	27DC	2C 08 48	NORM1	L0DA,R0	PLINE
1072	27DF	18 11	BCTR,FQ	NORM6	NO LINE BREAKPOINT
1073	27E1	3F 33 FF	BSTA,UN	GETLIN	GET LINE NUMBER 7 ASCII
1074	27E4	05 04	L0DI,R1	4	DO 4 BYTE COMPARE
1075	27E6	AD 47 E5	NORM5	L0DA,R1	LIN. GET CHARACTER FROM STORED WORD
1076	27E9	FD 67 69	COMA,R1	LINNUM,I	CHECK FOR MATCH
1077	27EC	08 24	PCPR,FQ	NORM5	NO PATCH, EXECUTE INSTRUCTION
1078	27EE	50 76	BCTR,R1	NORM5	CHECK FOR DONE
1079	27F2	1B 18	BCTR,UN	STEP	DO, SWITCH TO STEP MODE
1080	27F4	27 12 70	NORM6	READ,KEYBOARD PORT	TEST FOR ESCAPE KEY PRESSED
1081	27F5	E4 1B	COMI,F2	ESC	
1082	27F5	08 26	BCTR,FQ	NORM7	
1083	27F7	3F 25 F8	BSTA,UN	FL	TEST FOR ESCAPE KEY PRESSED
1084	27FA	1F 27 AC	E0TA,UN	OPTION	

1086	27FF	04	27	NCN17	NCN17	NR	N	SHLN	SHLN	SHLN	SHLN
1087	2801	1F	28	98	*	BCTA,UN	EXEC	EXECUTE INSTRUCTION			
1088	2804	3F	30	86	STEPR	BSTA,UN	RECCUR	RECCUR	RECCUR	RECCUR	RECCUR
1089	2804	3F	30	86	STEPR	BSTA,UN	BEGIN	BEGIN	BEGIN	BEGIN	BEGIN
1090	2807	3F	22	4E	STEP	LODI,R3	DIRWRT	DIRWRT	DIRWRT	DIRWRT	'STEP MODE'
1091	280A	07	09	99	STEP	LODI,R3	BSTA,UN	SHINPT	SHINPT	SHINPT	SHINPT
1092	280C	3F	30	9B	*	BSTA,UN	DIRWRT	DIRWRT	DIRWRT	DIRWRT	WRITE ON DIRECTIVE LINE
1093	280F	3F	28	8B	*	BSTA,UN	SHINPT				
1094	2812	06	FF	*	*	LODI,R2	F				
1095	2814	3F	28	65	*	BSTA,UN	SHLIN	SHOW CURRENT LINE			
1096	2817	3F	30	B6	*	BSTA,UN	RECCUR	RECCUR	RECCUR	RECCUR	
1097	281A	3F	25	B2	*	BSTA,UN	PAUSE	PAUSE	PAUSE	PAUSE	WAIT FOR KEY
1098	281D	E4	1B	*	*	COMI,R0	ESC	CHECK FOR ESCAPE			
1099	281F	1C	27	AC	*	BCTA,EQ	OPTION	OPTION	OPTION	OPTION	RETURN TO OPTION
1100	2822	04	28	*	*	LODI,R0	STEP	STEP	STEP	STEP	
1101	2824	05	0A	*	*	LODI,R0	STEP	STEP	STEP	STEP	
1102	2826	1F	28	98	*	BCTA,UN	EXEC	EXEC	EXEC	EXEC	NOT ESCAPE, EXECUTE THIS INSTRUCTION
1103	2829	*	*	*	*						
1104	2829	07	0A	BLINE	*	LODI,R3	ZA				
1105	282B	3F	30	A5	*	BSTA,UN	DIRWNL	'BREAKPOINT AT LINE NUMBER '			
1106	282E	04	27	*	*	LODI,R0	LIN				
1107	2830	05	65	*	*	LODI,R1	LIN	GET BUFFER TO STORE AT			
1108	2832	06	04	*	*	LODI,R2	4	GET 4 CHARACTERS MAXIMUM			
1109	2834	3F	22	59	*	BSTA,UN	ARROW	GET STRING FROM KEYBOARD			
1110	2837	10	05	*	*	BCTR,EQ	BLINE1	NO ESCAPE PRESSED			
1111	2839	20	*	*	*	KOZR,R0	PLINE				
1112	283A	08	00	*	*	STRR,R0	RECCUR	RECCUR	RECCUR	RECCUR	
1113	283C	1B	04	*	*	BCTR,UN	RECCPT	RECCPT	RECCPT	RECCPT	
1114	283E	04	FF	*	*	PLINE1	LODI,R0	F			
1115	2840	C8	26	*	*	STRR,R0	PLINE				
1116	2842	3F	30	B6	RECCPT	BSTA,UN	RECCUR				
1117	2845	1F	27	AC	*	BCTA,UN	OPTION				
1118	2848	*	*	*	*						
1119	2848	*	*	*	*						
1120	2848	*	*	*	*						
1121	2848	00	*	PLINE	RES	1					
1122	2849	*	*	*	*						
1123	2849	*	*	*	*						
1124	2849	*	*	*	*						
1125	284C	07	0D	INSVAR	LODI,R3	OD	INSPECT VARIABLE				
1126	284E	3F	30	9B	*	BSTA,UN	DIRWRT	DIRWRT	DIRWRT	DIRWRT	WRITE ON DIRECTIVE LINE
1127	2851	04	28	FC	*	BSTA,UN	AROWCR				
1128	2851	04	28	*	*	LODI,R0	INSVRT				
1129	2852	CC	08	96	*	STRA,R0	RTNADR				
1130	2856	04	5D	*	*	LODI,R0	INSVRT				
1131	2858	C8	3D	*	*	STRR,R0	RTNADR+1				
1132	285A	1F	21	7D	*	BCTA,UN	PRINT				
1133	285C	3F	29	2F	INSVRT	BSTA,UN	RECBT				
1134	2860	3F	32	B6	INSVS	BSTA,UN	RECCUR				
1135	2863	1B	64	*	*	BCTR,UN	INSVAR				
1136	2865	*	*	*	*						
1137	2865	*	*	*	*						
1138	2865	*	*	*	*						
1139	2865	E5	50	SHLN	LODI,R1	50	SHOW 8Z CHARACTERS MAXIMUM				
1140	2867	5A	05	SHLN	PANR,R2	SHLN					
1141	2869	04	5F	*	*	LODI,R0					

LINE	ADDR	P1	B2	P3	IAPTR	OPCODE	OPRND
1142	286B	3F	21	E5		BSTA, UN	WRT
1143	286E	A6	C1			SHLINS SUBI, R2	1
1144	2870	08	97			LODR, R0	* SHPNT GET INPUT CHARACTER
1145	2872	F4	0D			COMI, R0	CR
1146	2874	14				RETC, EQ	
1147	2875	3F	21	E5		ESTA, UN	WRT PRINT CHARACTER
1148	2878	09	10			LODR, R0	SHPNT+1
1149	287A	C4	01			ADDI, R0	1
1150	287C	C8	0C			STRR, R0	SHPNT+1
1151	287E	CE	06			PCFR, EQ	SHIN2
1152	2880	08	07			LODR, R0	SHPNT
1153	2882	84	01			ADDI, R0	1
1154	2884	C8	23			STRR, R0	SHPNT
1155	2886	7C	5F			SHLINS2 BDRR, R1	SHLINS1
1156	2888	17					
1157	2889						
1158	2889						
1159	28E9						
1160	28E9	00	00			SHPNT RES	2
1161	28E9						
1162	28E9						
1163	28E9						
1164	28E9	EC	04	EF	SHINPT	LODA, R0	INPT SAVE INPUT POINTER FOR POSSIBLE ERROR
1165	28E9	08	79			STRR, R0	
1166	2890	EC	74	60		LODA, R0	INPT+1
1167	2893	C8	75			STRR, R0	SHPNT+1
1168	2895	17				RETC, UN	
1169	28E6						
1170	28E6						
1171	2896	EC	00				
1172	2896	EC	00				
1173	2898						
1174	2898						
1175	2898						
1176	2898	C8	7C		EXEC	STRR, R0	RTNADR
1177	289A	C9	7B			STRR, R1	RTNADR+1
1178	289C	0C	84	EF		LODR, R0	* INPT
1179	289F	F4	2A			COMI, R0	
1180	28A1	1C	33	CC		BCTA, EQ	SKPLIN
1181	28A4	3B	65			BSTR, UN	SHINPT
1182	28A6	3F	33	EE		BSTA, UN	GETLIN
1183	28A9	04	29			LODI, R0	COMTRL
1184	28AB	05	3A			LODI, R1	COMLBL
1185	28AD	3F	28			BSTR, UN	TABUP
1186	28AD	9C	2D	47		BCEA, EQ	LET DO IMPLIED LET IF NO COMMAND
1187	28B2	1F	A8	FA		BCTA, UN	* DST
1188	2EB5						
1189	28E6	07	00				
1190	28B7						
1191	28B7	C8	7C		TABUP	STRR, R0	TABSTG
1192	28E9	C9	7B			STRR, R1	TABSTG+1
1193	28E9	3F	31	FB	TABLÖK	PSTA, UN	SKIP SPACES
1194	28E9	3F	31	F3		BSTA, UN	INPUT POINTER NOW SET AT INPUT WORD
1195	28C1	25	FF			Lodi, R1	R1 IS INDEX FOR COMMAND TABLE
1196	28C3	3F	33	D6	GETC2	BSTA, UN	GETCHR GET NEXT CHARACTER
1197	28C6	0D	A8	B5		Loda, R1	* TABSTG, + GET CHARACTER FROM COMMAND TABLE
1198	28C9	E4	2E			COMI, R0	CHECK FOR END OF WORD

1199 28CB 1E 1E MAT
 1200 28CD E3 COMZ,R3
 1201 28CE 18 73 BCTR,EQ
 1202 28D0 0D A8 B5 GETC3
 1203 28D3 F4 2E CCMI,RO
 1204 28E5 98 79 PCFR,EQ
 1205 28D7 85 03 ADDI,R1
 1206 28D9 0D E8 B5 LODA,RI *TABSTG,I GET POSSIBLE END OF TABLE
 1207 28DC 1A 07 BCTR,LT GETC2
 1208 28DE A5 01 TABSTG,+
 1209 28E0 3F 32 00 SUBI,RI 1
 1210 28E3 1P 5E BSTA,UN RINPT
 1211 28E5 3F 32 00 GETC4 GETC2
 1212 28E8 04 01 LODI,RO 1
 1213 28EA 17 RETC,UN
 1214 28EE 0F A8 B5 GETC5 LODA,RI *TABSTG,+ GET HI BYTE OF ROUTINE ADDRESS
 1215 28EE C8 0A STRR,RO DST
 1216 28F0 0D A8 B5 LODA,RI *TABSTG,+ GET LOW BYTE OF ROUTINE ADDRESS
 1217 28F3 C8 06 STRR,RO DST+1
 1218 28F5 3F 31 DE BSTA,UN DECP
 1219 28F8 20 FORZ,RO
 1220 28F9 17 RETC,UN CLEAR CONDITION CODE BITS
 1221 28FA **
 1222 28FA **
 1223 28FA CC CC RES 2
 1224 28FA CC CC DST
 1225 28FC **
 1226 28FC **
 1227 28FC **
 1228 28FC 04 27 ARROW LODI,RO ~INBUF
 1229 28FF 05 6D LODI,RI INPUT
 1230 2900 06 13 LODI,RI 13
 1231 2902 3F 22 50 BSTA,UN ARROW
 1232 2905 9C 27 AC BCFA,EQ OPTION
 1233 2908 0F 14 LODI,RI 14
 1234 290A 0D 47 6D ACR3 START ECL SEARCH AT LAST CHARACTERS
 1235 290D 58 04 BNRN,RO INBUF,-
 1236 290F 59 79 ACR2 ACR2
 1237 2911 A5 01 BNRN,RO ACRS
 1238 2913 04 0D ACR2 LODI,RI 1
 1239 2915 CL 27 6D STRA,RI CR
 1240 2918 0C 04 5F LODA,RO INPT
 1241 291B C8 10 STRR,RO PTTEMP
 1242 291D CC 04 60 LODA,RO INPT+1
 1243 2920 C8 0C STRR,RO BTTEMP+1
 1244 2922 04 27 LODI,RO INBUF
 1245 2924 CC 04 5F STRA,RO INPT
 1246 2927 04 6D LODI,RO INBUF
 1247 2929 CC 04 60 STRA,RO INPT+1
 1248 292C 17 RETC,UN
 1249 292D **
 1250 292L **
 1251 292D **
 1252 292D **
 1253 292F **
 1254 292F **
 1255 292F **

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1246 202F 08 7C 0ECH1 LODR, R0 EISHP
1567 2031 00 74 5P STRA, R0 INPT
1578 2034 06 72 LODR, R0 BTMP+1
1245 2035 CC 04 69 STRA, R0 INPT+1
1242 2035 17 * STRA, R0 INPT41
1561 203A * RETC, UN
1243 203A * *
1264 203A 4C 45 54 COMTR1 ALIT 'LET.
1165 2037 2D 47 ACON 'LET.
1266 2040 50 52 49 ALIT
1277 2046 2F 7D, ACON 'PRINT.
1268 2048 49 46 2F ACON 'IF.
1269 204B 2E 3A ACON 'GOTO.
1270 204D 47 4F 54 ACON 'GOTO.
1271 2052 2B 49 ACON 'GOSUB.
1272 2054 47 4F 53 ACON 'GOSUB.
1273 2055 2E 3E ACON 'RETURN.
1274 205C 52 45 54 ACON 'RETURN.
1275 2063 2B 73 ACON 'INPUT.
1276 20CE 4C 4F 52 ACON 'FOR.
1277 2069 2C 87 ACON 'FOR.
1278 20C9 4E 45 58 ACON 'NEXT.
1279 2070 2D 4D ACON 'NEXT.
1280 2072 4C 4F 52 ACON 'INPUT.
1281 2078 2B 66 ACON 'INPUT.
1282 207A 44 41 54 ACON 'DATA.
1283 207F 22 66 ACON 'SKFLIN.
1284 2081 4F 52 41 ACON 'ERASE.
1285 2087 29 F9 ACON 'EPASEP.
1286 2082 52 45 41 ACON 'READ.
1287 20EF 2C 4F ACON 'EXTIN.
1288 2082 52 45 45 ACON 'PEEK.
1289 2095 24 58 ACON 'PEEK.
1290 2097 50 4F 4B ACON 'POKE.
1291 209C 2A 61 ACON 'POKE.
1292 209E 45 58 54 ACON 'EXTIN.
1293 20A4 2A 92 ACON 'EXTIN.
1294 20A5 58 54 ACON 'EXTOUT.
1295 20A5 2A 44 71 ACON 'EXTOUT.
1296 20A5 2A 44 49 4D ACON 'RESTORE.
1297 20B3 2A CA ACON 'DIM.
1298 20B5 52 45 53 ACON 'ALIT.
1299 20B7 2C 61 ACON 'ALIT.
1300 20B9 43 41 4C ACON 'ALIT.
13W1 20C4 29 EP ACON 'USIE.
1392 20CE 53 54 4F ACON 'STOP.
1393 20CB 2A 90 ACON 'STOP.
1364 20CD FF ACON 'DATA.
1375 20CF FF * *
1376 20CE * *
1377 20CE * *
1398 20CE 44 41 54 COMTR2 ALIT 'DATA.
1399 1313 29 22 ACON 'C
1314 1316 54 4F SF ACON 'TO.
1311 20D8 2F 21 ACON '1
1312 20DA 53 54 45 ACON 'STPP.

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    1313 29ED 62          ALIT      2 STOP.
    1314 29E1 53 54 4F      AC0N      3
    1315 29E6 02 03        DATA      FF
    1316 29EB FF          *          *
    1317 2929              *
    1318 29E6              *
    1319 29E9              *
    1320 29E9 3F 21 9F ERASE BSTA,UN ERASE
    1321 29E9              *
    1322 29E9              *
    1323 29E9 3F 21 9F ERASE BSTA,UN ERASE
    1324 29E9 3F 21 9F ERASE BSTA,UN ERASE
    1325 299C 15 33 C0      BCTA,UN NXTLIN
    1326 29EF              *
    1327 29EF              *
    1328 29EF              *
    1329 29EF              *
    1330 29EF              *
    1331 29EF              *
    1332 29EE              *
    1333 29EE 3F 2A OF USER BSTA,UN EVALNS GET DESTINATION
    1334 29E2 3B 08          BSTR,UN STRICT
    1335 29E4 3F 09 FA      BSTA,UN *CTEMP DO THE ASSEMBLY LANGUAGE SUBROUTINE
    1336 29F4 3F 33 C0      BCTA,UN NXTLIN
    1337 29FA              *
    1338 29EA              *
    1339 29EA              *
    1340 29EA 00 00          CTEMP RES 2
    1341 29FC              *
    1342 29FC              *
    1343 29FC              *
    1344 29FC 0E 7C          STRICT SSTR,R0 CTEMP
    1345 29EE CC 7B          SSTR,R1 CTEMP+1
    1346 2A00 17              RETC,UN
    1347 2A21              *
    1348 2A01              *
    1349 2A21              *
    1350 2A01              *
    1351 2A01              *
    1352 2A01              *
    1353 2A21              *
    1354 2A01 3B 0C          POKE BSTR,UN EVALNS GET DESTINATION LOCATION
    1355 2A03 3D 77          BSTR,UN STRICT
    1356 2A05 3F 33 F7      BSTA,UN SKPCCM
    1357 2A08 3B 05          BSTR,UN EVALNS GET DATA
    1358 2A0A 09 FF          STRR,R1 *CTEMP STORE VALUE
    1359 2A20 1F 33 C0      BCTA,UN NXTLIN
    1360 2A0F              *
    1361 2A2F              *
    1362 2A0F              *
    1363 2A0F 3F 35 4B EVALNS BSTA,UN EVAL
    1364 2A12 3B 3B          BSTR,UN NOSTR
    1365 2A14 3F 30 F5 ENS1  BSTA,UN POPCL
    1366 2A17              *
    1367 2A17              *
    1368 2A17              *
    1369 2A17 2C 13 SF DTOENI LODA,R0 CBUF1+1
    1370 2A17              *

```

1408 R0DR R1 R2 R3 L1KEL O1C0RE OR1FAND

1409 2A1A 18 2D ECTB,EG

1410 2A1C 0F 13 ED F0DA,R3 CBUFI

1411 2A1F 0E 00 R0CA,GT D10B3

1412 2A21 1F 10 COM,RS 12

1413 2A22 1D 0F P0TA,GT ER15

1414 2A23 1A 12 LODI,RS 14

1415 2A24 AS SUPZ,RS

1416 2A25 CS SWZ,RS

1417 2A2A 7E 13 C2 LODA,R2 CRUF1+3

1418 2A2D 2D 13 EF LODA,RI CRUF1+2

1419 2A32 CC 13 CE LODA,R2 CRUF1+1

1420 2A33 79 23, FRSI WC

1421 2A35 12 R0L ,R2

1422 2A36 11 R0L ,R2

1423 2A37 10 R0L ,R2

1424 2A38 1F 0A RTCE2 OCT1,RS Ø

1425 2A3A 98 83 ECER,EG DTOB1

1426 2A3C 75 78 UFSL WC

1427 2A3E 17 RETC,UN

1428 2A3F 77 21 DTOB1 FRSI,UN

1429 2A41 A7 C1 SUB1,RS 1

1430 2A43 75 01 UFSL -

1431 2A44 52 RETC,UN

1432 2A45 51 R0R ,R4

1433 2A47 1B SP PCTR,UN DTOB2

1434 2A48 22 TORZ,RS

1435 2A49 C1 STRZ,RS

1436 2A4A C1 RETC,UN

1437 2A4B 17 *

1438 2A4C *

1439 2A4C *

1440 2A4C *

1441 2A4C *

1442 2A4C *

1443 2A4C *

1444 2A4C *

1445 2A4C *

1446 2A4C *

1447 2A5B *

1448 2A5C *

1449 2A5E *

1450 2A5F *

1451 2A61 22 PEKI1 TORZ,RS

1452 2A62 22 PEKI1 ESTA,UN

1453 2A63 27 FERA,RS

1454 2A65 14 30 77 BCTA,UN

1455 2A66 27 BCTA,UN

1456 2A67 2A68 27 BCTA,UN

1457 2A69 2A70 27 BCTA,UN

1458 2A71 2A72 27 BCTA,UN

1459 2A73 2A74 27 BCTA,UN

1460 2A75 2A76 27 BCTA,UN

1461 2A77 2A78 27 BCTA,UN

1462 2A79 3E 33 F2 ESTA,UN GCVAR

1463 2A80 3E 34 67 ESTA,UN GET SOURCE LOCATION

1464 2A81 3E 62 FESTR,UN STRICT

1465 2A82 3E 74 ED ESTA,UN STROP2

1466 2A83 24 33 LODI,RS ~CRUFI

1467 2A84 25 34 ED LODI,RS CEUFI

1468 2A85 27 34 14 BS A,UN STROP1

1469 2A86 27 34 14 LODI,P3 LEN 0 4 PYTE TRANSFER

1470 2A87 3E 33 47 RSTA,UN MOVE1

1427	2A7C	1E	33	CO	*	A,UN	N/A
1428	2A7D	1F	33	C0	*	B,C,F,G,H	H,V,N,L,J,W
1429	2A7E	*					
1430	2A7F	*					
1431	2A7F	*					
1432	2A7F	*					
1433	2A7F	*					
1434	2A7F	3F	2A	0F	EXTOUT	BSTA,UN	EVALNS GFT PORT ADDRESS
1435	2A7F	3F	2A	0F	EXTOUT	STRA,RI	WRTIP+1 STORE IT IN THE FORT ADDRESS
1436	2A82	CD	0A	8C			
1437	2A85	3F	33	E7			
1438	2A88	3F	2A	0F			
1439	2A8E	D5	00		WRTIP	ESTA,UN	EVALNS GET DATA
1440	2A8D	1F	33	CO	*		
1441	2A90	*					
1442	2A90	*					
1443	2A90	*					
1444	2A90	*					
1445	2A92	*					
1446	2A92	*					
1447	2A92	*					
1448	2A90	3F	2A	0F	EXTIN	ESTA,UN	EVALNS GFT PORT ADDRESS
1449	2A93	CO	01				
1450	2A95	EE	00				
1451	2A97	1B	48				
1452	2A99	*					
1453	2A99	*					
1454	2A9C	*					
1455	2A9C	*					
1456	2A9C	*					
1457	2A99	*					
1458	2A9C	*					
1459	2A9C	07	6E		STOP	L0DI,R3	'STOPPED'
1460	2A9B	3F	32	C7			
1461	2A9E	1F	27	AC			
1462	2AA1	*					
1463	2AA1	*					
1464	2AA1	77	28		BTODNL	PPSL	WC
1465	2AA3	75	01				
1466	2AA5	75	01				
1467	2AAE	E0					
1468	2AA6	51					
1469	2AA7	06	00				
1470	2AEC	52					
1471	2AAA	07	10				
1472	2AAC	CF	07	4D			
1473	2AAF	CC	07	4E			
1474	2AB2	CE	07	4F			
1475	2ABE	CE	07	E0			
1476	2ABE	04	02				
1477	2ABD	93					
1478	2ABE	07	04				
1479	2ABE	07	04				
1480	2AC0	2F	47	4D	BTOD2	L0DA,R3	OPB,-
1481	2AC3	CE	73	ED			
1482	2ACC	E9	78				
1483	2ACB	17					

LINT RDR R2 R3 R4 R5 OPERAND

1404 2AC9 *

1405 2AC9 *

1406 2AC9 V0 C1N1G1T1G1S1E1S1

1407 2ACA *

1408 2ACA *

1409 2ACA *

1410 2ACA *

1411 2ACA *

1412 2ACA *

1413 2ACA *

DIE <VAR1> EXPRT1, VAR1...] CR

1414 2ACA *

1415 2ACA 3F 33 53 DIM

1416 2ACE C1 14 A5 STRA, R2 OPLTH

1417 2AF1 12 G5 SPSI

1418 2AF2 2AD1 C6 76 STRR, R2 DIMSTG

1419 2AF3 3F 33 F2 ESTA, UN SKFS P

1420 2AF4 17 28 COMI, R3

1421 2AF5 9C 33 C7 TCFA, EQ ERRI, UN GETSC

1422 2AF6 3F 3A AA ESTA, UN

1423 2AF7 3F 02 LODZ, R2

1424 2AF8 08 67 ST: Z, R1

1425 2AF9 02 LODB, R2 DIMSTG

1426 2AF10 03 LPSL

1427 2AF11 2AF7 ECTA, GT ERRI, UN

1428 2AF12 3F 30 EC PCTR, LT DIMST

1429 2AF13 1A 3F FORZ, R2

1430 2AF14 2A 3F STRR, R1 DIMSTG

1431 2AF15 2A 05 WC

1432 2AF16 2A 06 PSVL

1433 2AF17 1A FRL, R1

1434 2AF18 1B 02 REL, RC

1435 2AF19 1C 01 ARRL, R1

1436 2AF20 1D 05 ANDI, R1 FC

1437 2AF21 2A 03 CPSL, WC

1438 2AF22 2B 03 STRZ, R3

1439 2AF23 2B 04 ADDI, R2

1440 2AF24 2B 05 IODI, R2 40

1441 2AF25 2B 06 IODI, R2

1442 2AF26 2B 07 IODI, R2

1443 2AF27 2B 08 BSTA, UN PUSOP2

1444 2AF28 2B 09 BDRR, R1 DIM2

1445 2AF29 2B 09 BDRR, R2 DIM3

1446 2AF30 2B 09 SKSP

1447 2AF31 2B 12 COMI, R3

1448 2AF32 2B 14 ECEA, EQ ERRI,

1449 2AF33 2B 14 F9 TA BSTA, UN

1450 2AF34 2B 14 F9 TA COMI, R3

1451 2AF35 2B 14 CA BCTA, EQ DIM

1452 2AF36 2B 15 34 DE DECNT BSTA, UN DECPY

1453 2AF37 2B 15 34 DE DECNT BSTA, UN NYTLIN

1454 2AF38 2B 15 34 DE DECNT BSTA, UN

1455 2AF39 2B 15 34 DE DECNT BSTA, UN

1456 2AF40 2B 15 34 DE DECNT BSTA, UN

1457 2AF41 2B 15 34 DE DECNT BSTA, UN

1458 2AF42 2B 15 34 DE DECNT BSTA, UN

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1:4.1 2ECC 1B 61   *          F1A3,UN  PL,ED
1542 2B2F 16 61   *          F1A3,UN  PL,ED
1543 2B2E   *          F1A3,UN  PL,ED
1544 2B2F   *          F1A3,UN  PL,ED
1545 2B2F CC 92 34 PUSOP2 STRA,R0  *OP2
1546 2B31 1F 32 36 BCTA,UN  INCOP2
1547 2B34   *          BCTA,UN  INCOP2
1548 2B34   *          BCTA,UN  INCOP2
1549 2B34   *          BCTA,UN  INCOP2
1550 2B34 3F 32 D1 GPUSH BSTA,UN  DYCSP
1551 2B37 C1 92 CF  STRA,R3  *SP
1552 2B3A 17   *          RETC,UN
1553 2B3B   *          BCTA,UN  INCOP2
1554 2B3B   *          BCTA,UN  INCOP2
1555 2B3B   *          BCTA,UN  INCOP2
1556 2B3B   *          BCTA,UN  INCOP2
1557 2B3B   *          BCTA,UN  INCOP2
1558 2B3B   *          BCTA,UN  INCOP2
1559 2B3B   *          BCTA,UN  INCOP2
1560 2B3B 0F 04 60 GOSUB LODA,R3  INFT+1
1561 2B3E 3B 74   BSTR,UN  GPUSH
1562 2B40 0F 04 5F  LODA,R3  INFT
1563 2B43 3B 6F  BSTR,UN  GPUSH
1564 2B45 07 00   LODI,R3  GPUSH
1565 2B47 3B 6B  BSTR,UN  GPUSH
1566 2B49   *          BCTA,UN  INCOP2
1567 2B49   *          BCTA,UN  INCOP2
1568 2B49   *          BCTA,UN  INCOP2
1569 2B49   *          BCTA,UN  INCOP2
1570 2B49   *          BCTA,UN  INCOP2
1571 2B49   *          BCTA,UN  INCOP2
1572 2B49   *          BCTA,UN  INCOP2
1573 2B49   *          BCTA,UN  INCOP2
1574 2B49   *          BCTA,UN  INCOP2
1575 2B49   *          BCTA,UN  INCOP2
1576 2B49 3F 02  GOTO  BSTR,UN  ENDLIN
1577 2B4B 1C A8 96   BCTA,EQ  *BTNAIR
1578 2B4B 07 0F  ERR6 LODI,R3  OF
1579 2B62 1F 30 77   BCTA,UN  ERROR
1580 2B53   *          BCTA,UN  INCOP2
1581 2B53   *          BCTA,UN  INCOP2
1582 2B53   *          BCTA,UN  INCOP2
1583 2B53 3P 35 4B FNDLIN BSTA,UN  EVAL
1584 2B56 15   RETC,GT
1585 2B57 3P 2A 12   BSTA,UN  FNS
1586 2B5A 3P 29 FC  ESTA,UN  STRCP
1587 2B5D 3P 32 CB  BSTA,UN  CSINPT
1588 2B60 3P 72 4E  ESTA,UN  BEGIN
1589 2B63 3P 31 F3 COTO2 BSTA,UN  SINPT
1590 2B6C 05 FF  BSTA,UN  GETLIN
1591 2B69 05 FF  LODI,R1  FF
1592 2B6P 22   EORZ,R0
1593 2B6C C2  STRZ,R2
1594 2B6D C3  STRZ,R3
1595 2B6E 0D 27 69 GOTOC LODA,R1  LINNUM,+_
1596 2B71 10 22 94   ECTA,EG  GOJOS,+_
1597 2B74 46 0F  ANDI,R2  CF

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LINE NUMBER

LABEL

B1

B2

B3

CODE

OPERAND

CPSL

CRY

R0

WC

R1

R3

R2

R2

STRB,R2

TEMPR2

STRE,R3

TEMPR3

R0

R3

R2

R2

R0

R2

R2

R2

ADDI,R2

0

WC

CPSL

WC

COMT,R1

3

ANDI,R0

F

FDDZ,R3

GOTO3

STIRZ,R3

GOTO3

ADDI,R2

0

BCFR,EQ

GOTO4

COMA,R3

GOTO4

BCFR,EQ

GOTO4

B3TA,UN

RIAPT

FORZ,R0

RETU,UN

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LINE ADDRESS B1 B2 B3 LABELS OF RECORDS OF EX-EMPLOYEES

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1645 2B06 * L0DA,R3 *SP
1656 2BC5 2F 92 CF GPOP L0DA,R3 *SP
1657 2BC9 1F 32 9D ECTA,UN INCSP
1658 2BCC * *
1659 2BCC * *
1660 2BCC * *
1661 23CC * *
1662 2BCC * *
1663 2BCC * *
1664 2BCC * *
1665 2BC0 3F 02 24 INPUT BSTA,UN LYCR
1666 2BCF 3F 33 10 BSTA,UN SKFSP SKIP THE SPACES
1667 2B12 F7 00 COMI,R3 CR
1668 2BD4 98 EQ PCTR,EQ INPUT0
1669 2BD6 3F 31 DE BSTA,UN DECPY
1670 2BD9 1F 1F BSTA,UN INPUT3
1671 2BDB F7 27 INPUT0 COMI,R3
1672 2BDE 1U 2B EA BSTA,EQ INPUT1
1673 2BFD 04 3F LODI,RO ??
1674 2BE2 3F 21 15 BSTA,UN WRT
1675 2BE5 3F 31 DE BSTA,UN DECPY
1676 2BED 1B 93 BCTR,UN INPUT2
1677 2BEA 3F 32 33 INPUT1 ESTA,UN PRINTO
1678 2BED 04 28 INPUT2 LODI,RO
1679 2BEF 3F 21 F5 BSTA,UN WRT
1680 2B12 34 67 BSTA,UN GCVAR
1681 2BFF 18 0D PCTR,EQ INPFT
1682 2BF7 1F 2C 25 BCTR,LT INSTR
1683 2BEA 34 25 B2 INPUT3 ESTA,UN PAUSE
1684 2BED F7 2E COMI,R3 CR
1685 2BEF 08 79 BCTR,EQ INPUT3
1686 2C61 1F 33 C7 BCTR,UN NXTLIN
1687 2C94 3F 29 FC INPFT BSTA,UN STRICT
1688 2C97 3F 28 FC BSTA,UN AROWCR
1689 2C6A 3F 35 4B BSTA,UN EVAL
1690 2C0D 18 0E BCTR,EQ INPUT1 NORMAL
1691 2C05 3F 33 10 BSTA,UN RECBT RECOVER INPUT POINTER
1692 2C12 3F 33 10 INDEL ESTA,UN SKPSP SKIP SPACES
1693 2C15 E7 2C ED BCTR,EQ INPUT2 SEE IF COMMA (DELIMITER)
1694 2C17 1C 2B ED BCTR,UN DECNT
1695 2C1A 1F 2B 1F BCTR,UN RECBT RECOVER INPUT POINTER
1696 2C1D 3F 29 2F INPFT1 BSTA,UN POPCT
1697 2C20 3F 2C D2 BSTA,UN INDEL
1698 2C22 1B 6D ECTR,UN STROPZ
1699 2C25 3F 34 0D INSTR BSTA,UN INBUF
1700 2C28 04 27 LODI,RO INBUF
1701 2C2A 05 6D LODI,RO 13
1702 2C2C 26 12 LODI,RO 13
1703 2C23 3F 22 59 BSTA,UN ARROW
1704 2C31 9C 27 AC BCEA,EQ OPTION
1705 2C34 05 14 LODI,RO 14
1706 2C36 0D 47 6D INSTR1 LODA,R1 INBUF
1707 2C39 58 74 BRNR,R0 INSTR2
1708 2C3B 56 79 BRNP,R1 INSTR1
1709 2C3D 25 29 LCDI,R1 SDFLT-1
1710 2C3F 85 01 INSTR2 ADDI,R1 1
1711 2C41 0C 14 GF LODA,R0 CREATE

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LIN#	ADR	R1	B2	R3	IMM1	IMM2	OPCODE	OPRND
1712	2044 1B	0C					ECSE,FC	INST3
1713	2040 3F	34	A7				ESTA,UN	GCSTRA
1714	2049 4F	14	AS				LODA,B3	GSSTG
1715	204C 3F	14	AS				STRA,B3	OILTH
1716	204F 3F	34	PD				PSTA,UN	STACP2
1717	2050 34	27						STHPC2
1718	2054 0D	6D						INP1,6D
1719	2055 3F	34	14				LODI,R1	INRUE
1720	2056 3F	35	43				ESTA,UN	STOR1
1721	2057 4C	1F	36				PSTA,UN	POVER
1722	2058 2C	01	12	*			ECQA,UN	INDEL
1723	2059 2C	02	13	*				
1724	205A 2C	03	22	*				
1725	205B 2C	04	23	*				
1726	205C 2C	05	24	*				
1727	205D 2C	06	25	*				
1728	205E 2C	07	26	*				
1729	205F 2C	08	27	*				
1730	2060 2C	09	28	*				
1731	2061 2C	0A	29	*				
1732	2062 2C	0B	2A	*				
1733	2063 2C	0C	2B	*				
1734	2064 2C	0D	2C	*				
1735	2065 2C	0E	2D	*				
1736	2066 2C	0F	2E	*				
1737	2067 2C	10	2F	*				
1738	2068 2C	11	30	*				
1739	2069 2C	12	31	*				
1740	206A 2C	13	32	*				
1741	206B 2C	14	33	*				
1742	206C 2C	15	34	*				
1743	206D 2C	16	35	*				
1744	206E 2C	17	36	*				
1745	206F 2C	18	37	*				
1746	2070 2C	19	38	*				
1747	2071 2C	20	39	*				
1748	2072 2C	21	40	*				
1749	2073 2C	22	41	*				
1750	2074 2C	23	42	*				
1751	2075 2C	24	43	*				
1752	2076 2C	25	44	*				
1753	2077 2C	26	45	*				
1754	2078 2C	27	46	*				
1755	2079 2C	28	47	*				
1756	207A 2C	29	48	*				
1757	207B 2C	30	49	*				
1758	207C 2C	31	50	*				
1759	207D 2C	32	51	*				
1760	207E 2C	33	52	*				
1761	207F 2C	34	53	*				
1762	2080 2C	35	54	*				
1763	2081 2C	36	55	*				
1764	2082 2C	37	56	*				
1765	2083 2C	38	57	*				
1766	2084 2C	39	58	*				
1767	2085 2C	40	59	*				
1768	2086 2C	41	60	*				
1769	2087 2C	42	61	*				
1770	2088 2C	43	62	*				
1771	2089 2C	44	63	*				
1772	208A 2C	45	64	*				
1773	208B 2C	46	65	*				
1774	208C 2C	47	66	*				
1775	208D 2C	48	67	*				
1776	208E 2C	49	68	*				
1777	208F 2C	50	69	*				
1778	2080 2C	51	70	*				
1779	2081 2C	52	71	*				
1780	2082 2C	53	72	*				
1781	2083 2C	54	73	*				
1782	2084 2C	55	74	*				
1783	2085 2C	56	75	*				
1784	2086 2C	57	76	*				
1785	2087 2C	58	77	*				
1786	2088 2C	59	78	*				
1787	2089 2C	60	79	*				
1788	208A 2C	61	80	*				
1789	208B 2C	62	81	*				
1790	208C 2C	63	82	*				
1791	208D 2C	64	83	*				
1792	208E 2C	65	84	*				
1793	208F 2C	66	85	*				
1794	2080 2C	67	86	*				
1795	2081 2C	68	87	*				
1796	2082 2C	69	88	*				
1797	2083 2C	70	89	*				
1798	2084 2C	71	90	*				
1799	2085 2C	72	91	*				
1800	2086 2C	73	92	*				
1801	2087 2C	74	93	*				
1802	2088 2C	75	94	*				
1803	2089 2C	76	95	*				
1804	208A 2C	77	96	*				
1805	208B 2C	78	97	*				
1806	208C 2C	79	98	*				
1807	208D 2C	80	99	*				
1808	208E 2C	81	00	*				
1809	208F 2C	82	01	*				
1810	2080 2C	83	02	*				
1811	2081 2C	84	03	*				
1812	2082 2C	85	04	*				
1813	2083 2C	86	05	*				
1814	2084 2C	87	06	*				
1815	2085 2C	88	07	*				
1816	2086 2C	89	08	*				
1817	2087 2C	90	09	*				
1818	2088 2C	91	0A	*				
1819	2089 2C	92	0B	*				
1820	208A 2C	93	0C	*				
1821	208B 2C	94	0D	*				
1822	208C 2C	95	0E	*				
1823	208D 2C	96	0F	*				
1824	208E 2C	97	10	*				
1825	208F 2C	98	11	*				
1826	2080 2C	99	12	*				
1827	2081 2C	00	13	*				
1828	2082 2C	01	14	*				
1829	2083 2C	02	15	*				
1830	2084 2C	03	16	*				
1831	2085 2C	04	17	*				
1832	2086 2C	05	18	*				
1833	2087 2C	06	19	*				
1834	2088 2C	07	20	*				
1835	2089 2C	08	21	*				
1836	208A 2C	09	22	*				
1837	208B 2C	0A	23	*				
1838	208C 2C	0B	24	*				
1839	208D 2C	0C	25	*				
1840	208E 2C	0D	26	*				
1841	208F 2C	0E	27	*				
1842	2080 2C	0F	28	*				
1843	2081 2C	10	29	*				
1844	2082 2C	11	30	*				
1845	2083 2C	12	31	*				
1846	2084 2C	13	32	*				
1847	2085 2C	14	33	*				
1848	2086 2C	15	34	*				
1849	2087 2C	16	35	*				
1850	2088 2C	17	36	*				
1851	2089 2C	18	37	*				
1852	208A 2C	19	38	*				
1853	208B 2C	20	39	*				
1854	208C 2C	21	40	*				
1855	208D 2C	22	41	*				
1856	208E 2C	23	42	*				
1857	208F 2C	24	43	*				
1858	2080 2C	25	44	*				
1859	2081 2C	26	45	*				
1860	2082 2C	27	46	*				
1861	2083 2C	28	47	*				
1862	2084 2C	29	48	*				
1863	2085 2C	30	49	*				
1864	2086 2C	31	50	*				
1865	2087 2C	32	51	*				
1866	2088 2C	33	52	*				
1867	2089 2C	34	53	*				
1868	208A 2C	35	54	*				
1869	208B 2C	36	55	*				
1870	208C 2C	37	56	*				
1871	208D 2C	38	57	*				
1872	208E 2C	39	58	*				
1873	208F 2C	40	59	*				
1874	2080 2C	41	60	*				
1875	2081 2C	42	61	*				
1876	2082 2C	43	62	*				
1877	2083 2C	44	63	*				
1878	2084 2C	45	64	*				
1879	2085 2C	46	65	*				
1880	2086 2C	47	66	*				
1881	2087 2C	48	67	*				
1882	2088 2C	49	68	*				
1883	2089 2C	50	69	*				
1884	208A 2C	51	70	*				
1885	208B 2C	52	71	*				
1886	208C 2C	53	72	*				
1887	208D 2C	54	73	*				
1888	208E 2C	55	74	*				
1889	208F 2C	56	75	*				
1890	2080 2C	57	76	*				
1891	2081 2C	58	77	*				
1892	2082 2C	59	78	*				
1893	2083 2C	60	79	*				
1894	2084 2C	61	80	*				
1895	2085 2C	62	81	*				
1896	2086 2C	63	82	*				
1897	2087 2C	64	83	*				
1898	2088 2C	65						

	2	3F	2A	4C	R	UN	NO	
1770	2CA6	3F	20	22	ESTA,UN	FOFCI		
1771	2CA6	24	25		LODI,R0	COFT2		
1772	2CA2	05	CE		LODI,R1	COMTB2		
1773	2CAD	3F	28	B7	ESTA,UN	TABUP		
1774	2CB2	GC	33	07	ECFA,FQ	ERR1		
1775	2CB3	GC	28	F8	LODA,R0	DST+1		
1776	2CB6	F4	01		CONI,R0	1		
1777	2CB9	9C	33	C7	PCFA,EQ	ERR1		
1778	2CB3	3F	21	DB	ESTA,UN	SKPDEC		
1779	2CB5	0F	24	62	LODA,R3	INPT+1		
1780	2CC1	3F	2B	34	ESTA,UN	GPUSH		
1781	2CC4	0F	04	5F	LCDA,R3	INPT		
1782	2CC9	3F	2B	34	ESTA,UN	GPUSH		
1783	2CCA	07	FB		LODI,R3	TP		
1784	2CC6	3F	2B	34	ES,A,UN	GFUSH		
1785	2CCF	1F	33	CC	PCTA,UN	SKPLIN		
1786	2CD2	*	*	*				
1787	2CD2	*	*	*				
1788	2CL2	0C	0S	FA	POFCI	LODA,R0	CTEMP	
1789	2CD2	0D	29	FB	LODA,R1	CTEMP+1		
1790	2CD5	0D	29	FB	POF			
1791	2CD8	1F	32	45	BCTA,UN	POP		
1792	2CFE	*	*	*				
1793	2CDB	*	*	*				
1794	2CDB	*	*	*				
1795	2CDB	*	*	*				
1796	2CDB	*	*	*				
1797	2CDB	*	*	*				
1798	2CDB	3F	34	67	READ	< VAR> (,< VAR>...)	CR	
1799	2CDB	1A	1B		ESTA,UN	GCVAR	GET DESTINATION	
1800	2CDB	1L	2A	5	PCTP,LT	RDSTR		
1801	2CE0	1L	2A	5	ECIA,GT	FR4	NO DESTINATION	
1802	2CF3	3F	28	FC	ESTA,UN	SPRCT		
1803	2CE6	3F	32	E3	ESTA,UN	GETDAT	GET NEXT DATA	
1804	2CE9	3L	2A	4F	ESTA,UN	NOSTR		
1805	2CEC	3B	64		ESTA,UN	POPC	DESTINATION <-- DATA	
1806	2CFE	3F	33	EE	ADDFL	BCTA,UN	SKPSP	
1807	2CF1	E7	2C		COMI,RS	?	CHECK FOR COMMA	
1808	2C13	18	66		ECTR,EG	READ	IF SO, GET MORE DATA	
1809	2CF5	3F	31	DE	ESTA,UN	DEFCT	NO BACK UP AND RETURN	
1810	2CF6	1F	33	00	BCTA,UN	NXTLIN		
1811	2CFB	*	*	*				
1812	2CFB	3F	34	2D	RDSTR	ESTA,UN	STROP2	
1813	2CFE	EC	14	3F	LODA,R0	CREATD		
1814	2101	GG	03		ECFR,FQ	RESTR2		
1815	2102	CE	14	A5	STRA,R2	OPLTH	SAVE LENGTH	
1816	2B06	3F	32	F3	RDSTR2	ESTA,UN	GETDAT	GET NEXT DATA
1817	2B2C	7F	2D	40	ESTA,UN	NOFFT		
1818	2B2C	7C	12	23	LODA,R0	OPI		
1819	2B2F	ED	12	24	LODA,P1	OP1+1		
1820	7B12	3F	29	WC	BSTA,UN	STRECT		
1821	2B16	2F	14	SE	LCDA,R3	CREATED		
1822	2B16	2F	18	1A	BCTP,FQ	RESTR3		
1823	2D1A	02			LODZ,R2			
1824	2D15	C1			SIR7,F1			
1825	2D1C	3F	34	AP	ESTA,UN	GCSTRA		

LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
1636	2D1F	3F	34	6D		ESTA,UN	STROP2
1637	2E28	28	68	FA		LODA,B2	CTEMP1
1638	2E25	2B	69	FB		LODA,B1	STROP1
1639	2D1C8	3F	34	14		ESTA,UN	CCSSTG
1640	2D1AB	2F	14	A6		LODA,B3	MOVBL
1641	2D1E1	3F	32	47		ESTA,UN	REDEL
1642	2D1A1	14	2C	FE		PCTA,UN	NO LENGTH MATCH
1643	2D1E3	3F	14	A6	ESTR3	CUNA,B2	UPLH
1644	2D1E7	9C	30	5A		PCTA,UN	NO MATCHJ.
1645	2D1E5	21	35	43		ECFA,EQ	LENGTH MISMATCH
1646	2D1E6	21	35	43		ESTA,UN	MOVBL
1647	2D1E7	1F	2C	FF		PCTA,UN	DESTINATION DATA
1648	2D1E9	21	4F	*		PCTA,UN	REDEL
1649	2D1E9	21	4F	*		PCTA,UN	*
1650	2D1E9	21	4F	*		PCTA,UN	*
1651	2D1E9	21	4F	*		PCTA,UN	*
1652	2D1E9	21	4F	*		PCTA,UN	*
1653	2D1E9	21	4F	*		PCTA,UN	*
1654	2D1E9	21	4F	*		PCTA,UN	*
1655	2D1E9	21	4F	*		PCTA,UN	*
1656	2D1E9	21	4F	*		PCTA,UN	*
1657	2D1E9	21	4F	*		PCTA,UN	*
1658	2D1E9	21	4F	*		PCTA,UN	*
1659	2D1E9	21	4F	*		PCTA,UN	*
1660	2D1E9	21	4F	*		PCTA,UN	*
1661	2D1E9	21	4F	*		PCTA,UN	*
1662	2D1E9	21	4F	*		PCTA,UN	*
1663	2D1E9	21	4F	*		PCTA,UN	*
1664	2D1E9	21	4F	*		PCTA,UN	*
1665	2D1E9	21	4F	*		PCTA,UN	*
1666	2D1E9	21	4F	*		PCTA,UN	*
1667	2D1E9	21	4F	*		PCTA,UN	*
1668	2D1E9	21	4F	*		PCTA,UN	*
1669	2D1E9	21	4F	*		PCTA,UN	*
1670	2D1E9	21	4F	*		PCTA,UN	*
1671	2D1E9	21	4F	*		PCTA,UN	*
1672	2D1E9	21	4F	*		PCTA,UN	*
1673	2D1E9	21	4F	*		PCTA,UN	*
1674	2D1E9	21	4F	*		PCTA,UN	*
1675	2D1E9	21	4F	*		PCTA,UN	*
1676	2D1E9	21	4F	*		PCTA,UN	*
1677	2D1E9	21	4F	*		PCTA,UN	*
1678	2D1E9	21	4F	*		PCTA,UN	*
1679	2D1E9	21	4F	*		PCTA,UN	*
1680	2D1E9	21	4F	*		PCTA,UN	*
1681	2D1E9	21	4F	*		PCTA,UN	*
1682	2D1E9	21	4F	*		PCTA,UN	*
1683	2D1E9	21	4F	*		PCTA,UN	*
1684	2D1E9	21	4F	*		PCTA,UN	*
1685	2D1E9	21	4F	*		PCTA,UN	*
1686	2D1E9	21	4F	*		PCTA,UN	*
1687	2D1E9	21	4F	*		PCTA,UN	*
1688	2D1E9	21	4F	*		PCTA,UN	*
1689	2D1E9	21	4F	*		PCTA,UN	*
1690	2D1E9	21	4F	*		PCTA,UN	*
1691	2D1E9	21	4F	*		PCTA,UN	*
1692	2D1E9	21	4F	*		PCTA,UN	*
1693	2D1E9	21	4F	*		PCTA,UN	*
1694	2D1E9	21	4F	*		PCTA,UN	*
1695	2D1E9	21	4F	*		PCTA,UN	*
1696	2D1E9	21	4F	*		PCTA,UN	*
1697	2D1E9	21	4F	*		PCTA,UN	*
1698	2D1E9	21	4F	*		PCTA,UN	*
1699	2D1E9	21	4F	*		PCTA,UN	*
1700	2D1E9	21	4F	*		PCTA,UN	*
1701	2D1E9	21	4F	*		PCTA,UN	*
1702	2D1E9	21	4F	*		PCTA,UN	*
1703	2D1E9	21	4F	*		PCTA,UN	*
1704	2D1E9	21	4F	*		PCTA,UN	*
1705	2D1E9	21	4F	*		PCTA,UN	*
1706	2D1E9	21	4F	*		PCTA,UN	*
1707	2D1E9	21	4F	*		PCTA,UN	*
1708	2D1E9	21	4F	*		PCTA,UN	*
1709	2D1E9	21	4F	*		PCTA,UN	*
1710	2D1E9	21	4F	*		PCTA,UN	*
1711	2D1E9	21	4F	*		PCTA,UN	*
1712	2D1E9	21	4F	*		PCTA,UN	*
1713	2D1E9	21	4F	*		PCTA,UN	*
1714	2D1E9	21	4F	*		PCTA,UN	*
1715	2D1E9	21	4F	*		PCTA,UN	*
1716	2D1E9	21	4F	*		PCTA,UN	*
1717	2D1E9	21	4F	*		PCTA,UN	*
1718	2D1E9	21	4F	*		PCTA,UN	*
1719	2D1E9	21	4F	*		PCTA,UN	*
1720	2D1E9	21	4F	*		PCTA,UN	*
1721	2D1E9	21	4F	*		PCTA,UN	*
1722	2D1E9	21	4F	*		PCTA,UN	*
1723	2D1E9	21	4F	*		PCTA,UN	*
1724	2D1E9	21	4F	*		PCTA,UN	*
1725	2D1E9	21	4F	*		PCTA,UN	*
1726	2D1E9	21	4F	*		PCTA,UN	*
1727	2D1E9	21	4F	*		PCTA,UN	*
1728	2D1E9	21	4F	*		PCTA,UN	*
1729	2D1E9	21	4F	*		PCTA,UN	*
1730	2D1E9	21	4F	*		PCTA,UN	*
1731	2D1E9	21	4F	*		PCTA,UN	*
1732	2D1E9	21	4F	*		PCTA,UN	*
1733	2D1E9	21	4F	*		PCTA,UN	*
1734	2D1E9	21	4F	*		PCTA,UN	*
1735	2D1E9	21	4F	*		PCTA,UN	*
1736	2D1E9	21	4F	*		PCTA,UN	*
1737	2D1E9	21	4F	*		PCTA,UN	*
1738	2D1E9	21	4F	*		PCTA,UN	*
1739	2D1E9	21	4F	*		PCTA,UN	*
1740	2D1E9	21	4F	*		PCTA,UN	*
1741	2D1E9	21	4F	*		PCTA,UN	*
1742	2D1E9	21	4F	*		PCTA,UN	*
1743	2D1E9	21	4F	*		PCTA,UN	*
1744	2D1E9	21	4F	*		PCTA,UN	*
1745	2D1E9	21	4F	*		PCTA,UN	*
1746	2D1E9	21	4F	*		PCTA,UN	*
1747	2D1E9	21	4F	*		PCTA,UN	*
1748	2D1E9	21	4F	*		PCTA,UN	*
1749	2D1E9	21	4F	*		PCTA,UN	*
1750	2D1E9	21	4F	*		PCTA,UN	*
1751	2D1E9	21	4F	*		PCTA,UN	*
1752	2D1E9	21	4F	*		PCTA,UN	*
1753	2D1E9	21	4F	*		PCTA,UN	*
1754	2D1E9	21	4F	*		PCTA,UN	*
1755	2D1E9	21	4F	*		PCTA,UN	*
1756	2D1E9	21	4F	*		PCTA,UN	*
1757	2D1E9	21	4F	*		PCTA,UN	*
1758	2D1E9	21	4F	*		PCTA,UN	*
1759	2D1E9	21	4F	*		PCTA,UN	*
1760	2D1E9	21	4F	*		PCTA,UN	*
1761	2D1E9	21	4F	*		PCTA,UN	*
1762	2D1E9	21	4F	*		PCTA,UN	*
1763	2D1E9	21	4F	*		PCTA,UN	*
1764	2D1E9	21	4F	*		PCTA,UN	*
1765	2D1E9	21	4F	*		PCTA,UN	*
1766	2D1E9	21	4F	*		PCTA,UN	*
1767	2D1E9	21	4F	*		PCTA,UN	*
1768	2D1E9	21	4F	*		PCTA,UN	*
1769	2D1E9	21	4F	*		PCTA,UN	*
1770	2D1E9	21	4F	*		PCTA,UN	*
1771	2D1E9	21	4F	*		PCTA,UN	*
1772	2D1E9	21	4F	*		PCTA,UN	*
1773	2D1E9	21	4F	*		PCTA,UN	*
1774	2D1E9	21	4F	*		PCTA,UN	*
1775	2D1E9	21	4F	*		PCTA,UN	*
1776	2D1E9	21	4F	*		PCTA,UN	*
1777	2D1E9	21	4F	*		PCTA,UN	*
1778	2D1E9	21	4F	*		PCTA,UN	*
1779	2D1E9	21	4F	*		PCTA,UN	*
1780	2D1E9	21	4F	*		PCTA,UN	*
1781	2D1E9	21	4F	*		PCTA,UN	*
1782	2D1E9	21	4F	*		PCTA,UN	*
1783	2D1E9	21	4F	*		PCTA,UN	*
1784	2D1E9	21	4F	*		PCTA,UN	*
1785	2D1E9	21	4F	*		PCTA,UN	*
1786	2D1E9	21	4F	*		PCTA,UN	*
1787	2D1E9	21	4F	*		PCTA,UN	*
1788	2D1E9	21	4F	*		PCTA,UN	*
1789	2D1E9	21	4F	*		PCTA,UN	*
1790	2D1E9	21	4F	*		PCTA,UN	*
1791	2D1E9	21	4F	*		PCTA,UN	*
1792	2D1E9	21	4F	*		PCTA,UN	*
1793	2D1E9	21	4F	*		PCTA,UN	*
1794	2D1E9	21	4F	*		PCTA,UN	*
1795	2D1E9	21	4F	*		PCTA,UN	*
1796	2D1E9	21	4F	*		PCTA,UN	*
1797	2D1E9	21	4F	*		PCTA,UN	*
1798	2D1E9	21	4F	*		PCTA,UN	*
1799	2D1E9	21	4F	*		PCTA,UN	*
1800	2D1E9	21	4F	*		PCTA,UN	*
1801	2D1E9	21	4F	*		PCTA,UN	*
1802	2D1E9	21	4F	*		PCTA,UN	*
1803	2D1E9	21	4F	*		PCTA,UN	*
1804	2D1E9	21	4F	*		PCTA,UN	*
1805	2D1E9	21	4F	*		PCTA,UN	*
1806	2D1E9	21	4F	*		PCTA,UN	*
1807	2D1E9	21	4F	*		PCTA,UN	*
1808	2D1E9	21	4F	*		PCTA,UN	*
1809	2D1E9	21	4F	*		PCTA,UN	*
1810	2D1E9	21	4F	*		PCTA,UN	*
1811	2D1E9	21	4F	*		PCTA,UN	*
1812	2D1E9	21	4F	*		PCTA,UN	*
1813	2D1E9	21	4F	*		PCTA,UN	*
1814	2D1E9	21	4F	*		PCTA,UN	*
1815	2D1E9	21	4F	*		PCTA,UN	*
1816	2D1E9	21	4F	*		PCTA,UN	*
1817	2D1E9	21	4F	*		PCTA,UN	*
1818	2D1E9	21	4F	*		PCTA,UN	*
1819	2D1E9	21	4F	*		PCTA,UN	*
1820	2D1E9	21	4F	*		PCTA,UN	*
1821	2D1E9	21	4F	*		PCTA,	

LINE ADDR #1 E2 E3 LABEL CPCCE CPER&D

1047 2E15 CD ED FF *INTER3,I

1E91 2E16 2E78 3F 33 65 SAYST,11 NEWTS

1E92 2E1A 3F 33 65 PSTA,UN COPNIN

1E93 2E1D 2F 22 OUTRS LT

1E94 2E1F 1A 13 ECTE,EC HEATS

1E95 2E21 05 04 FCTI,RI NTERH1,-

1E96 2E23 91 4F FC NXYTF DOTA,PI NTERH1,-

1E97 2E25 03 34 SYAZ,AZ

1E98 2E2A 7C 27 ESTA,UN GEUSH

1E99 2E2C 27 7F ENRKA,PI NEXTG

1E9A 2E2E 3F 28 34 LDTI,53 FF

1E9B 2E2F 23 C2 PSTA,UN GUPSHI

1E9C 2E31 1F 33 C0 ECTA,UN NATLIN

1E9D 2E34 3F 25 16 NXYT4 SYAZ,UN CHINE

1E9E 2E37 1F 33 C0 PSTA,UN NATLIN

1E9F 2E3A 7C 27 ENRKA,PI

1E9A 2E3B 7C 27 ZTFA

1E9B 2E3C 7C 27 ZTFA

1E9C 2E3D 7C 27 ZTFA

1E9D 2E3E 3F 35 48 IX

1E9E 2E3F 1A 21 ECTE,LT IFSTR

1E9F 2E40 1D 2A 53 SYAZ,AZ

1E9A 2E42 3F 34 1F PSTA,UN GETL0P

1E9B 2E43 3F 2A 4C BSTA,UN ENOSTR

1E9C 2E44 3F 2D 23 PSTA,UN POPC2

1E9D 2E45 3F 3C 45 PSTA,UN GET SECOND ARGUMENT FROM STACK

1E9E 2E46 3F 33 65 PSTA,UN P01C1

1E9F 2E47 3F 33 65 PSTA,UN P01C1

1E9A 2E48 3F 33 65 PSTA,UN COFLIN

1E9B 2E49 3F 33 65 PSTA,UN DO FLOATING POINT COMPARE

1E9C 2E4A 3F 33 65 *

1E9D 2E4B 1F 14 13 IFLOC

1E9E 2E4C 1C 48 SE C0TA,RC L0P1

1E9F 2E4D 1C 48 SE *RTNADR

1E9A 2E4E 1F 14 1C COMA,E3 L0F2

1E9B 2E4F 1C 96 *RTNAD

1E9C 2E50 1F 33 65 BCTA,UN SKFLIN

1E9D 2E51 *

1E9E 2E52 1F 14 AS IFSTR

1E9F 2E53 3F 34 14 PSTA,UN OILTH

1E9A 2E54 3F 34 14 STCP1

1E9B 2E55 3F 34 14 PSTA,UN GETL0P

1E9C 2E56 3F 34 14 PSTA,UN EVAL

1E9D 2E57 3F 35 48 NOFF

1E9E 2E58 3F 35 48 BSTA,UN NOFF

1E9F 2E59 3F 35 48 COMA,R2 OFLTH,

1E9A 2E60 3F 35 48 *

1E9B 2E61 2D 48 COMA,R2

1E9C 2E62 1F 14 AS IFLOC

1E9D 2E63 9C 30 SA P01C1

1E9E 2E64 2E75 3F 34 CP ER3, LENGTH NOT SAME LENGTH MISMATCH ERROR

1E9F 2E76 3F 34 CP STCP2

1E9A 2E77 3F 34 49 P01C1, LENGTH NOT SAME LENGTH MISMATCH ERROR

1E9B 2E78 1B 54 P01C1, UN DO COMPARE

1E9C 2E79 3F 34 49 IFLOC, UN CHECK THEM

1E9D 2E7A 3F 34 49 *

1E9E 2E7B 3F 34 49 *

1E9F 2E7C 3F 34 49 *

1E9A 2E7D 3F 34 49 PRINT (FORMAT) (<EXPR>, <EXPR>, ...), CR

1E9B 2E7E 3F 34 49 *

1E9C 2E7F 3F 34 49 FORMATS: # = PRINT INTEGER

1E9D 2E80 3F 34 49 % = PRINT TAB

1E9E 2E81 3F 34 49 @ = SET SCREEN LOCATION

1E9F 2E82 3F 34 49 & = PRINT HEX

1E9A 2E83 3F 34 49 / = SUPPRESS LINE FEED

2111 2F5B 24 30 LODI, R0 '0'
 2112 2F5D 3E 21 E5 PSTA, UN WRT
 2113 2F60 04 21 LODI, R0 PRINT DECIMAL POINT BEFORE FIRST DIGIT
 2114 2F62 3E 21 E5 ESTA, UN WRT
 2115 2F65 3E 2F EA ESTA, UN MNTINT
 2116 2F6B 27 27 LODI, R0 P
 2117 2F6C AF 0E FG SUBA, R3 DIGCTR
 2118 2F6D 03 LODZ, R3
 2119 2F6E C2 STRZ, R2
 2120 2F6F 05 RRR, R3
 2121 2F72 47 03 ANDI, R3 3
 2122 2F72 05 FF LODI, R1 FF
 2123 2F74 0D 27 31 PRNTD2 LODA, R1 PRCSIG, +
 2124 2F77 E7 00 CCMI, R3 0
 2125 2F79 18 0C ECTR, EQ PRINTF3
 2126 2F7B 77 10 PPSE RS
 2127 2F7D C2 STRZ, R2
 2128 2F7E 3F 00 6A ESTA, UN HYOT
 2129 2F81 75 10 CPSL RS
 2130 2F83 A7 01 SUBI, R3 1
 2131 2F85 1B 6D BCTR, UN PRNTF2
 2132 2F87 F6 21 PRNTF3 TMI, R2 1
 2133 2F89 00 2A PCFR, EQ PRINTF4
 2134 2F8B 0D 27 31 LODA, R1 PRCSIG, +
 2135 2F8F 59 RRR, R2
 2136 2F92 50 RRR, R2
 2137 2F92 50 RRR, R2
 2138 2F91 5C RRR, R2
 2139 2F92 3F 38 4F PSTA, UN DOUT
 2140 2F95 3F 21 E3 PRNTF4 BSTA, UN WRBL
 2141 2F98 64 45 LODI, R0 'E'
 2142 2F9A 3E 21 F5 PSTA, UN WRT
 2143 2F9D 3C 1F 12 LODA, R0 EXPSGN
 2144 2FA0 3F 30 20 BSTA, UN ANYSCN
 2145 2FA3 2F 1B B5 LODA, R3 INTEXP
 2146 2FA6 3F 21 09 BSTA, UN BTODT
 2147 2FA9 1B 23 BCTR, UN PRNTD
 2148 2FA9 3Y * RRR, R2
 2149 2FAB 3Y 32 33 PENTQ ESTA, UN PRINTQ
 2150 2FAE 3F 33 EQ PRNTD ESTA, UN SKFSPP
 2151 2FB1 E7 2C COMI, R3
 2152 2FB3 19 27 BCTR, EQ PRNTD1
 2153 2FB5 F7 3B COMI, R3 ;
 2154 2FB7 19 01 ECTR, EQ PRNTD3
 2155 2FB9 1F 01 BCTA, UN PRINT2
 2156 2FB6 05 08 PRNTD1 LODI, R1 8 PRINT 8 SPACES
 2157 2FBF 04 22 PRNTD2 LODI, R0
 2158 2FC2 3F 21 E F BCTA, EQ PRINT1-3
 2159 2FC3 19 7C PDRI, R1 PRINTD2
 2160 2FCE 1F 2E 8E BCTA, UN PRINT1
 2161 2FC8 2E 81 41 PRNTD3 LODA, R2 *MCU1
 2162 2FCB 3E 04 TMI, R2 4
 2163 2FCD 1C 2E 8E BCTA, EQ PRINT1-3
 2164 2FDE 05 01 ADDI, R2
 2165 2FD2 0P 81 43 LODA, R1 *MCUR
 2166 2FD5 15 42 COMI, R1 4
 2167 2F17 SA 02 BCFR, LT PRINTD4

2155	AC 01	SU _{x,z} , ^{y,2}		
1165	PFTE 45 FF	PRINTD4	ANDI,R1	WF
1176	PFDD 65 46	IORD,R1	40	MOVE OVER 4 SPACES
1181	ZLDF 3F 21 45	BSTA,UN	SETCUR	
1172	ZPEZ 3F 20 64	BSTA,UN	WRTCUR	
1173	ZPEZ 1F 2E 8E	BCTA,UN	PRINT1	
1174	ZPEZ	*	*	
1175	ZPEZ	*	*	
1176	ZPEZ	*	*	
1177	ZPEZ 32	MNTSTG RES	-1	
1178	ZPEZ 40	DIGCTR RES	1	
1179	ZPEZ	*	*	
1180	ZPEZ	*	*	
1181	ZPEZ	*	*	
1182	ZPEZ 65 04	MINTINT LODI,R1	4	
1183	ZPEZ 20	EORZ,R0		
1184	ZPEZ C8 7A	STRR,R0	DIGCTR	
1185	ZPEZ 2D 47 2D MNTI2	LODA,R1	IN STG.-	
1186	ZPEZ E5 FF	COMI,R1	FF	
1187	ZPEZ 14	RFTC,FQ		
1188	ZPEZ 00	LODZ,PQ		
1189	ZPEZ 18 77	PCTR,EQ	MNTI2	
1190	ZPEZ C2	STRZ,R2		
1191	ZPEZ CT 0F F8	STRA,R1	MNTSTG	
1192	ZPEZ 44 F0	ANDI,R2	F0	
1193	ZPEZ 98 14	BCFR,FQ	MNTI4	
1194	ZPEZ 02	LODZ,R2		
1195	ZPEZ 3F 32 4F	ESTA,UN	TOUT	
1196	ZPEZ 0C 0F E9	LODA,R0	DIGCTR	
1197	ZPEZ 84 21	ADDI,R2	1	
1198	ZPEZ C8 5F MNTI2	STRR,R0	DIGCTR	
1199	ZPEZ 0D 47 2D	LODA,R1	INTSTG	
1200	ZPEZ E5 FF	COMI,R1	FF	
1201	ZPEZ 14	RETC,EQ		
1202	ZPEZ C2	STRZ,R2		
1203	ZPEZ CC 54	STRR,R1	MNTSTG	
1204	ZC14 3F 00 6A MNTI4	BSTA,UN	HXOT	
1205	ZC17 0C 4F	IODR,R1	MNTSTG	
1206	ZC19 0C 0F E9	LODA,R0	DIGCTR	
1207	ZC1C 84 02	ADDI,R2	2	
1208	ZC1F 1B 6S	BCTR,UN	MNTI5	
1209	ZC20	*	*	
1210	ZC20	*	*	
1211	ZC20 3F 3C F5 MNTSGN	BSTA,UN	POPC1	
1212	ZC20 3F 3C F5 MNTSGN	BSTA,UN	FIXNL	
1213	ZC20 3F 3B 1F	LODA,R0	INTSGN	
1214	ZC20 0C 1B 13	TM1,R0	80	
1215	ZC20 F4 86 ANYSGN	RCFA,FQ	WRBL	
1216	ZC20 0C 21 E3	LODI,R0		
1217	ZC20 0C 21 E5	BCTA,UN	WRT	

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2226 3033 3F 33 DS PRINTQ PSTA,UN GETCHA
2227 3033 3F 33 DS PRINTQ PSTA,R3 CTR
2228 3036 F7 CD COMI,R3 ERRL
2229 2936 1C 33 C7 COMI,R3 ERRL
2230 293E F7 27 PRNG1 PRNG1 BCTR,EC PRNG1
2231 303D 1C 06 BCTR,EC PRNG1
2232 3037 03 PRNTQ2 LODZ,R3 WRT
2233 3040 3F 21 E5 BCTR,UN PRINTQ
2234 3043 1B CE COMI,R3 GETCHA GET POSSIBLE SECOND QUOTE
2235 3045 3F 33 DS PRNG1 PSTA,UN GETCHA GET POSSIBLE SECOND QUOTE
2236 3048 F7 27 COMI,R3 DECP NO. BACKUP AND RETURN
2237 304A 9C 31 DF BCFA,EC FNTQC2
2238 304D 1F 72 BCTR,UN FNTQC2
2239 304F *
2240 304F 44 0F DCUT ANDI,R0
2241 3051 64 30 IORI,R0
2242 3051 64 30 C
2243 3052 15 21 F5 COMI,R3 WRT
2244 3056 *
2245 3056 *
2246 3056 27 10 ERR2 LODI,R3 17 TYPE MISMATCH
2247 3056 27 1D ERR2 LODI,R3 17 TYPE MISMATCH
2248 3056 1E 1D PCTR,UN ERROR
2249 305A 67 03 ERR3 LODI,R3 3 LENGTH MISMATCH
2250 305C 1E 19 PCTR,UN ERROR
2251 305E 07 02 ERR7 LODI,R3 C2 NEST ERROR
2252 305F 07 02 PCTR,UN ERROR
2253 3062 07 22 ERR8 LODI,R3 2 STACK OVERFLOW
2254 3064 12 11 PCTR,UN ERROR
2255 3066 07 15 ERR11 LODI,R3 15 IMPROPER VARIABLE NAME
2256 3066 1B 0D PCTR,UN ERROR
2257 306A 27 24 ERR12 LODI,R3 04 LINE NUMBER TOO LONG
2258 306C 1B 09 BCTR,UN ERROR
2259 306E 07 14 ERR15 LODI,R3 14 OVERFLOW
2260 3072 1B 06 BCTR,UN ERROR
2261 3072 07 13 ERR16 LODI,R3 13 DIVIDE BY ZFPIC
2262 3074 1B 01 BCTR,UN ERROR
2263 3076 1B 00 TEMP RES
2264 3076 V2 TEMP RES
2265 3077 *
2266 3077 *
2267 3077 *
2268 3077 04 02 ERROR LODI,R2 2 RESET THE PSL IF FROM ARITH. ROUTINE
2269 3079 93 LPSL 1
2270 307A CB 7A STRA,R3 ETMP SAVE ERROR MESSAGE CODE
2271 307C 07 05 LODI,R2 WRTM ??
2272 307E 3B 1B DIWRIT 5 ***
2273 3080 0B 74 LODR,R3 ETMP
2274 3082 33 00 C7 PSTA,UN WRIT DISPLAY ERROR TYPE
2275 3082 07 07 LODI,R3 ?
2276 3087 3F 30 C7 BSTA,UN WRTM ???
2277 308A 05 04 62 LODA,R2 INFT+1
2278 308D A1 02 9A SUST,R2 SHINT+1
2279 3090 31 28 65 BSTA,UN SHLIN
2280 3093 3E 25 B2 PSTA,UN PAUSE
2281 3096 1F 27 AC ECFA,UN OPTION
LET THEM CHANGE SOMETHING

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2336 36 ED *
 2340 36 ED *
 2341 32 ED 4E 45 53 MSG0 ALIT INEST
 2342 32 ED 4F 50 54 MSG1 ALIT OPTION
 2343 32 ED 53 54 4B MSG2 ALIT STK OVE
 2344 31 04 4C 4F 20 MSG3 ALIT LIN MISMATCH
 2345 31 11 4C 4F 20 MSG4 ALIT LN P
 2346 31 16 2C 2A MSG5 ALIT ***
 2347 31 1C 2C 45 58 MSG6 ALIT EXECUTING
 2348 31 27 2C 4C 52 MSG7 ALIT ERROR ***
 2349 31 31 0D DATA CR
 2350 31 32 2E DATA NO STOP STMT.
 2351 31 33 4E 4F 2C MSG8 ALIT STOP MODE
 2352 31 40 F3 F4 45 MSG9 ALIT CR
 2353 31 49 0D DATA CR
 2354 31 4A 2E DATA CR
 2355 31 4C 42 4F 52 MSGA ALIT RKPPT AT LINE #
 2356 31 50 4F 55 54 MSGB ALIT OUT OF DATA
 2357 31 63 41 52 47 MSGC ALIT CR
 2358 31 6C 49 4E 53 MSGD ALIT ARC
 2359 31 9C 2D MSGE DATA INSPECT VAR
 2360 31 9E 53 54 4F MSGF DATA CR
 2361 31 7A 53 54 4F MSGG ALIT STOPPED
 2362 31 62 4C 49 4E MSGH ALIT LINE NOT END
 2363 31 8F 54 59 50 MSG10 ALIT TYPE MISMATCH
 2364 31 CD 53 59 45 MSG11 ALIT SYNTAX
 2365 31 A4 54 4F 4F MSG12 ALIT TOO MANY OPS
 2366 31 B1 44 5C 44 MSG13 ALIT DVD BY ZERO
 2367 31 BD 4F 56 4C MSG14 ALIT OVE
 2368 31 C1 5C 41 52 MSG15 ALIT VAR NM
 2369 31 CB *
 2370 31 CC *
 2371 31 CB *
 2372 31 CB CC 04 6C INC PT LODA,R0 INPT+1 INCREMENT LOW BYTE OF INPUT POINTER
 2373 31 CB 24 01 ADDI,R0 1
 2374 31 CD CC 04 60 STRA,R0 INPT+1
 2375 31 DA 16 RETC,LT
 2376 31 E1 15 RETC,GT
 2377 31 D2 0C 04 FF LODA,R0 INPT
 2378 31 D5 84 01 ADDI,R0 1
 2379 31 D7 0C 24 FF STRA,R0 INPT
 2380 31 DA 17 RETC,UN
 2381 31 LB *
 2382 31 DB *
 2383 31 DB *
 2384 31 EB 3P 33 TO SKPDEC ESTA,UN SKSF
 2385 31 DE 0C 04 60 DECFT LODA,R0 INPT+1 INCREMENT HIGH BYTE OF INPUT POINTER
 2386 31 F1 A2 01 SUBI,R0 1 DECREMENT LOW BYTE OF INPUT CARRY
 2387 31 F3 CC 04 60 STRA,R0 INIT
 2388 31 EC 77 28 FPSL WC
 2389 31 E8 0C 04 5F LODA,R0 INFT
 2390 31 EB A4 00 SUBI,R0 0 SUBTRACT ANY CARRY
 2391 31 ED CC 04 5F STRA,R0 INIT
 2392 31 F2 0C 04 60 CPSL WC
 2393 31 F2 17 RETC,UN
 2394 31 F3 CC 04 EF SINPT LODA,R0 INFT SAV# INPUT POINTER IN STMP
 2395 31 F3 CC 04 EF SINPT LODA,R0 INFT SAV# INPUT POINTER IN STMP

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LINE 1000 B1 B2 B3 MAFI OPCODE   OPERAND
      311C 02 PC    STRB, R0    STMP
      311D 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 0G 0H 0I 0J 0K 0L 0M 0N 0O 0P 0Q 0R 0S 0T 0U 0V 0W 0X 0Y 0Z 0A1 0B1 0C1 0D1 0E1 0F1 0G1 0H1 0I1 0J1 0K1 0L1 0M1 0N1 0O1 0P1 0Q1 0R1 0S1 0T1 0U1 0V1 0X1 0Y1 0Z1 0A2 0B2 0C2 0D2 0E2 0F2 0G2 0H2 0I2 0J2 0K2 0L2 0M2 0N2 0O2 0P2 0Q2 0R2 0S2 0T2 0U2 0V2 0X2 0Y2 0Z2 0A3 0B3 0C3 0D3 0E3 0F3 0G3 0H3 0I3 0J3 0K3 0L3 0M3 0N3 0O3 0P3 0Q3 0R3 0S3 0T3 0U3 0V3 0X3 0Y3 0Z3 0A4 0B4 0C4 0D4 0E4 0F4 0G4 0H4 0I4 0J4 0K4 0L4 0M4 0N4 0O4 0P4 0Q4 0R4 0S4 0T4 0U4 0V4 0X4 0Y4 0Z4 0A5 0B5 0C5 0D5 0E5 0F5 0G5 0H5 0I5 0J5 0K5 0L5 0M5 0N5 0O5 0P5 0Q5 0R5 0S5 0T5 0U5 0V5 0X5 0Y5 0Z5 0A6 0B6 0C6 0D6 0E6 0F6 0G6 0H6 0I6 0J6 0K6 0L6 0M6 0N6 0O6 0P6 0Q6 0R6 0S6 0T6 0U6 0V6 0X6 0Y6 0Z6 0A7 0B7 0C7 0D7 0E7 0F7 0G7 0H7 0I7 0J7 0K7 0L7 0M7 0N7 0O7 0P7 0Q7 0R7 0S7 0T7 0U7 0V7 0X7 0Y7 0Z7 0A8 0B8 0C8 0D8 0E8 0F8 0G8 0H8 0I8 0J8 0K8 0L8 0M8 0N8 0O8 0P8 0Q8 0R8 0S8 0T8 0U8 0V8 0X8 0Y8 0Z8 0A9 0B9 0C9 0D9 0E9 0F9 0G9 0H9 0I9 0J9 0K9 0L9 0M9 0N9 0O9 0P9 0Q9 0R9 0S9 0T9 0U9 0V9 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0X7J 0Y7J 0Z7J 0A7K 0B7K 0C7K 0D7K 0E7K 0F7K 0G7K 0H7K 0I7K 0J7K 0K7K 0L7K 0M7K 0N7K 0O7K 0P7K 0Q7K 0R7K 0S7K 0T7K 0U7K 0V7K 0X7K 0Y7K 0Z7K 0A7L 0B7L 0C7L 0D7L 0E7L 0F7L 0G7L 0H7L 0I7L 0J7L 0K7L 0L7L 0M7L 0N7L 0O7L 0P7L 0Q7L 0R7L 0S7L 0T7L 0U7L 0V7L 0X7L 0Y7L 0Z7L 0A7M 0B7M 0C7M 0D7M 0E7M 0F7M 0G7M 0H7M 0I7M 0J7M 0K7M 0L7M 0M7M 0N7M 0O7M 0P7M 0Q7M 0R7M 0S7M 0T7M 0U7M 0V7M 0X7M 0Y7M 0Z7M 0A7N 0B7N 0C7N 0D7N 0E7N 0F7N 0G7N 0H7N 0I7N 0J7N 0K7N 0L7N 0M7N 0N7N 0O7N 0P7N 0Q7N 0R7N 0S7N 0T7N 0U7N 0V7N 0X7N 0Y7N 0Z7N 0A7O 0B7O 0C7O 0D7O 0E7O 0F7O 0G7O 0H7O 0I7O 0J7O 0K7O 0L7O 0M7O 0N7O 0O7O 0P7O 0Q7O 0R7O 0S7O 0T7O 0U7O 0V7O 0X7O 0Y7O 0Z7O 0A7P 0B7P 0C7P 0D7P 0E7P 0F7P 0G7P 0H7P 0I7P 0J7P 0K7P 0L7P 0M7P 0N7P 0O7P 0P7P 0Q7P 0R7P 0S7P 0T7P 0U7P 0V7P 0X7P 0Y7P 0Z7P 0A7Q 0B7Q 0C7Q 0D7Q 0E7Q 0F7Q 0G7Q 0H7Q 0I7Q 0J7Q 0K7Q 0L7Q 0M7Q 0N7Q 0O7Q 0P7Q 0Q7Q 0R7Q 0S7Q 0T7Q 0U7Q 0V7Q 0X7Q 0Y7Q 0Z7Q 0A7R 0B7R 0C7R 0D7R 0E7R 0F7R 0G7R 0H7R 0I7R 0J7R 0K7R 0L7R 0M7R 0N7R 0O7R 0P7R 0Q7R 0R7R 0S7R
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2457	3252	3F	2B	CG	7P1	BSTA, UN	*	SP
2454	3253	05	A2			SIRR, R0	*	PTEMP
2455	3257	09	21			LDR, R2		PTEMP+1
2456	3259	05	01			SUPR, R2	1	
2457	725E	05	1D			STR, R0		PTEMP+1
2458	325D	77	08			PPSL		WC
2459	325F	09	12			LDR, R2		PTEMP
2460	3261	A4	02			SIRR, R0	0	
2461	3263	C8	14			STR, R2		PTEMP
2462	3265	75	28			CPSL		WC
2463	3267	FC	59			BDRR, R1		POP1
2464	3269	17				RTFC, UN		
2465	326A		*					
2466	326A		*					
2467	326A		*					
2468	326A	08	0E	APT		ADDI, R0		PTEMP+1
2469	326C	C8	0C			STR, R0		PTEMP+1
2470	326F	77	08			FYSL		WC
2471	3270	08	07			LDR, R0		PTEMP
2472	3272	84	02			AUDI, R0	0	
2473	3274	C8	03			STR, R0		PTEMP
2474	3276	75	08			CPSL		WC
2475	3278	17		*		RTFC, UN		
2476	3279		*					
2477	3279	00	02	PTEMP	RES	2		
2478	3279	02	02	UTEMP	RES	2		
2479	327D		*					
2480	327D	C8	7C	PUSH	STR, R0	UTEMP		
2481	327F	CC	7B			SIRR, R1		
2482	3281	05	04	PUSHNL	LIDI, R1	4		
2483	32E3	3B	0F			ESTR, UN		UTCP
2484	32E5	2B	F2	FUSHL	LDR, R2	*PTEMP		
2485	32E7	35	32	D1	BSTA, UN	DECSP		
2486	32EA	CF	S2	CF	STRA, R3	*SP		
2487	32ED	04	21			LIDI, R2	1	
2488	32EF	3B	59			ESTR, UN		APT
2489	32F1	FG	72			EDRR, R1		FUSH1
2490	32F3	17		*		RTFC, UN		
2491	32F4		*					
2492	32F4	05	65	UTOP		LDR, R0		UTEMP
2493	32F6	C8	61			STR, R0		PTEMP
2494	32F6	28	E2			IOTR, R0		UTEMP+1
2495	32F9	C8	5F			STR, R0		PTEMP+1
2496	32F6	17		*		RTFC, UN		
2497	32F9		*					
2498	32F9	08	31	INCSP	LODP, R0	SP+1		
2499	32F9	84	01			ADDI, R0	1	
2500	32A1	C8	2D			STR, R0		SP
2501	32A3	99	26			PCER, FO		SP+1
2502	32A5	06	26			LDR, R0		INCSP1
2503	32A7	84	01			ADDI, R0	1	
2504	32A9	C8	24			STR, R0		SP
2505	32AB	02	22			INCSPI		SP
2506	32AB	FG	05			COMA, FO		ENDRAM
2507	32B2	1D	37	C2		EDRR, R0		FAR8
2508	32B2	1A	0A			ECTR, LT		INCSPI2
2509	32B5	28	19			LCDR, R0		SP+1

DATE	NOVA	EX	ED	DATA	GROUP	ORIGIN	ROUTING
1983-11-14	32C8A	1D	3G	06	COPR, P2	ENDPT+1	
1983-11-14	32C8D	CC	12		BSTA, EC	ENDPT	
1983-11-14	32C8F	1E	15	24	TINCSP2	BSTA, UN	
1983-11-14	32C9	45			BTIC, GT	SP	
1983-11-14	32C93	4E	37	62	BTWA, UN	LIBRE	
1983-11-14	32C96	6A	66		BTWA, BO	SP+1	
1983-11-14	32C97	6B	14	28	BTWA, UN	TABENT+1	
1983-11-14	32C98	1E	32		BSTA, LT	ERBS	
1983-11-14	32C99	1F	19		BTIC, UN	ERBS	
1983-11-14	32C9	*	*	*			
1983-11-14	32D1	CCCP	06	00	GP	NES	2
1983-11-14	32D2	*	*	*			
1983-11-14	32D3	CC	7D	DECSP	YODR, EC	SP+1	
1983-11-14	32D4	52	54	01	SUBI, EC	1	
1983-11-14	32D5	52	55	79	SUBR, BO	SP+1	
1983-11-14	32D6	52	57	79	PPSL	WC	
1983-11-14	32D7	52	58	74	LODR, EC	SP	
1983-11-14	32D8	52	58	74	SUBI, BO	0	
1983-11-14	32D9	52	58	75	SUBR, BO	SP	
1983-11-14	32D10	52	58	75	PPSL	WC	
1983-11-14	32D11	52	58	75	YCTR, UN	TINCSP1	
1983-11-14	32D12	52	58	75			
1983-11-14	32D13	52	58	75			
1983-11-14	32D14	52	58	75			
1983-11-14	32D15	52	58	75			
1983-11-14	32D16	52	58	75			
1983-11-14	32D17	52	58	75			
1983-11-14	32D18	52	58	75			
1983-11-14	32D19	52	58	75			
1983-11-14	32D20	52	58	75			
1983-11-14	32D21	52	58	75			
1983-11-14	32D22	52	58	75			
1983-11-14	32D23	52	58	75			
1983-11-14	32D24	52	58	75			
1983-11-14	32D25	52	58	75			
1983-11-14	32D26	52	58	75			
1983-11-14	32D27	52	58	75			
1983-11-14	32D28	52	58	75			
1983-11-14	32D29	52	58	75			
1983-11-14	32D30	52	58	75			
1983-11-14	32D31	52	58	75			
1983-11-14	32D32	52	58	75			
1983-11-14	32D33	52	58	75			
1983-11-14	32D34	52	58	75			
1983-11-14	32D35	52	58	75			
1983-11-14	32D36	52	58	75			
1983-11-14	32D37	52	58	75			
1983-11-14	32D38	52	58	75			
1983-11-14	32D39	52	58	75			
1983-11-14	32D40	52	58	75			
1983-11-14	32D41	52	58	75			
1983-11-14	32D42	52	58	75			
1983-11-14	32D43	52	58	75			
1983-11-14	32D44	52	58	75			
1983-11-14	32D45	52	58	75			
1983-11-14	32D46	52	58	75			
1983-11-14	32D47	52	58	75			
1983-11-14	32D48	52	58	75			
1983-11-14	32D49	52	58	75			
1983-11-14	32D50	52	58	75			
1983-11-14	32D51	52	58	75			
1983-11-14	32D52	52	58	75			
1983-11-14	32D53	52	58	75			
1983-11-14	32D54	52	58	75			
1983-11-14	32D55	52	58	75			
1983-11-14	32D56	52	58	75			
1983-11-14	32D57	52	58	75			
1983-11-14	32D58	52	58	75			
1983-11-14	32D59	52	58	75			
1983-11-14	32D60	52	58	75			
1983-11-14	32D61	52	58	75			
1983-11-14	32D62	52	58	75			
1983-11-14	32D63	52	58	75			
1983-11-14	32D64	52	58	75			
1983-11-14	32D65	52	58	75			
1983-11-14	32D66	52	58	75			
1983-11-14	32D67	52	58	75			
1983-11-14	32D68	52	58	75			
1983-11-14	32D69	52	58	75			
1983-11-14	32D70	52	58	75			
1983-11-14	32D71	52	58	75			
1983-11-14	32D72	52	58	75			
1983-11-14	32D73	52	58	75			
1983-11-14	32D74	52	58	75			
1983-11-14	32D75	52	58	75			
1983-11-14	32D76	52	58	75			
1983-11-14	32D77	52	58	75			
1983-11-14	32D78	52	58	75			
1983-11-14	32D79	52	58	75			
1983-11-14	32D80	52	58	75			
1983-11-14	32D81	52	58	75			
1983-11-14	32D82	52	58	75			
1983-11-14	32D83	52	58	75			
1983-11-14	32D84	52	58	75			
1983-11-14	32D85	52	58	75			
1983-11-14	32D86	52	58	75			
1983-11-14	32D87	52	58	75			
1983-11-14	32D88	52	58	75			
1983-11-14	32D89	52	58	75			
1983-11-14	32D90	52	58	75			
1983-11-14	32D91	52	58	75			
1983-11-14	32D92	52	58	75			
1983-11-14	32D93	52	58	75			
1983-11-14	32D94	52	58	75			
1983-11-14	32D95	52	58	75			
1983-11-14	32D96	52	58	75			
1983-11-14	32D97	52	58	75			
1983-11-14	32D98	52	58	75			
1983-11-14	32D99	52	58	75			
1983-11-14	32D100	52	58	75			
1983-11-14	32D101	52	58	75			
1983-11-14	32D102	52	58	75			
1983-11-14	32D103	52	58	75			
1983-11-14	32D104	52	58	75			
1983-11-14	32D105	52	58	75			
1983-11-14	32D106	52	58	75			
1983-11-14	32D107	52	58	75			
1983-11-14	32D108	52	58	75			
1983-11-14	32D109	52	58	75			
1983-11-14	32D110	52	58	75			
1983-11-14	32D111	52	58	75			
1983-11-14	32D112	52	58	75			
1983-11-14	32D113	52	58	75			
1983-11-14	32D114	52	58	75			
1983-11-14	32D115	52	58	75			
1983-11-14	32D116	52	58	75			
1983-11-14	32D117	52	58	75			
1983-11-14	32D118	52	58	75			
1983-11-14	32D119	52	58	75			
1983-11-14	32D120	52	58	75			
1983-11-14	32D121	52	58	75			
1983-11-14	32D122	52	58	75			
1983-11-14	32D123	52	58	75			
1983-11-14	32D124	52	58	75			
1983-11-14	32D125	52	58	75			
1983-11-14	32D126	52	58	75			
1983-11-14	32D127	52	58	75			
1983-11-14	32D128	52	58	75			
1983-11-14	32D129	52	58	75			
1983-11-14	32D130	52	58	75			
1983-11-14	32D131	52	58	75			
1983-11-14	32D132	52	58	75			
1983-11-14	32D133	52	58	75			
1983-11-14	32D134	52	58	75			
1983-11-14	32D135	52	58	75			
1983-11-14	32D136	52	58	75			
1983-11-14	32D137	52	58	75			
1983-11-14	32D138	52	58	75			
1983-11-14	32D139	52	58	75			
1983-11-14	32D140	52	58	75			
1983-11-14	32D141	52	58	75			
1983-11-14	32D142	52	58	75			
1983-11-14	32D143	52	58	75			
1983-11-14	32D144	52	58	75			
1983-11-14	32D145	52	58	75			
1983-11-14	32D146	52	58	75			
1983-11-14	32D147	52	58	75			
1983-11-14	32D148	52	58	75			
1983-11-14	32D149	52	58	75			
1983-11-14	32D150	52	58	75			
1983-11-14	32D151	52	58	75			
1983-11-14	32D152	52	58	75			
1983-11-14	32D153	52	58	75			
1983-11-14	32D154	52	58	75			
1983-11-14	32D155	52	58	75			
1983-11-14	32D156	52	58	75			
1983-11-14	32D157	52	58	75			
1983-11-14	32D158	52	58	75			
1983-11-14	32D159	52	58	75			
1983-11-14	32D160	52	58	75			
1983-11-14	32D161	52	58	75			
1983-11-14	32D162	52	58	75			

			RETURNS NAME OF VARIABLE IN RNAME. VARIABLE NAME LENGTH RETURNED IN R2.
2579	20	17	RET,UN 2588 3321 3F 33 EE GETD2 FSTA,UN GETLN SKIP OVER POSSIBLE LINE NUMBER
2588	3324 04 29 LODI,R2 COMTB2		
2589	3326 04 65 LODI,R1		
2590	3326 04 65 LODI,R1		
2591	3328 28 E7 BTA,UN TAUP		
2592	332B 08 05 PCP,EG GETD4		
2593	332D 0C 06 LODA,R2 DST+1		
2594	3332 10 51 FCTR,EG GETD3		
2595	3332 3F 33 DF BTA,UN GETCHR		
2596	3335 E7 2D COMI,R3 CR		
2597	3337 08 79 FCTR,EG GETD4		
2598	3339 00 84 FF LODA,R0 *INPT*		
2599	333C 0A 63 PCFR,LT GETD2		
2600	333E 07 0B LODI,R3 CR		
2601	3342 1F 30 ?7 ECTA,UN ERROR		
2602	3343 *		
2603	3343 *		
2604	3343 *		
2605	3343 0F 14 A5 MOVEB LODA,R3 OPLTH		
2606	3346 14 RETC,EG *OP1		
2607	3347 20 92 23 MOVEB1 LODA,R0 PUSOP2		
2608	334A 3F 2E BTA,UN INCOF1		
2609	334D 3F 32 25 LODA,UN MOVER1		
2610	3350 FB 7E BURR,R3 RETC,UN		
2611	3352 17 *		
2612	3353 *		
2613	3353 *		
2614	3354 3353 *		
2615	3355 *		
2616	3355 *		
2617	3355 06 7E GETNM ICPI,R2 FN		
2618	3355 3F 33 E0 GETNM5 FSTA,UN SKFSF		
2619	3355 F7 24 GETNM5 COMI,R3		
2620	3358 18 1A BCTR,EG GETNM3		
2621	335A 3F 32 BTR,UN CKALPH		
2622	335C 3E 2C BTR,UN GETNM6		
2623	335E 02 05 BTA,IC GETNM1		
2624	335F 1C 30 66 STRA,B2 FTR11 NAME TCC ICNG		
2625	335F 27 36 NAMBUF,+		
2626	335F 3F 33 D5 GETCUP		
2627	3360 02 05 FSTA,UN CKNUM2		
2628	3361 F6 0F BTA,IC GETNM1		
2629	3362 1C 30 66 FCTR,UN GETNM5		
2630	3362 27 36 FTR11 NAME TCC ICNG		
2631	3363 3F 33 D5 GETCUP		
2632	3364 02 05 FSTA,UN CKNUM2		
2633	3365 1C 30 66 FCTR,EG GETNM7		
2634	3365 27 36 FTR11 NAME TCC ICNG		
2635	3366 3F 33 D5 GETCUP		
2636	3367 1C 30 66 FCTR,EG GETNM1		
2637	3368 1C 30 66 FCTR,UN GETNM5		
2638	3369 1C 30 66 FCTR,EG GETNM7		
2639	336A FB 24 COMI,R3 FTR11 NAME TCC ICNG		
2640	3370 1C 30 66 FCTR,EG GETNM1		
2641	3373 3F 31 DE GETNM5 ADD1,R2 1		
2642	3375 02 05 GETNM5 BCTP,EG GETNM7		
2643	3376 18 07 FCTR,EG GETNM1		
2644	3377 18 07 FCTR,EG GETNM5		
2645	3378 18 07 FCTR,EG GETNM7		
2646	3379 FB 24 FCTR,EG GETNM1		
2647	337A 1C 30 75 FCTR,EG GETNM5		
2648	337B 1C 30 75 FCTR,EG GETNM7		
2649	337C 1C 30 75 FCTR,EG GETNM1		
2650	337D 1C 30 75 FCTR,EG GETNM5		
2651	337E 1C 30 75 FCTR,EG GETNM7		
2652	3380 1C 30 75 FCTR,EG GETNM1		
2653	3381 1C 30 75 FCTR,EG GETNM5		
2654	3382 1C 30 75 FCTR,EG GETNM7		
2655	3383 1C 30 75 FCTR,EG GETNM1		
2656	3384 1C 30 75 FCTR,EG GETNM5		
2657	3385 1C 30 75 FCTR,EG GETNM7		
2658	3386 1C 30 75 FCTR,EG GETNM1		
2659	3387 1C 30 75 FCTR,EG GETNM5		
2660	3388 1C 30 75 FCTR,EG GETNM7		
2661	3389 1C 30 75 FCTR,EG GETNM1		
2662	3390 1C 30 75 FCTR,EG GETNM5		
2663	3391 1C 30 75 FCTR,EG GETNM7		
2664	3392 1C 30 75 FCTR,EG GETNM1		
2665	3393 1C 30 75 FCTR,EG GETNM5		
2666	3394 1C 30 75 FCTR,EG GETNM7		
2667	3395 1C 30 75 FCTR,EG GETNM1		
2668	3396 1C 30 75 FCTR,EG GETNM5		
2669	3397 1C 30 75 FCTR,EG GETNM7		
2670	3398 1C 30 75 FCTR,EG GETNM1		
2671	3399 1C 30 75 FCTR,EG GETNM5		
2672	339A 1C 30 75 FCTR,EG GETNM7		
2673	339B 1C 30 75 FCTR,EG GETNM1		
2674	339C 1C 30 75 FCTR,EG GETNM5		
2675	339D 1C 30 75 FCTR,EG GETNM7		
2676	339E 1C 30 75 FCTR,EG GETNM1		
2677	339F 1C 30 75 FCTR,EG GETNM5		
2678	33A0 1C 30 75 FCTR,EG GETNM7		
2679	33A1 1C 30 75 FCTR,EG GETNM1		
2680	33A2 1C 30 75 FCTR,EG GETNM5		
2681	33A3 1C 30 75 FCTR,EG GETNM7		
2682	33A4 1C 30 75 FCTR,EG GETNM1		
2683	33A5 1C 30 75 FCTR,EG GETNM5		
2684	33A6 1C 30 75 FCTR,EG GETNM7		
2685	33A7 1C 30 75 FCTR,EG GETNM1		
2686	33A8 1C 30 75 FCTR,EG GETNM5		
2687	33A9 1C 30 75 FCTR,EG GETNM7		
2688	33AA 1C 30 75 FCTR,EG GETNM1		
2689	33AB 1C 30 75 FCTR,EG GETNM5		
2690	33AC 1C 30 75 FCTR,EG GETNM7		
2691	33AD 1C 30 75 FCTR,EG GETNM1		
2692	33AE 1C 30 75 FCTR,EG GETNM5		
2693	33AF 1C 30 75 FCTR,EG GETNM7		
2694	33B0 1C 30 75 FCTR,EG GETNM1		
2695	33B1 1C 30 75 FCTR,EG GETNM5		
2696	33B2 1C 30 75 FCTR,EG GETNM7		
2697	33B3 1C 30 75 FCTR,EG GETNM1		
2698	33B4 1C 30 75 FCTR,EG GETNM5		
2699	33B5 1C 30 75 FCTR,EG GETNM7		
2700	33B6 1C 30 75 FCTR,EG GETNM1		
2701	33B7 1C 30 75 FCTR,EG GETNM5		
2702	33B8 1C 30 75 FCTR,EG GETNM7		
2703	33B9 1C 30 75 FCTR,EG GETNM1		
2704	33BA 1C 30 75 FCTR,EG GETNM5		
2705	33BB 1C 30 75 FCTR,EG GETNM7		
2706	33BC 1C 30 75 FCTR,EG GETNM1		
2707	33BD 1C 30 75 FCTR,EG GETNM5		
2708	33BE 1C 30 75 FCTR,EG GETNM7		
2709	33BF 1C 30 75 FCTR,EG GETNM1		
2710	33C0 1C 30 75 FCTR,EG GETNM5		
2711	33C1 1C 30 75 FCTR,EG GETNM7		
2712	33C2 1C 30 75 FCTR,EG GETNM1		
2713	33C3 1C 30 75 FCTR,EG GETNM5		
2714	33C4 1C 30 75 FCTR,EG GETNM7		
2715	33C5 1C 30 75 FCTR,EG GETNM1		
2716	33C6 1C 30 75 FCTR,EG GETNM5		
2717	33C7 1C 30 75 FCTR,EG GETNM7		
2718	33C8 1C 30 75 FCTR,EG GETNM1		
2719	33C9 1C 30 75 FCTR,EG GETNM5		
2720	33CA 1C 30 75 FCTR,EG GETNM7		
2721	33CB 1C 30 75 FCTR,EG GETNM1		
2722	33CC 1C 30 75 FCTR,EG GETNM5		
2723	33CD 1C 30 75 FCTR,EG GETNM7		
2724	33CE 1C 30 75 FCTR,EG GETNM1		
2725	33CF 1C 30 75 FCTR,EG GETNM5		
2726	33D0 1C 30 75 FCTR,EG GETNM7		
2727	33D1 1C 30 75 FCTR,EG GETNM1		
2728	33D2 1C 30 75 FCTR,EG GETNM5		
2729	33D3 1C 30 75 FCTR,EG GETNM7		
2730	33D4 1C 30 75 FCTR,EG GETNM1		
2731	33D5 1C 30 75 FCTR,EG GETNM5		
2732	33D6 1C 30 75 FCTR,EG GETNM7		
2733	33D7 1C 30 75 FCTR,EG GETNM1		
2734	33D8 1C 30 75 FCTR,EG GETNM5		
2735	33D9 1C 30 75 FCTR,EG GETNM7		
2736	33DA 1C 30 75 FCTR,EG GETNM1		
2737	33DB 1C 30 75 FCTR,EG GETNM5		
2738	33DC 1C 30 75 FCTR,EG GETNM7		
2739	33DD 1C 30 75 FCTR,EG GETNM1		
2740	33DE 1C 30 75 FCTR,EG GETNM5		
2741	33DF 1C 30 75 FCTR,EG GETNM7		
2742	33E0 1C 30 75 FCTR,EG GETNM1		
2743	33E1 1C 30 75 FCTR,EG GETNM5		
2744	33E2 1C 30 75 FCTR,EG GETNM7		
2745	33E3 1C 30 75 FCTR,EG GETNM1		
2746	33E4 1C 30 75 FCTR,EG GETNM5		
2747	33E5 1C 30 75 FCTR,EG GETNM7		
2748	33E6 1C 30 75 FCTR,EG GETNM1		
2749	33E7 1C 30 75 FCTR,EG GETNM5		
2750	33E8 1C 30 75 FCTR,EG GETNM7		
2751	33E9 1C 30 75 FCTR,EG GETNM1		
2752	33EA 1C 30 75 FCTR,EG GETNM5		
2753	33EB 1C 30 75 FCTR,EG GETNM7		
2754	33EC 1C 30 75 FCTR,EG GETNM1		
2755	33ED 1C 30 75 FCTR,EG GETNM5		
2756	33EE 1C 30 75 FCTR,EG GETNM7		
2757	33EF 1C 30 75 FCTR,EG GETNM1		
2758	33F0 1C 30 75 FCTR,EG GETNM5		
2759	33F1 1C 30 75 FCTR,EG GETNM7		
2760	33F2 1C 30 75 FCTR,EG GETNM1		
2761	33F3 1C 30 75 FCTR,EG GETNM5		
2762	33F4 1C 30 75 FCTR,EG GETNM7		
2763	33F5 1C 30 75 FCTR,EG GETNM1		
2764	33F6 1C 30 75 FCTR,EG GETNM5		
2765	33F7 1C 30 75 FCTR,EG GETNM7		
2766	33F8 1C 30 75 FCTR,EG GETNM1		
2767	33F9 1C 30 75 FCTR,EG GETNM5		
2768	33FA 1C 30 75 FCTR,EG GETNM7		
2769	33FB 1C 30 75 FCTR,EG GETNM1		
2770	33FC 1C 30 75 FCTR,EG GETNM5		
2771	33FD 1C 30 75 FCTR,EG GETNM7		
2772	33FE 1C 30 75 FCTR,EG GETNM1		
2773	33FF 1C 30 75 FCTR,EG GETNM5		
2774	3300 1C 30 75 FCTR,EG GETNM7		
2775	3301 1C 30 75 FCTR,EG GETNM1		
2776	3302 1C 30 75 FCTR,EG GETNM5		
2777	3303 1C 30 75 FCTR,EG GETNM7		
2778	3304 1C 30 75 FCTR,EG GETNM1		
2779	3305 1C 30 75 FCTR,EG GETNM5		
2780	3306 1C 30 75 FCTR,EG GETNM7		
2781	3307 1C 30 75 FCTR,EG GETNM1		
2782	3308 1C 30 75 FCTR,EG GETNM5		
2783	3309 1C 30 75 FCTR,EG GETNM7		
2784	330A 1C 30 75 FCTR,EG GETNM1		
2785	330B 1C 30 75 FCTR,EG GETNM5		
2786	330C 1C 30 75 FCTR,EG GETNM7		
2787	330D 1C 30 75 FCTR,EG GETNM1		
2788	330E 1C 30 75 FCTR,EG GETNM5		
2789	330F 1C 30 75 FCTR,EG GETNM7		
2790	3310 1C 30 75 FCTR,EG GETNM1		
2791	3311 1C 30 75 FCTR,EG GETNM5		
2792	3312 1C 30 75 FCTR,EG GETNM7		
2793	3313 1C 30 75 FCTR,EG GETNM1		
2794	3314 1C 30 75 FCTR,EG GETNM5		
2795	3315 1C 30 75 FCTR,EG GETNM7		
2796	3316 1C 30 75 FCTR,EG GETNM1		
2797	3317 1C 30 75 FCTR,EG GETNM5		
2798	3318 1C 30 75 FCTR,EG GETNM7		
2799	3319 1C 30 75 FCTR,EG GETNM1		
2800	331A 1C 30 75 FCTR,EG GETNM5		
2801	331B 1C 30 75 FCTR,EG GETNM7		
2802	331C 1C 30 75 FCTR,EG GETNM1		
2803	331D 1C 30 75 FCTR,EG GETNM5		
2804	331E 1C 30 75 FCTR,EG GETNM7		
2805	331F 1C 30 75 FCTR,EG GETNM1		
2806	3320 1C 30 75 FCTR,EG GETNM5		
2807	3321 1C 30 75 FCTR,EG GETNM7		
2808	3322 1C 30 75 FCTR,EG GETNM1		
2809	3323 1C 30 75 FCTR,EG GETNM5		
2810	3324 1C 30 75 FCTR,EG GETNM7		
2811	3325 1C 30 75 FCTR,EG GETNM1		
2812	3326 1C 30 75 FCTR,EG GETNM5		
2813	3327 1C 30 75 FCTR,EG GETNM7		
2814	3328 1C 30 75 FCTR,EG GETNM1		
2815	3329 1C 30 75 FCTR,EG GETNM5		
2816	332A 1C 30 75 FCTR,EG GETNM7		
2817	332B 1C 30 75 FCTR,EG GETNM1		
2818	332C 1C 30 75 FCTR,EG GETNM5		
2819	332D 1C 30 75 FCTR,EG GETNM7		
2820	332E 1C 30 75 FCTR,EG GETNM1		
2821	332F 1C 30 75 FCTR,EG GETNM5		
2822	3330 1C 30 75 FCTR,EG GETNM7		
2823	3331 1C 30 75 FCTR,EG GETNM1		
2824	3332 1C 30 75 FCTR,EG GETNM5		
2825	3333 1C 30 75 FCTR,EG GETNM7		
2826	3334 1C 30 75 FCTR,EG GETNM1		
2827	3335 1C 30 75 FCTR,EG GETNM5		
2828	3336 1C 30 75 FCTR,EG GETNM7		
2829	3337 1C 30 75 FCTR,EG GETNM1		
2830	3338 1C 30 75 FCTR,EG GETNM5		
2831	3339 1C 30 75 FCTR,EG GETNM7		
2832	333A 1C 30 75 FCTR,EG GETNM1		
2833	333B 1C 30 75 FCTR,EG GETNM5		
2834	333C 1C 30 75 FCTR,EG GETNM7		
2835	333D 1C 30 75 FCTR,EG GETNM1		
2836	333E 1C 30 75 FCTR,EG GETNM5		
2837	333F 1C 30 75 FCTR,EG GETNM7		
2838	3340 1C 30 75 FCTR,EG GETNM1		
2839	3341 1C 30 75 FCTR,EG GETNM5		
2840	3342 1C 30 75 FCTR,EG GETNM7		
2841	3343 1C 30 75 FCTR,EG GETNM1		
2842	3344 1C 30 75 FCTR,EG GETNM5		
2843	3345 1C 30 75 FCTR,EG GETNM7		
2844	3346 1C 30 75 FCTR,EG GETNM1		
2845	3347 1C 30 75 FCTR,EG GETNM5		
2846	3348 1C 30 75 FCTR,EG GETNM7		
2847	3349 1C 30 75 FCTR,EG GETNM1		
2848	334A 1C 30 75 FCTR,EG GETNM5		
2849	334B 1C 30 75 FCTR,EG GETNM7		
2850	334C 1C 30 75 FCTR,EG GETNM1		
2851	334D 1C 30 75 FCTR,EG GETNM5		
2852	334E 1C 30 75 FCTR,EG GETNM7		
2853	334F 1C 30 75 FCTR,EG GETNM1		
2854	3350 1C 30 75 FCTR,EG GETNM5		
2855	3351 1C 30 75 FCTR,EG GETNM7		
2856	3352 1C 30 75 FCTR,EG GETNM1		
2857	3353 1C 30 75 FCTR,EG GETNM5		
2858	3354 1C 30 75 FCTR,EG GETNM7		
2859	3355 1C 30 75 FCTR,EG GETNM1		
2860	3356 1C 30 75 FCTR,EG GETNM5		
2861	3357 1C 30 75 FCTR,EG GETNM7		
2862	3358 1C 30 75 FCTR,EG GETNM1		
2863	3359 1C 30 75 FCTR,EG GETNM5		
2864	335A 1C 30 75 FCTR,EG GETNM7		
2865	335B 1C 30 75 FCTR,EG GETNM1		
2866	335C 1C 30 75 FCTR,EG GETNM5		
2867	335D 1C 30 75 FCTR,EG GETNM7		
2868	335E 1C 30 75 FCTR,EG GETNM1		
2869	335F 1C 30 75 FCTR,EG GETNM5		
2870	3360 1C 30 75 FCTR,EG GETNM7		
2871	3361 1C 30 75 FCTR,EG GETNM1		
2872	3362 1C 30 75 FCTR,EG GETNM5		
2873	3363 1C 30 75 FCTR,EG GETNM7		
2874	3364 1C 30 75 FCTR,EG GETNM1		
2875	3365 1C 30 75 FCTR,EG GETNM5		
2876	3366 1C 30 75 FCTR,EG GETNM7		
2877	3367 1C 30 75 FCTR,EG GETNM1		
2878	3368 1C 30 75 FCTR,EG GETNM5		
2879	3369 1C 30 75 FCTR,EG GETNM7		
2880	336A 1C 30 75 FCTR,EG GETNM1		
2881	336B 1C 30 75 FCTR,EG GETNM5		
2882	336C 1C 30 75 FCTR,EG GETNM7		
2883	336D 1C 30 75 FCTR,EG GETNM1		
2884	336E 1C 30 75 FCTR,EG GETNM5		
2885	336F 1C 30 75 FCTR,EG GETNM7		
2886	336G 1C 30 75 FCTR,EG GETNM1		
2887	336H 1C 30 75 FCTR,EG GETNM5		
2888	336I 1C 30 75 FCTR,EG GETNM7		
2889	336J 1C 30 75 FCTR,EG GETNM1		
2890	336K 1C 30 75 FCTR,EG GETNM5		
2891	336L 1C 30 75 FCTR,EG GETNM7		
2892	336M 1C 30 75 FCTR,EG GETNM1		
2893	336N 1C 30 75 FCTR,EG GETNM5		
2894	336O 1C 30 75 FCTR,EG GETNM7		
2895	336P 1C 30 75 FCTR,EG GETNM1		
2896	336Q 1C 30 75 FCTR,EG GETNM5		
2897	336R 1C 30 75 FCTR,EG GETNM7		
2898	336S 1C 30 75 FCTR,EG GETNM1		
2899	336T 1C 30 75 FCTR,EG GETNM5		
2900	336U 1C 30 75 FCTR,EG GETNM7		
2901	336V 1C 30 75 FCTR,EG GETNM1		
2902	336W 1C 30 75 FCTR,EG GETNM5		
2903	336X 1C 30 75 FCTR,EG GETNM7		
2904	336Y 1C 30 75 FCTR,EG GETNM1		
2905	336Z 1C 30 75 FCTR,EG GETNM5		
2906	336_ 1C 30 75 FCTR,EG GETNM7		
2907	336_ 1C 30 75 FCTR,EG GETNM1		
2908	336_ 1C 30 75 FCTR,EG GETNM5		
2909	336_ 1C 30 75 FCTR,EG GETNM7		
2910	336_ 1C 30 75 FCTR,EG GETNM1		
2911	336_ 1C 30 75 FCTR,EG GETNM		

LINE	ADDR	R1	R2	R3	LABEL	OPCODE	OPERAND
2624	3384	*	*	*			
2625	3384	*	*	*			
2626	3384	K7	41	A	CKALFH	COMI,R3	
2627	3384	E7	1E			RET,LT	
2628	338E	1E				COMI,R2	
2629	3387	E7	FA			RET,GT	
2630	3389	15				CFSL	C2
2631	338A	75	CE			RETC,UN	
2632	338C	17				RETC,UN	
2633	338D	*	*				
2634	338D	*	*				
2635	338D	*	*				
2636	338D	*	*				
2637	3391	80	80	80	CBUF1	RES	4
2638	3395	*	*	*	CBUF2	RES	4
2639	3395	*	*	*			
2640	3395	*	*	*			
2641	3395	*	*	*			
2642	3395	*	*	*			
2643	3395	7E	77	COMMN	LODR,R0	CBUF1+1	
2644	3397	28	79		EORR,R0	CBUF2+1	
2645	3399	9A	77		BCFR,LT	COMN1	SIGN(MANT)
2646	339B	08	71		LODR,R0	CBUF1+1	
2647	339D	9A	01		BCFR,LT	CMGT	
2648	339F	*	*	*			
2649	339F	77	72	COMLT	LODI,R3	LT	LESS THAN CONDITION
2650	33A1	17		*	RETC,UN		
2651	33A2	*	*	*			
2652	33A2	08	69	COMM1	LODR,R0	CBUF1	
2653	33A4	28	6B		EORR,R0	CBUF2	
2654	33A6	CA	27		BCFR,LT	COMN2	
2655	33A8	09	63		LODR,R0	CBUF1	
2656	33AA	1A	73	*	BCFR,LT	COMLT	
2657	33AC	*	*	*			
2658	33AC	27	01	CONGT	LODI,R2	GT	GREATER THAN CONDITION
2659	33AE	17		*	RETC,UN		
2660	33AF	*	*	*			
2661	33AF	0C	FF	COMM3	LODI,R2	PP	
2662	33B1	27	04		LODI,R3	4	
2663	33B3	05	35	8D	COMM4	LODI,R2	CBUF1
2664	33B6	FE	73	91		COMA,R2	CBUF2
2665	33C5	1B	64			BCFR,LT	COMIP
2666	33BP	1C	CF	*		BCTR,GT	COMGT
2667	33ED	FB	74	*		BDR,R3	COMN4
2668	33BF	17		*		RETC,UN	
2669	33C0	*	*	*			
2670	33C0	*	*	*			
2671	33C2	*	*	*			
2672	33C9	3B	1F	NXTLN	ESTR,UN	SKPSP	
2673	33C2	17	02		COM1,E3	CR	
2674	33C4	1C	A8	96	PCTA,EQ	*RTNADR	
2675	33C7	07	11	ERR1	LODI,R3	11	
2676	33C9	1F	30	77		BCTA,UN	ERROR
2677	32CC	*	*	*			
2678	32CC	*	*	*			
2679	33CC	3B	07	SKPLIN	PSTR,UN	GETCHR	
2680	33CC	*	*	*			

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      2681 33E5 F7 0D          VORLRS          CP
      2682 33E6 10 AB 96          ECTA,EC          *RFNADR
      2683 33E3 1E ?7          ECTA,UN          SKPLIN
      2684 33E5          *
      2685 33D5          *
      2686 33D5          *
      2687 3315 0F 64 5F GETCHR LODA,R3          *INPT   GET CHARACTER
      2688 3718 9E 31 C8          BCFA,LT          INCPT   IF NC2, UPDATE INPT AND RETURN
      2689 33DB 07 08          ERR10          LODI,R3          8
      2690 33DD 1F 32 77          ECTA,UN          ERROR   *GETCHAR
      2691 33E2          *
      2692 33E6          *
      2693 33E0          *
      2694 33E2 3B 73          SKPSP  ESTR,UN          GETCHR
      2695 33E2 F7 20          COMI,R3          *
      2696 3314 18 7A          ECTR,FQ          SKPSP
      2697 33E6 17          RETC,UN          *
      2698 33E7          *
      2699 33E5 33E7          *
      2700 33E7 3B 77          SKPCOM BSTR,UN          GETCHR
      2701 33E9 F7 2C          COMI,R3          *
      2702 33E9 9E 5A          BCFA,TQ          ERR1
      2703 33E9 9E 5A          ECTR,FQ          *
      2704 33E9 17          RETC,UN          *
      2705 33E1          *
      2706 33E1          *
      2707 33E1          *
      2708 33E1 3B 70          GETLIN BSTR,UN          SKPSP  SKIP THE SPACES
      2709 33E2 22          FORZ,RQ
      2710 33E1 0E 74          LODI,R1          4
      2711 33E3 CD 47 E9 GETL11 STRA,R1          LINNUM,- ZERO LINNUM
      2712 33E6 52 73          BNR,R1          GETL11
      2713 33FB 05 FF          LODI,R1          FF
      2714 33EA 3E 32 BD GETL12 BSTA,UN          CKNUM0
      2715 33FD 9C 31 FF          ECEA,EQ          TECET
      2716 34E2 15 24          CONI,R1          4
      2717 34E2 1C 32 EA          ECTA,EQ          ERR12  LINE NUMBER TOO LONG
      2718 34E5 CD 27 E9          STRA,R1          LINNUM,+ STORE THE NUMBER IN THE BUFFER
      2719 34E9 3E 33 DS          BSTA,UN          GETCHR
      2720 34E8 1B 6D          BCTR,UN          GETL12
      2721 34E1          *
      2722 34E1          *
      2723 34CD          *
      2724 34E1 CC 12 34 STROP2 STRA,R2          OP2
      2725 3410 CD 12 35          STRA,R1          CP2+1
      2726 3413 17          RETC,UN          *
      2727 3414          *
      2728 3414          *
      2729 3414          *
      2730 3414 CC 12 23 STRCP1 STRA,R2          OP1
      2731 3417 CD 12 24          STRA,R1          OP1+1
      2732 341A 17          RETC,UN          *
      2733 341B          *
      2734 341B          *
      2735 341B          *
      2736 341B CC          LOP1  RES
      2737 341C CC          LOP2  RES
      2738 341C CC          LOP1  1
      2739 341C CC          LOP2  RES
      2740 341C CC          LOP1  1
      2741 341C CC          LOP2  RES
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      2822 341C CC          LOP1  1
      2823 341C CC          LOP2  RES
      2824 341C CC 12 34 STROP2 STRA,R2          OP2
      2825 3410 CD 12 35          STRA,R1          CP1
      2826 3413 17          RETC,UN          *
      2827 3414          *
      2828 3414          *
      2829 3414          *
      2830 3414 CC 12 23 STROP1 STRA,R2          OP1
      2831 3417 CD 12 24          STRA,R1          OP1+1
      2832 341A 17          RETC,UN          *
      2833 341B          *
      2834 341B          *
      2835 341B          *
      2836 341B CC          LOP1  RES
      2837 341C CC          LOP2  RES
      2838 341C CC          LOP1  1
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      3222 341C CC          LOP1  1
      3223 341C CC          LOP2  RES
      3224 341C CC 12 34 STROP2 STRA,R2          OP2
      3225 3410 CD 12 35          STRA,R1          CP1
      3226 3413 17          RETC,UN          OP1+1
      3227 341A 17          RETC,UN          *
      3228 3414          *
      3229 3414          *
      3230 3414 CC 12 23 STRCPI STRA,R2          OP1
      3231 3417 CD 12 24          STRA,R1          OP1+1
      3232 341A 17          RETC,UN          *
      3233 341B          *
      3234 341B          *
      3235 341B          *
      3236 341B CC          LOP1  RES
      3237 341C CC          LOP2  RES
      3238 341C CC          LOP1  1
      3239 341C CC          LOP2  RES
      3240 341C CC          LOP1  1
      3241 341C CC          LOP2  RES
      3242 
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LIN#	ADDR	B1	B2	B3	LARFL	OPCODE	OPRND	
17739	341F	*						
17740	341F	*						
17741	341F	*						
17742	341F	*						
17743	341F	25	77		CETLUP	LDT,RY		
17744	341F	00	7B		STRB,RY	LOP2		
17745	341F	35	33	E7	CETLG	ASTA,UN	SRPSP	
17746	3424	07	3D		COMI,RS	<		
17747	3426	1C	0E		BCTR,EQ	GETL1		
17748	3426	F7	3C		COMI,RS	<		
17749	3426	18	0F		BCTR,EC	GETL2		
17750	342C	07	3E		COMI,RS	>		
17751	342C	05	34	42	RCM,IO	GETL7		
17752	3431	05	01		LODI,RQ	GT		
17753	3433	1A	0C		BCTR,UN	GETLA		
17754	3435	04	00		GETL1	LODI,RQ	EQ	
17755	3437	1B	02		BCTR,UN	GETL4		
17756	3439	04	02		GETL2	LODI,RQ	LT	
17757	343E	01	34	1E	GETL4	STRA,RY	LOP1,+	STORE YY
17758	343F	01			LODZ,R1			CHECK R1 FOR FIRST CHAR
17759	343F	15			RETC,GT			
17760	3440	1B	51		BCTR,UN	GETL6		
17761	3442	01			ICDZ,R1			
17762	3443	1F	33	07	RCTA,LT	ERR1		SYNTAX ERROR
17763	3445	1F	31	0E	BCPA,UN	DECPT		
17764	3449							
17765	3449							
17766	3449							
17767	3449	07	00		COMCP	LODY,R3	0	INITIALIZE RETURN STATUS
17768	344A	01	14	A5	LODA,R2	OPUTH		GET LENGTH OF COMPARE
17769	344A	16			RETC,FQ			
17770	344F	0C	92	23	COMOP1	LODA,R0	*OP1	
17771	3452	FC	92	34	COMA,R2	*OP2		
17772	3455	1F	53	0F	RCTA,LT	COMIT		
17773	3458	1F	33	AC	RCTA,GT	CONGF		
17774	345B	3F	32	05	BSTA,UN	INCOP1		
17775	345E	3F	32	05	BSTA,UN	INCOP2		
17776	3461	1A	0C		EDRA,R2	COMOP1		
17777	3463	22			EDRZ,R2			
17778	3464	17			RETC,UN			
17779	3465							
17780	3465							
17781	3465	*						
17782	3465	02			GCS1	RES	1	
17783	3466	02			GCS2	RES	1	
17784	3467	*						
17785	3467	*						
17786	3467	22			GCVAR	EORZ,R2		
17787	3467	22			STRB,RY	CREATD		
17788	3468	02	35		BSTA,UN	LOKVAR		
17789	3468	3F	3C	DA				
17790	3469	14			RETC,FQ			
17791	346E	15			RETC,LT			
17792	346F	33	53	53	GCVAR2	ESTA,UN	GETNAM	
17793	346F	33	33	53	EDRA,C			
17794	3472	15			STRA,R2	OPUTH		

CLEAR THE VARIABLE AND NEXT FITE

265	3405	1E	34	A0	BCTA,LT	GC	CCSTR	
2795	3419	31	33	FG	BSTA,UN	SKFSP		
2797	341B	E7	28		COMI,R3	(CHECK FOR DIMENSIONED VARIABLE	
2798	344D	16	33	AC	FCTA,EQ	CONFT		
2799	3482	3F	31	DE	BSTA,UN	DECFT		
2800	3483	24	22		LDTI,R0	2	DECFT	
2801	3485	25	04		LDTI,R1	LEN		
2802	3487	CA	1C		LDR,R2	OPLTH		
2803	3489	27	22		LDTI,R3	2		
2804	348B	3F	34	DD	BSTA,UN	GCSUP		
2805	348E	05	05		LDTI,R1	5	CLEAR THE VARIABLE AND NEXT FITE	
2806	3492	22						
2807	3491	3F	2F	2F	BSTA,UN	FUSOP2		
2808	3494	19	7A		BDRR,R1	GCPPT1		
2809	3496	0C	03	FA	GETDST	LDTA,RO		
2810	3496	2D	23	FB	STAR,RO	DST		
2811	349C	75	02		LDTA,RI	DST+1		
2812	349E	17		*	CPSL	CD		
2813	349F				RET,UN			
2814	34A0	00						
2815	34A2							
2816	34A2	04	FF		CCSTR	LDTI,RO	FF	
2817	34A2	09	7F		STAR,RO	CREATD		
2818	34A4	17		*				
2819	34A5				OPLTH	RES	1	
2820	34A5	67						
2821	34A6	07						
2822	34A7			*				
2823	34A7	02	7D		GCSTRA	STAR,RI	GCSSTG	
2824	34A9	7A			LDR,R2	OPLTH		
2825	34A9	6C	80		JORI,R2	80	MAKE IT A STRING	
2826	34A9	64	23		LDTI,PA	3		
2827	34A9	07	22		LDTI,R3	2		
2828	34B1	3F	34	DE	BSTA,UN	GCSUB		
2829	34B4	02	70		LDR,R2	GCSSTG		
2830	34B6	C1			GCSTRI	STARZ,RI		
2831	34B7	3F	2F		ESTA,UN	PUSOP2		
2832	34B8	04	20		GCSTRES	LDTI,RO		
2833	34EC	3F	2F		BSTA,UN	PUSCP2		
2834	34BF	7C	76		BDRR,R1	EORZ,RO		
2835	34C1	2C			ESTA,UN	FUSOP2		
2836	34C2	3F	2F		LDTI,RI	SDPFL		
2837	34C6	0C	0A		BSTA,UN	GETDST		
2838	34C7	3F	34	96	LDTI,RS	FF	SET LT CONDITION	
2839	34C8	07	FF					
2840	34CC	17						
2841	34CD	02			RET,UN			
2842	34CF	0C						
2843	34C1	20						
2844	74FZ			*				
2845	34D2	C8	7B		GCSUB	STRR,RO	GCVT1	2 OR 3
2846	34D2	C9	7A		STRR,R1	GCVT2	LENGTH OF VARIABLE	
2847	34D4	C5	95	24	STRR,R2	*TABEND	LENGTH OF NAME	
2848	34D7	C7	76		STRR,R3	GCVT3	HIGH BYTE OF LEN OF VAR	
2849	34D9	0C	10	24	LDTA,RO	TABEND		
2850	34E6	0C	12	34	SIRA,RO	OF2		
2851	34D1	0C	15	25	LDTA,RO	TABEND+1		

LINE	ALU/P	R1	R2	R3	MARSH	OPCODE	OPERAND
10002	34,P2	CC	12	36	SPPA,R2	OP2+1	
10003	34,P3	CC	12	36	1001,R0	HAPPY	
10004	34,P2	CC	12	36	STRA,R0	OP1	
10005	34,P4	CC	12	36	1001,R2	NAPBUT	
10006	34,P5	CC	12	36	STOD,R2	OP1+1	
10007	34,P6	CC	12	36	STDA,R0	INC02	
10008	34,P7	CC	12	36	1001,R1	OP1H	
10009	34,P8	CC	12	36	AIBA,R1	OP2+1	
10010	34,P9	CC	12	36	PSP1	9C	
10011	34,P10	CC	12	36	L0DA,R2	OP2	
10012	34,P11	CC	12	36	ADD1,R2	0	
10013	34,P12	CC	12	36	CYSL	CRY	
10014	34,P13	CC	12	36	GOVT1	ADD1,PC	
10015	34,P14	CC	12	36	ADDR,R1	ADD1,PO	
10016	34,P15	CC	12	36	STRB,RC	TEST	
10017	34,P16	CC	12	36	SERA,R1	DST+1	
10018	34,P17	CC	12	36	CPSB	CRY	
10019	34,P18	CC	12	36	1001,R1	GOVT2	
10020	34,P19	CC	12	36	ADDA,R2	GOVT3	
10021	34,P20	CC	12	36	CPSL	YC	
10022	34,P21	CC	12	36	STRA,R2	TABEND	
10023	34,P22	CC	12	36	STRR,R1	TAEND,I	
10024	34,P23	CC	12	36	PUSOP2	PCD-2,X33A,PCD-2+1	
10025	34,P24	CC	12	36	1001,R1	ADD1,PC	
10026	34,P25	CC	12	36	1001,R2	ADD1,PC	
10027	34,P26	CC	12	36	1001,R3	ADD1,PC	
10028	34,P27	CC	12	36	1001,R4	ADD1,PC	
10029	34,P28	CC	12	36	1001,R5	ADD1,PC	
10030	34,P29	CC	12	36	1001,R6	ADD1,PC	
10031	34,P30	CC	12	36	1001,R7	ADD1,PC	
10032	34,P31	CC	12	36	1001,R8	ADD1,PC	
10033	34,P32	CC	12	36	1001,R9	ADD1,PC	
10034	34,P33	CC	12	36	1001,R10	ADD1,PC	
10035	34,P34	CC	12	36	1001,R11	ADD1,PC	
10036	34,P35	CC	12	36	1001,R12	ADD1,PC	
10037	34,P36	CC	12	36	1001,R13	ADD1,PC	
10038	34,P37	CC	12	36	1001,R14	ADD1,PC	
10039	34,P38	CC	12	36	1001,R15	ADD1,PC	
10040	34,P39	CC	12	36	1001,R16	ADD1,PC	
10041	34,P40	CC	12	36	1001,R17	ADD1,PC	
10042	34,P41	CC	12	36	1001,R18	ADD1,PC	
10043	34,P42	CC	12	36	1001,R19	ADD1,PC	
10044	34,P43	CC	12	36	1001,R20	ADD1,PC	
10045	34,P44	CC	12	36	1001,R21	ADD1,PC	
10046	34,P45	CC	12	36	1001,R22	ADD1,PC	
10047	34,P46	CC	12	36	1001,R23	ADD1,PC	
10048	34,P47	CC	12	36	1001,R24	ADD1,PC	
10049	34,P48	CC	12	36	1001,R25	ADD1,PC	
10050	34,P49	CC	12	36	1001,R26	ADD1,PC	
10051	34,P50	CC	12	36	1001,R27	ADD1,PC	
10052	34,P51	CC	12	36	1001,R28	ADD1,PC	
10053	34,P52	CC	12	36	1001,R29	ADD1,PC	
10054	34,P53	CC	12	36	1001,R30	ADD1,PC	
10055	34,P54	CC	12	36	1001,R31	ADD1,PC	
10056	34,P55	CC	12	36	1001,R32	ADD1,PC	
10057	34,P56	CC	12	36	1001,R33	ADD1,PC	
10058	34,P57	CC	12	36	1001,R34	ADD1,PC	
10059	34,P58	CC	12	36	1001,R35	ADD1,PC	
10060	34,P59	CC	12	36	1001,R36	ADD1,PC	
10061	34,P60	CC	12	36	1001,R37	ADD1,PC	
10062	34,P61	CC	12	36	1001,R38	ADD1,PC	
10063	34,P62	CC	12	36	1001,R39	ADD1,PC	
10064	34,P63	CC	12	36	1001,R40	ADD1,PC	
10065	34,P64	CC	12	36	1001,R41	ADD1,PC	
10066	34,P65	CC	12	36	1001,R42	ADD1,PC	
10067	34,P66	CC	12	36	1001,R43	ADD1,PC	
10068	34,P67	CC	12	36	1001,R44	ADD1,PC	
10069	34,P68	CC	12	36	1001,R45	ADD1,PC	
10070	34,P69	CC	12	36	1001,R46	ADD1,PC	
10071	34,P70	CC	12	36	1001,R47	ADD1,PC	
10072	34,P71	CC	12	36	1001,R48	ADD1,PC	
10073	34,P72	CC	12	36	1001,R49	ADD1,PC	
10074	34,P73	CC	12	36	1001,R50	ADD1,PC	
10075	34,P74	CC	12	36	1001,R51	ADD1,PC	
10076	34,P75	CC	12	36	1001,R52	ADD1,PC	
10077	34,P76	CC	12	36	1001,R53	ADD1,PC	
10078	34,P77	CC	12	36	1001,R54	ADD1,PC	
10079	34,P78	CC	12	36	1001,R55	ADD1,PC	
10080	34,P79	CC	12	36	1001,R56	ADD1,PC	
10081	34,P80	CC	12	36	1001,R57	ADD1,PC	
10082	34,P81	CC	12	36	1001,R58	ADD1,PC	
10083	34,P82	CC	12	36	1001,R59	ADD1,PC	
10084	34,P83	CC	12	36	1001,R60	ADD1,PC	
10085	34,P84	CC	12	36	1001,R61	ADD1,PC	
10086	34,P85	CC	12	36	1001,R62	ADD1,PC	
10087	34,P86	CC	12	36	1001,R63	ADD1,PC	
10088	34,P87	CC	12	36	1001,R64	ADD1,PC	
10089	34,P88	CC	12	36	1001,R65	ADD1,PC	
10090	34,P89	CC	12	36	1001,R66	ADD1,PC	
10091	34,P90	CC	12	36	1001,R67	ADD1,PC	
10092	34,P91	CC	12	36	1001,R68	ADD1,PC	
10093	34,P92	CC	12	36	1001,R69	ADD1,PC	
10094	34,P93	CC	12	36	1001,R70	ADD1,PC	
10095	34,P94	CC	12	36	1001,R71	ADD1,PC	
10096	34,P95	CC	12	36	1001,R72	ADD1,PC	
10097	34,P96	CC	12	36	1001,R73	ADD1,PC	
10098	34,P97	CC	12	36	1001,R74	ADD1,PC	
10099	34,P98	CC	12	36	1001,R75	ADD1,PC	
10100	34,P99	CC	12	36	1001,R76	ADD1,PC	
10101	34,P100	CC	12	36	1001,R77	ADD1,PC	
10102	34,P101	CC	12	36	1001,R78	ADD1,PC	
10103	34,P102	CC	12	36	1001,R79	ADD1,PC	
10104	34,P103	CC	12	36	1001,R80	ADD1,PC	
10105	34,P104	CC	12	36	1001,R81	ADD1,PC	
10106	34,P105	CC	12	36	1001,R82	ADD1,PC	
10107	34,P106	CC	12	36	1001,R83	ADD1,PC	
10108	34,P107	CC	12	36	1001,R84	ADD1,PC	
10109	34,P108	CC	12	36	1001,R85	ADD1,PC	
10110	34,P109	CC	12	36	1001,R86	ADD1,PC	
10111	34,P110	CC	12	36	1001,R87	ADD1,PC	
10112	34,P111	CC	12	36	1001,R88	ADD1,PC	
10113	34,P112	CC	12	36	1001,R89	ADD1,PC	
10114	34,P113	CC	12	36	1001,R90	ADD1,PC	
10115	34,P114	CC	12	36	1001,R91	ADD1,PC	
10116	34,P115	CC	12	36	1001,R92	ADD1,PC	
10117	34,P116	CC	12	36	1001,R93	ADD1,PC	
10118	34,P117	CC	12	36	1001,R94	ADD1,PC	
10119	34,P118	CC	12	36	1001,R95	ADD1,PC	
10120	34,P119	CC	12	36	1001,R96	ADD1,PC	
10121	34,P120	CC	12	36	1001,R97	ADD1,PC	
10122	34,P121	CC	12	36	1001,R98	ADD1,PC	
10123	34,P122	CC	12	36	1001,R99	ADD1,PC	
10124	34,P123	CC	12	36	1001,R100	ADD1,PC	
10125	34,P124	CC	12	36	1001,R101	ADD1,PC	
10126	34,P125	CC	12	36	1001,R102	ADD1,PC	
10127	34,P126	CC	12	36	1001,R103	ADD1,PC	
10128	34,P127	CC	12	36	1001,R104	ADD1,PC	
10129	34,P128	CC	12	36	1001,R105	ADD1,PC	
10130	34,P129	CC	12	36	1001,R106	ADD1,PC	
10131	34,P130	CC	12	36	1001,R107	ADD1,PC	
10132	34,P131	CC	12	36	1001,R108	ADD1,PC	
10133	34,P132	CC	12	36	1001,R109	ADD1,PC	
10134	34,P133	CC	12	36	1001,R110	ADD1,PC	
10135	34,P134	CC	12	36	1001,R111	ADD1,PC	
10136	34,P135	CC	12	36	1001,R112	ADD1,PC	
10137	34,P136	CC	12	36	1001,R113	ADD1,PC	
10138	34,P137	CC	12	36	1001,R114	ADD1,PC	
10139	34,P138	CC	12	36	1001,R115	ADD1,PC	
10140	34,P139	CC	12	36	1001,R116	ADD1,PC	
10141	34,P140	CC	12	36	1001,R117	ADD1,PC	
10142	34,P141	CC	12	36	1001,R118	ADD1,PC	
10143	34,P142	CC	12	36	1001,R119	ADD1,PC	
10144	34,P143	CC	12	36	1001,R120	ADD1,PC	
10145	34,P144	CC	12	36	1001,R121	ADD1,PC	
10146	34,P145	CC	12	36	1001,R122	ADD1,PC	
10147	34,P146	CC	12	36	1001,R123	ADD1,PC	
10148	34,P147	CC	12	36	1001,R124	ADD1,PC	
10149	34,P148	CC	12	36	1001,R125	ADD1,PC	
10150	34,P149	CC	12	36	1001,R126	ADD1,PC	
10151	34,P150	CC	12	36	1001,R127	ADD1,PC	
10152	34,P151	CC	12	36	1001,R128	ADD1,PC	
10153	34,P152	CC	12	36	1001,R129	ADD1,PC	
10154	34,P153	CC	12	36	1001,R130	ADD1,PC	
10155	34,P154	CC	12	36	1001,R131	ADD1,PC	
10156	34,P155	CC	12	36	1001,R132	ADD1,PC	
10157	34,P156	CC	12	36	1001,R133	ADD1,PC	
10158	34,P157	CC	12	36	1001,R134	ADD1,PC	
10159	34,P158	CC	12	36	1001,R135	ADD1,PC	
10160	34,P159	CC	12	36	1001,R136	ADD1,PC	
10161	34,P160	CC	12	36	1001,R137	ADD1,PC	
10162	34,P161	CC	12	36	1001,R138	ADD1,PC	
10163	34,P162	CC	12	36	1001,R139	ADD1,PC	
10164	34,P163	CC	12	36	1001,R140	ADD1,PC	
10165	34,P164	CC	12	36	1001,R141	ADD1,PC	
10166	34,P165	CC	12	36	1001,R142	ADD1,PC	
10167	34,P166	CC	12	36	1001,R143	ADD1,PC	
10168	34,P167	CC	12	36	1001,R144	ADD1,PC	
10169	34,P168	CC	12	36	1001,R145	ADD1,PC	
10170	34,P169	CC	12	36	1001,R146	ADD1	

2912	3547	20	SETGOT	FORZ, R2	GOT	
2911	3548	C8	STRR, R2			
2912	354A	17	RETQ, UN			
2913	354B	*				
2914	354B	*	FVAL, RETURNS CC = EQ IF NORMAL, VALUE ON STACK			
2915	354B	*	LT IF STRING, R6, R1 = ADDRESS. R2 = LENGTH			
2916	354B	*	GT IF NOT FOUND			
2917	354B	*				
2918	354B	*				
2919	354B	04	EVAL	LDT, R2	1	
2920	354B	06	77	STRR, R2	GOT	
2921	354B	08	77	FORZ, R2	INITIALIZE OPERATOR STACK POINTER	
2922	354B	20	STRR, R2	OPSP		
2923	3550	08	66	7	THIS INDICATED BEGINNING OF A LIST	
2924	3552	07	07	EVALNL	YODI, R3	
2925	3554	38	52	PUSH	INITILIZE OPERATOR STACK	
2926	3556	3F	36	47	CKNG	
2927	3556	3F	36	DA	EVAL2	
2928	3556	16	76	BTSA, UN	TRY TO READ A VARIABLE	
2929	355D	28	77	BTFC, LT	TRY < C, > L7, ALSO TRY < C, > L8, ALSO TRY < C, > L9	
2930	355D	3F	32	7D	-	
2931	3562	38	63	PUSH		
2932	3564	1B	76	ESTR, UN		
2933	3566	39	39	EVAL15	EVAL15	
2934	3568	3C	35	PSTA, EC	SETGOT	
2935	356C	3E	33	EC	TRY TO READ A CONSTANT	
2936	356F	03	-	ESTA, UN	SKPSF	
2937	3572	05	75	LDT, R3	NUMBER OF OPERATORS	
2938	3572	1F	74	LDT, R1	5	
2939	3575	1C	75	COMA, R1	OPTBL,-	
2940	3576	59	78	BCTA, EQ	OPERATOR MATCH	
2941	357A	E7	20	BTNA, R1	ECP	
2942	357C	1C	35	BTCA, EQ	EDELI	
2943	357E	F7	26	COMI, R2	(
2944	3581	1C	35	RCTA, EQ	EDEL	
2945	3584	31	31	DECP		
2946	3587	24	36	BTSA, UN		
2947	3589	0E	68	LDT, R2	FCNTAB	
2948	358B	3F	28	LDT, R1	FCNTAB	
2949	358E	1C	36	ESTA, UN	TARUP	
2950	3591	3F	36	BTCA, EQ	EFCN	
2951	3594	F7	27	COMI, P3	POPUP	
2952	3596	98	64	RCTA, EQ	7	
2953	359E	0C	15	ECP	EVAL	
2954	359F	17	-	LODA, R2	GOT	
2955	359F	73	-	REMC, UN		
2956	359F	44	07	LDT, R3		
2957	359F	14	03	ANDI, R2	?	
2958	35A1	1D	33	07	FCIA, G1	ERR1 SYNTAX ERROR
2959	35A4	3F	35	FE	BTSA, UN	DOOP
2960	35A7	1B	68	BTCT, UN	EVAL7	
2961	35A8	*	*			
2962	35A8	2D	76	59	EOP	LOND, R1 OPCODE, GET OPERATION CODE
2963	35A9	51	-	RAL, R1		
2964	35A9	51	-	RAL, R1		
2965	35A9	51	-	RRL, R1		

THE HISTORY OF THE CHURCH OF CHRIST

137 E7 3D 4E
 3138 36FB C8 2E *
 3139 36FB C8 2E LODR,R2
 3140 36FD 3B 4C STA,R2
 3141 3CF5 08 D6 INCL
 3142 3701 08 29 *
 3143 3703 3B 43 LOKV2
 3144 3705 3F 33 E5 BSTA,UN
 3145 3708 1B CD GETCHA
 3146 370A 0E 0F COMR,R3
 3147 370C F9 75 BCFR,EO
 3148 372E 3F 33 DE BDRR,BI
 3149 3711 3F 30 BD BSTA,UN
 3150 3714 18 65 BCTR,EO
 3151 3716 3F 33 E4 BSTA,UN
 3152 3719 08 12 BCFR,EO
 3153 371B 3F 32 00 LOKV3
 3154 371E 08 08 BSTA,UN
 3155 3720 00 0A LODR,R2
 3156 3722 00 16 H7 STRA,R1
 3157 3725 CD 16 D8 STRA,R1
 3158 372E 1F 3C ED * LTTEMP+1
 3159 372A 00 00 FREE+1
 3160 372B 00 00 FREE+1
 3161 372D *
 3162 372E 3F 36 CE LOKV5 BSTA,UN
 3163 3732 F7 24 COMI,R3
 3164 3732 98 09 BCFR,EO
 3165 3734 3F 31 CE LOKV5
 3166 3737 0F 96 D7 BSTA,UN
 3167 373A 3F 36 C8 INCP
 3168 373D 3F 31 DE LOKV8 BSTA,UN
 3169 3740 0C 16 E7 LODA,R2
 3170 3743 0F 16 D8 LTTEMP+1
 3171 3746 F7 24 LODA,R1
 3172 3748 08 07 COMI,R3
 3173 374A 0F 16 F9 BCFR,EO
 3174 374D 0E 37 1B LOKV8
 3175 3752 17 * NOT A STRING
 3176 3751 *
 3177 3751 0F 16 D9 LOKV6 LODA,R3
 3178 3954 47 00 ANDI,R3
 3179 3756 19 22 BCTR,GT
 3180 3758 17 *
 3181 3759 *
 3182 3755 0E 00 LOKV5 LODA,R2
 3183 375B 2F 31 C8 PSTA,UN
 3184 375B 3F 33 D5 LOKV10 INCP
 3185 3761 57 29 STA,UN
 3186 3963 1E 04 GETCHR
 3187 3765 0E 01 ADDI,R2
 3188 3967 1E 75 STA,UN
 3189 3709 00 11 FE LOKV11 LODA,R2
 3190 3700 2F 11 FF STMP
 3191 370F 65 21 LODA,R1
 3192 3711 0E 02 ADDI,R1
 3193 3773 24 01 RETNLT
 3194 3773 24 01 ADDI,R2

L	U	R	E	T	A	M	R	O	C	P	N	S	R	OPCODE	OPERAND	OPERAND
3194	3775	07	FF	RET	LT	ICDI,R3	FF	SET LT CONDITION	RO, R1	in add, in the sub, in CC & LT						
3195	3777	17	*													
3196	3776	*														
3197	3778	*														
3198	3778	*														
3199	3776	00	00	RES	2	LVIT2	RES									
3200	377A	*	*													
3201	377A	*	*													
3202	377A	C8	7C	LOCKP		STRR,R0	LVIT2									
3203	377A	CD	17	79		STRA,R1	LVIT2+1									
3204	377C	377F	3F	33	E2	BSTA,UN										
3205	377C	3782	17	28		COMI,R3										
3206	3782	3784	CC	33	C7	KCPA,EQ	ERR1									
3207	3784	3787	3F	36	DA	BSTA,UN	LOKVAR									
3208	3787	378A	3F	32	?D	BSTA,UN	PUSH									
3209	378A	378D	3F	31	C8	BSTA,UN	INCPT									
3210	378D	3790	3F	3C	F5	BSTA,UN	POUC1									
3211	3790	3793	3F	2A	17	BSTA,UN	DTOBNI									
3212	3793	3796	20			KORZ,R0										
3213	3796	3797	A5	01		SUBI,R1	1									
3214	3797	3798	77	08		PPSL	WC									
3215	3798	379E	25	01		CPSL	CRY									
3216	379E	379D	D1			RRL,R0										
3217	379D	379F	D1			RRL,R1										
3218	379F	37A0	D2			RRL,R0										
3219	37A0	37A1	ED	17	70	ADDA,R1	LVIT2+1									
3220	37A1	37A4	9C	17	78	ADDA,R0	LVIT2									
3221	37A4	37A7	75	08		CPSL	CE+WC									
3222	37A7	37A8	75	08		RET,C,UN										
3223	37A8	37AC	17													
3224	37AC	37AA														
3225	37AA	37AA														
3226	37AA	37AA														
3227	37AA	37AA														
3228	37AA	37AA														
3229	37AA	37AA														
3230	37AA	37AA														
3231	37AA	37AA														
3232	37AA	04	27			TRAN	IODI,R0	OPB								
3233	37AC	35	41			IODI,R1	OPB									
3234	37AF	3F	32	45		IODI,UN										
3235	37AF	37B1	24	27		IODI,R0										
3236	37B1	37B3	05	48		IODI,R1	CPO									
3237	37B3	37EE	3F	32	45	IODI,UN	POP									
3238	37EE	37F8	27	00		IODI,R3	00									
3239	37F8	37FA	77	08		PPSL	WC									
3240	37FA	37BC	17			RTTC,UN										
3241	37BC	37ED														
3242	37ED	37BD														
3243	37BD	37ED														
3244	37ED															
3245	37ED															
3246	37ED															
3247	37BD															
3248	37BL	37E1	6B	4F		FPSUE	FSTR,UN	TRAN								
3249	37E1	37C2	1B	27		ESTA,UN	TCOM									
3250	37C2	37C2	1B	27		ACTP,UN	ADD1									

THIS ROUTINE TRANSFERS THE OPERANDS FROM THE STACK TO OPR AND OPA

THIS ROUTINE TRANSFERS THE OPERANDS FROM THE STACK OFF OPR AND OPA

THIS ROUTINE SUBTRACTS TWO BINARY FLOATING POINT NUMBERS

THIS ROUTINE PERFORMS TWO'S COMPLEMENT

54 37C4 06 27 ADDC LODI,R2 OPEB
 3252 37CC 07 4D LODI,R3 CPE
 32F3 37C6 27 4D BCTR,UN ADDR
 * 32E4 37C8 1B 07 *
 32E5 37CA 05 27 ADDE LODI,R2 OPA
 3257 37CC 07 48 LODI,R3 OPA
 32E6 37C8 0D 0D 4D LODA,R1 OPE
 32E5 37D1 CE 07 45 ADDE STRA,R2 ADR
 32E6 37D4 CF 27 46 STRA,R3 ADR+1
 32E1 37D7 07 61 ADDE LODI,R3 SET BYTE COUNTER
 32E2 37D9 77 21 FISL *ADR,I CRY
 32E3 371B 0F 17 4E LODA,R3 SET CARRY
 32E4 373B 1A 02 FISL *ADR,I CRY
 32E5 37E0 75 01 LODI,R2 IF BYTE OF MANTISSA
 32E6 37E2 06 04 ADDG LODI,R2 SET END OF BYTE COUNTER
 32E7 37E4 3F 38 33 LODA,UN BRIN
 32E8 37E7 0C 87 45 LODA,UN *ADR ROTATE EIGHT MANTISSA AND INCR EXPONENT
 32E9 37EA E1 COMZ,R1 TEST TWO EXPONENTS
 3270 371B CG 6A ECER,FQ ADDF IF NOT EQUAL, CONTINUE
 3271 37FD 1B 16 BCTR,UN ADDH IF EQUAL, ALIGN READY, GO BACK
 * 3272 37FF *****
 3273 37EE *****
 3274 37EF *****
 3275 37EF * ADDITION ROUTINE
 3276 37EF * THIS ROUTINE ADDS TWO BINARY FLOATING POINT NUMBERS
 3277 37EF *
 3278 37EF 3F 37 AA FPADD PSTA,UN TRANFER OPERANDS FROM STACK TO OPA, OPE
 3279 37EF 3F 37 AA FPADD PSTA,UN TRANSFER OPERANDS FROM STACK TO OPA, OPE
 327A 0 3712 75 02 ADDJ CISL COM ARITHMETIC COMPARE
 3281 3714 22 FORZ,RC OPA+LEN
 3282 3715 CC 67 4C STRA,R0 OPA+LEN
 3283 3718 CC 97 51 STRA,R2 OPA+LEN
 3284 371B 0D 07 46 LODA,R1 OPA COMPARE EXPONENTS OF THE TWO OPERANDS
 3285 37FE ED 67 4D COMA,R1 OPR
 3286 2E91 10 21 BCTR,GT ADDC OPASOPP
 3287 3E73 1A 45 BCTR,LT ADDD ALIGN OPERAND 2 OPA>OPA
 3288 3E27 75 21 ADDH CPSI,CY SET BYTE COUNT EP
 3289 3E27 27 24 LODI,R3 LEN ADD MANT OF OPER 1 TO MANT OF OPER 2 AND
 3290 3E29 2F 67 4D ADKE LODA,R3 OPB,I
 3291 3E30 67 67 46 ADLA,R2 OPA,I
 3292 3E30 67 67 4D STRA,R3 OPR,I
 3293 3E32 75 75 4D EDRR,R3 ADDK
 3294 3E14 E4 27 R0OF LODI,R2 OPR
 3295 3E16 65 4D LCDI,R1 CPB
 3296 3E18 3F 39 26 ESTA,UN QVBL
 3297 3E1B 3F 39 94 BSTA,UN NORM NORMALIZE RESULT
 3298 3E1E 24 22 PUSHRS LODI,R2
 3299 3E20 03 LPSL
 329A 3E21 04 27 LODI,R0 OPE
 329B 3E23 05 4D LODI,R1 OBF
 329C 3E25 1F 32 7D PCTA,UN PUSH
 329D 3E28 03 *****
 329E 3E28 * OVERFLOW ROUTINE
 329F 3E28 *
 32A0 3E28 *
 32A1 3E28 *

LIN# F1# F2# L# L# OPCODE OPERAND
 370C 3669 3669 THIS ROUTINE INCREMENTS THE EXPONENT AND ROTATES THE MANTISSA.
 370D 3670 3670 EIGHT IF THE OVF FLAG IS 1.

370E 3671 CC 07 45 OVFL STEPA, R2 ATR	370F 3672 CC 07 45 STRA, R1 ADR+1
3710 3673 CC 07 45 OVF TONI, R2 LEN	3711 3674 CC 07 45 OVF TPSL
3712 3675 CC 04 OVF NO OVERFLOW	3713 3676 CC 04 OVF
3714 3677 CC 10 RHN ICIDL,R3 0	3715 3678 CC 10 RHN ICIDL,R3 0
3716 3679 CC 07 E7 45 LODA,R2 *ADR,I	3717 367A CC 07 E7 45 LODA,R2 *ADR,I
3718 367B CC 07 E7 45 COM, R2 7F	3719 367C CC 07 E7 45 COM, R2 7F
371A 367D CC 10 30 EE OCTA, R2 ERMS	371B 367E CC 10 30 EE OCTA, R2 ERMS
371C 367F CC 10 02 HIR,R2 \$42	371D 3680 CC 10 02 HIR,R2 \$42
371E 3681 CC 07 45 LTA STRA,R3 *ADR,I	371F 3682 CC 07 45 LTA STRA,R3 *ADR,I
3720 3683 CC 02 LODZ,R2	3721 3684 CC 02 LODZ,R2
3722 3685 CC 03 GCMZ,R3	3723 3686 CC 03 GCMZ,R3
3724 3687 CC 04 RETC,EQ	3725 3688 CC 04 RETC,EQ
3726 3689 CC 07 45 LODA,R3 *ADR,+	3727 368A CC 07 45 LODA,R3 *ADR,+
3728 368B CC 02 ERR,R2	3729 368C CC 02 ERR,R2
372A 368D CC 1F 74 *UTR,UN TPA	372B 368E CC 1F 74 *UTR,UN TPA
372C 368F CC 00 00 *	372D 3690 CC 00 00 *
372E 3691 CC 00 00 *	372F 3692 CC 00 00 *
3730 3693 CC 00 00 *	3731 3694 CC 00 00 *
3732 3695 CC 00 00 *	3733 3696 CC 00 00 *
3734 3697 CC 00 00 *	3735 3698 CC 00 00 *
3736 3699 CC 00 00 *	3737 369A CC 00 00 *
3738 369B CC 00 00 *	3739 369C CC 00 00 *
373A 369D CC 00 00 *	373B 369E CC 00 00 *
373C 369F CC 00 00 *	373D 36A0 CC 00 00 *
373E 36A1 CC 00 00 *	373F 36A2 CC 00 00 *
3740 36A3 CC 00 00 *	3741 36A4 CC 00 00 *
3742 36A5 CC 00 00 *	3743 36A6 CC 00 00 *
3744 36A7 CC 00 00 *	3745 36A8 CC 00 00 *
3746 36A9 CC 00 00 *	3747 36A9 CC 00 00 *
3748 36AA CC 00 00 *	3749 36AB CC 00 00 *
374A 36AC CC 00 00 *	374B 36AD CC 00 00 *
374C 36AE CC 00 00 *	374D 36AF CC 00 00 *
374E 36B0 CC 00 00 *	374F 36B1 CC 00 00 *
3750 36B2 CC 00 00 *	3751 36B3 CC 00 00 *
3752 36B4 CC 00 00 *	3753 36B5 CC 00 00 *
3754 36B6 CC 00 00 *	3755 36B7 CC 00 00 *
3756 36B8 CC 00 00 *	3757 36B9 CC 00 00 *
3758 36B0 CC 00 00 *	3759 36B1 CC 00 00 *
375A 36B2 CC 00 00 *	375B 36B3 CC 00 00 *
375C 36B4 CC 00 00 *	375D 36B5 CC 00 00 *
375E 36B6 CC 00 00 *	375F 36B7 CC 00 00 *
3760 36B8 CC 00 00 *	3761 36B9 CC 00 00 *
3762 36B0 CC 00 00 *	3763 36B1 CC 00 00 *
3764 36B2 CC 00 00 *	3765 36B3 CC 00 00 *
3766 36B4 CC 00 00 *	3767 36B5 CC 00 00 *
3768 36B6 CC 00 00 *	3769 36B7 CC 00 00 *
376A 36B8 CC 00 00 *	376B 36B9 CC 00 00 *
376C 36B0 CC 00 00 *	376D 36B1 CC 00 00 *
376E 36B2 CC 00 00 *	376F 36B3 CC 00 00 *
3770 36B4 CC 00 00 *	3771 36B5 CC 00 00 *
3772 36B6 CC 00 00 *	3773 36B7 CC 00 00 *
3774 36B8 CC 00 00 *	3775 36B9 CC 00 00 *
3776 36B0 CC 00 00 *	3777 36B1 CC 00 00 *
3778 36B2 CC 00 00 *	3779 36B3 CC 00 00 *
377A 36B4 CC 00 00 *	377B 36B5 CC 00 00 *
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3948 36B0 CC 00 00 *	3949 36B1 CC 00 00 *
3950 36B2 CC 00 00 *	3951 36B3 CC 00 00 *
3952 3659 CC 07 47 MDIB LODA,R2 FLAG	3953 365A CC 32 72 ECFA, R2 IARR
3954 365B CC 20 NEIC LODZ,R2	3955 365C CC 27 47 EDIN SMDA,R2 OPE,+
3956 365D CC 17 63 COMBPS LN-1	3957 365E CC 17 63 ECFA, R2 MDIN
3958 365F CC 07 62 LODA,R2 80	3959 365G CC 07 62 STRA,R2 CPB
3960 365H CC 07 47 47 ECFA, R2 FUSRS	3961 365I CC 07 47 47 ECFA, R2 OPA
3962 365J CC 07 47 47 ECFA, R2 IARR	3963 365K CC 07 47 47 ECFA, R2 OPA
3964 365L CC 07 47 47 ECFA, R2 IARR	3965 365M CC 07 47 47 ECFA, R2 OPA
3966 365N CC 07 47 47 ECFA, R2 IARR	3967 365O CC 07 47 47 ECFA, R2 OPA
3968 365P CC 07 47 47 ECFA, R2 IARR	3969 365Q CC 07 47 47 ECFA, R2 OPA
3970 365R CC 07 47 47 ECFA, R2 IARR	3971 365S CC 07 47 47 ECFA, R2 OPA
3972 365T CC 07 47 47 ECFA, R2 IARR	3973 365U CC 07 47 47 ECFA, R2 OPA
3974 365V CC 07 47 47 ECFA, R2 IARR	3975 365W CC 07 47 47 ECFA, R2 OPA
3976 365X CC 07 47 47 ECFA, R2 IARR	3977 365Y CC 07 47 47 ECFA, R2 OPA
3978 365Z CC 07 47 47 ECFA, R2 IARR	3979 365A CC 07 47 47 ECFA, R2 OPA
3980 365B CC 07 47 47 ECFA, R2 IARR	3981 365C CC 07 47 47 ECFA, R2 OPA
3982 365D CC 07 47 47 ECFA, R2 IARR	3983 365E CC 07 47 47 ECFA, R2 OPA
3984 365F CC 07 47 47 ECFA, R2 IARR	3985 365G CC 07 47 47 ECFA, R2 OPA
3986 365H CC 07 47 47 ECFA, R2 IARR	3987 365I CC 07 47 47 ECFA, R2 OPA
3988 365J CC 07 47 47 ECFA, R2 IARR	3989 365K CC 07 47 47 ECFA, R2 OPA
3990 365L CC 07 47 47 ECFA, R2 IARR	3991 365M CC 07 47 47 ECFA, R2 OPA
3992 365N CC 07 47 47 ECFA, R2 IARR	3993 365O CC 07 47 47 ECFA, R2 OPA
3994 365P CC 07 47 47 ECFA, R2 IARR	3995 365Q CC 07 47 47 ECFA, R2 OPA
3996 365R CC 07 47 47 ECFA, R2 IARR	3997 365S CC 07 47 47 ECFA, R2 OPA
3998 365T CC 07 47 47 ECFA, R2 IARR	3999 365U CC 07 47 47 ECFA, R2 OPA
4000 365V CC 07 47 47 ECFA, R2 IARR	4001 365W CC 07 47 47 ECFA, R2 OPA
4002 365X CC 07 47 47 ECFA, R2 IARR	4003 365Y CC 07 47 47 ECFA, R2 OPA
4004 365Z CC 07 47 47 ECFA, R2 IARR	4005 365A CC 07 47 47 ECFA, R2 OPA
4006 365B CC 07 47 47 ECFA, R2 IARR	4007 365C CC 07 47 47 ECFA, R2 OPA
4008 365D CC 07 47 47 ECFA, R2 IARR	4009 365E CC 07 47 47 ECFA, R2 OPA
4010 365F CC 07 47 47 ECFA, R2 IARR	4011 365G CC 07 47 47 ECFA, R2 OPA
4012 365H CC 07 47 47 ECFA, R2 IARR	4013 365I CC 07 47 47 ECFA, R2 OPA
4014 365J CC 07 47 47 ECFA, R2 IARR	4015 365K CC 07 47 47 ECFA, R2 OPA
4016 365L CC 07 47 47 ECFA, R2 IARR	4017 365M CC 07 47 47 ECFA, R2 OPA
4018 365N CC 07 47 47 ECFA, R2 IARR	4019 365O CC 07 47 47 ECFA, R2 OPA
4020 365P CC 07 47 47 ECFA, R2 IARR	4021 365Q CC 07 47 47 ECFA, R2 OPA
4022 365R CC 07 47 47 ECFA, R2 IARR	4023 365S CC 07 47 47 ECFA, R2 OPA
4024 365T CC 07 47 47 ECFA, R2 IARR	4025 365U CC 07 47 47 ECFA, R2 OPA
4026 365V CC 0	

3355 3895 3B 4D BSTR,UN TWO
 3356 3894 21 MDIL
 3357 3895 1C 07 BCTR,CT
 3358 3897 22 ECRZ,RZ
 3359 3898 05 37 4C STRA,RZ
 3360 3899 3E 38 4F MUL
 3361 389A 26 MDIL
 3362 389B 1E 24 BCTR,UN PDIF
 * 3363 3891 * * * * *
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 * 33FF 3891 * * * * *

THIS ROUTINE DIVIDES TWO BINARY FLOATING POINT NUMBERS

DIVISION ROUTINE

MDID

BCTR,LT

FF

FLAG

STRB,RZ

SIGN

PSTA,UN

TRAN

OPB+1

BCTR,EQ

MDIB

LCDI,RZ

FF

SIGN

STRB,RZ

OPA+1

LODA,RZ

OPCA,EC

MDIC

BCTR,LT

NDIE

DIV

BCFA,EC

DIVN

LODZ,R1

MDID

BCTR,LT

OPB+1

STRB,RZ

SIGN

PSTA,PO

LEN

OPB+LEN,

BRNR,P3

MPC

LODA,RZ

FLAG

BCFA,EC

DIV

YODI,R2

FIEN

CRY

LEN-2

OPB+1

PDRR,R3

MULB

CRY

MULE

LEN-1

OPB+1

CHY

OPB+LEN,

OPA+1,T

STRB,R3

OPB+LEN,I

STRB,R3

LINR	LINE	F1	F2	F3	LABEL	OPCODE	OPERAND
3455	3455	SB	75			PRM,RS	RULC
		LODI,RS				LEN-1	
		ADDI,EC				OPA,I	
		STRA,EC				OPP,I	
		MULI,RS				OPB,I	
		PULF				OPC,I	
		EDRS,E2				OPD,I	
		CST				OPF,I	
						OPG,I	
						OPH,I	
						OPJ,I	
						OPK,I	
						OPL,I	
						OPM,I	
						OPN,I	
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						OPV,I	
						OPW,I	
						OPX,I	
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						OPC,I	
						OPD,I	
						OPE,I	
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						OPJ,I	
						OPK,I	
						OPL,I	
						OPM,I	
						OPQ,I	
						OPR,I	
						OPU,I	
						OPV,I	
						OPW,I	
						OPX,I	
						OPY,I	
						OPZ,I	
						OPA,I	
						OPB,I	
						OPC,I	
						OPD,I	
						OPE,I	
						OPF,I	
						OPG,I	
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						OPZ,I	
						OPA,I	
						OPB,I	
						OPC,I	
						OPD,I	
						OPE,I	
						OPF,I	
						OPG,I	
</td							

L 9C 30 6E 4D MDIT BCFA,FG
 346 3964 60 87 4D STRA,R0 OPB
 3461 3967 3B 2B BSTR,UN NCRM
 3462 3969 75 01 CPSE,CY
 3463 396B 2C 87 4D LODA,R0 OPB
 3464 396F 21 ADDZ,R1
 3465 396F CC 27 4D STRA,R0 OPB
 3466 3972 B5 F4 TPSL OVF
 3467 3974 12 11 BCTR,EQ MDIJ
 3468 3976 1F 30 6E ECTA,UN ERTE
 3469 3978 75 01 MDIK CPSL CRY
 346A 3978 61 ADDZ,R1
 346B 397C C1 STRZ,R1
 346C 397D 20 FORZ,R0
 346D 397E B5 24 TPSL OVF
 346E 3980 18 62 ECTR,EQ MDII
 346F 3982 CL 07 4D MDIH STRA,R1 OPP
 3470 3985 3B 0D ESTR,UN NORM
 3471 3987 07 04 MDIJ LODI,R3 LEN
 3472 398C VC 07 4C LGDA,R0 SIGN
 3473 398C BC 38 4D BSFA,EQ TWOA
 3474 398F 75 04 CFSL OVF
 3475 3991 1F 38 14 ECTA,UN ROOF
 3476 3994 *****
 3477 3994 *****
 3478 3994 *****
 3479 3994 *****
 347A 3994 *****
 347B 3994 *****
 347C 3994 *****
 347D 3994 *****
 347E 3994 *****
 347F 3994 *****
 3480 3995 75 02 NORI CPSL COM
 3481 3998 02 NORI LODZ,R2
 3482 3999 02 STRZ,R3
 3483 399A 0C 07 4E LODA,R2 OPB+1
 3484 399D Y4 CE COMI,R2 CQ
 3485 399F 16 RETC,LT
 3486 39A2 Y4 3F GONI,R2 3F
 3487 39A2 15 RETC,GT
 3488 39A3 2C 27 4D LODA,R2 OPB
 3489 39A6 Y4 82 COMI,R2 EQ
 3490 39A9 18 12 ECTR,EQ LIE
 3491 39AA F8 92 BDRR,R2 \$+2
 3492 39AC CC 07 4D STRA,R2 OPB
 3493 39AF 75 01 CPSL CRY
 3494 39B1 0F 67 4D LPD LODA,R3 OPB,I
 3495 39B4 D0 RRL,R2
 3496 39C5 CF 67 4D STRA,R3 OPB,I
 3497 39D8 FB 77 EDRR,R3 LFD
 3498 39D8 1B 5C BCTR,UN NORM
 3499 39EC 07 67 4D LPE LODA,R3 OFB,I
 349A 39F7 9C 30 6E BCWA,EQ ERRIE
 349B 39F2 FB 78 BDRR,R3 LFE
 349C 39F4 17 RETC,UN
 349D 39G5 3F 33 09 ECONST BSTA,UN SKPSE
 349E 39G5 22 FORZ,R2
 349F 39G9 CS 2D STRA,R0 ECONSS

LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
3536	39CF	F7	2B			COMI,R3	'.'
3537	39CD	18	0D			BCTR,EQ	ECONSS
3538	39CF	F7	2D			COMI,R3	_
3539	39D1	0E	0E			BCFR,EQ	ECONSS4
3540	39D3	04	FF			LODI,R0	FF
3541	39D5	C8	21			STRR,R0	ECONSS
3542	39D7	1F	03			BCTR,UN	ECONSS
3543	39D9	3F	31	DF	ECONSS4	DECPT	
3544	39DC	3F	3A	CA	ECONSS4	BSTA,UN	EASCII
3545	39DF	3F	33	D5	BSTA,UN	GETCHR	CHANGE ASCII STRING OF NUMBERS TO FPT
3546	39E2	E7	2E			COMI,R3	GET NEXT CHARACTER
3547	39E4	18	1C			BCTR,EQ	DECIMAL POINT
3548	39E6	E6	0E			COMI,R2	ECONSI
3549	39E8	18	0F			BCTR,FC	ECONSS
3550	39EA	E7	4E			COMI,R2	EXPONENT NOTATION FOLLOWING
3551	39EC	1C	3A	26		BCTA,EQ	ECONSS5
3552	39EF	3F	31	DE		BSTA,UN	DECPT
3553	39F2	3F	3A	61		BSTA,UN	NEGATE
3554	39F5	20				FORZ,R0	
3555	39F6	17				RETC,UN	
3556	39F7	0E				ECSTR,RES	1
3557	39F8	0E				ECONSS,RES	*
3558	39F9						
3559	39F9	3F	3D	11	ECONSS9	BSTA,UN	POP/POP
3560	39FC	3F	31	DE		BSTA,UN	DECPT
3561	39FF	04	21			LODI,R0	1
3562	3A01	17				RETC,UN	
3563	3A02	3F	3A	CA	ECONSI	BSTA,UN	EASCII
3564	3A05	CA	70			ECSTR	GET THE FRACTIONAL PART OF THE NUMBER
3565	3A07	02				LODZ,R2	STORE THE NUMBER OF CHARACTERS GOTTEN IN
3566	3A28	18	0A			BCTR,EQ	ECONSS3
3567	3A0A	3F	3A	28		BSTA,UN	PUSH A FPT TO THE STACK
3568	3A0D	3F	38	S4		BSTA,UN	FPDIV
3569	3A10	0A	65			LODR,R2	ECSTR
3570	3A12	FA	71			BDRR,R2	ECONSS2
3571	3A14	2F	27	FF	ECONSS3	BSTA,UN	FPADD
3572	3A17	3F	3A	61		BSTA,UN	NEGATE
3573	3A1A	3F	33	E7		BSTA,UN	SKPSP
3574	3A1D	E7	45			COMI,R3	GET NEXT CHARACTER FROM LINE
3575	3A1F	18	0E			BCTR,EQ	'E'
3576	3A21	3F	31	DE		ECONSS	EXponent TO FOLLOW
3577	3A24	20				DECPT	RESTORE THE INPUT POINTER
3578	3A2E	17				FORZ,R0	
3579	3A26	20				RETC,UN	
3580	3A27	C8	4F		ECONSS	FORZ,R0	RETURN WITH THE NUMBER
3581	3A2G	3F	33	E7		BCTR,RC	
3582	3A2C	F7	2B			BSTA,UN	
3583	3A2E	18	0D			CCMI,R3	
3584	3A30	17	2D			BCTR,EQ	ECONSS7
3585	3A32	9E	0E			LODI,R0	
3586	3A34	04	FF			STRR,R0	
3587	3A36	0E	40			BCTR,UN	
3588	3A38	1B	03			ECSTR	
3589	3A3A	3F	31	DE	ECONSE	BSTA,UN	DECPT
3590	3A3D	3F	3A	AA	ECONSE7	BSTA,UN	GET3C
3591	3A40	02				LODZ,R2	CONVERT UP TO 3 ASCII CHARS TO NUMBER IN R2
3592	3A41	14				FF,C,FC	

LINE	DATA	DT	PC	DATA	OPCODE	OFEND
3600	A42	3F	3A	7A	ESTA,UN	FUSH1
3594	3A45	CE	19	F7	ECONSG	ECSTR
3595	3A48	3F	3A	88	BSTA,UN	PUSH10
3596	3A4B	3F	38	91	BSTA,UN	FPMULT
3597	3A4E	01	19	F7	LODA,R2	ECSTR
3598	3A51	FA	72		BDRR,R2	ECONSG
3599	3A53	0C	19	F8	LODA,R0	ECONSS
3600	3A56	3C	38	91	BSTA,EQ	FPMULT
3601	3A59	0C	19	F8	LODA,R0	ECONSS
3602	3A5C	3E	38	94	BSTA,LT	FPDIV
3603	3A5F	20			FORZ,R0	
3604	JAC0	17			RETC,UN	
3605	3A61	*				
3606	3A61	*				
3607	3A61	*				
3608	3A61	0C	19	F8	NEGATE	LODA,R0
3609	3A64	14			RETC,EQ	ECONSS
3610	3A65	3F	3D	11	BSTA,UN	POPOPB
3611	3A68	77	08		PPSL,UN	WC
3612	3A6A	3F	38	4B	BSTA,UN	TCOM
3613	3A6D	75	08		CPSL,UN	WC
3614	3A6F	3F	3D	18	BSTA,UN	\ PUSOPB
3615	3A72	17			RETC,UN	
3616	3A73	*				
3617	3A73	04	3A		PUSHC	LODI,RC
3618	3A75	05	96		LODI,R1	FPC
2619	3A77	1F	32	7D	BCTA,UN	PUSH
3620	3A7A	04	3A		PPUSH1	LODI,R0
3621	3A7C	05	9A		LODI,R1	FP1
3622	3A7F	1F	32	7D	BCTA,UN	PUSH
3623	3A81	04	3A		PPUSH2	LODI,R0
3624	3A83	05	9E		LODI,R1	FP2
3625	3A85	1F	32	7D	BCTA,UN	PUSH
3626	3A88	04	3A		PUSH10	LODI,RC
3627	3A8A	05	A2		LODI,R1	FP10
3628	3ABC	1F	32	7D	BCTA,UN	PUSH
3629	3AEF	04	3A		PPUSM1	LODI,RC
3630	3A91	0F	AC		LODI,R1	FPM1
3631	3A93	1F	32	7D	BCTA,UN	PUSH
3632	3A96	*				
3633	3A96	*				
3634	3A96	*				
3635	3A96	8C		FPO	DATA	80
3636	3A97	00			DATA	00
3637	3A98	00			ACON	0000
3638	3A9A	01	40		ACON	0140
3639	3A9C	00	00		ACON	0000
3640	3A9E	02	40		ACON	0240
3641	3AA0	00	00		ACON	0000
3642	3AA2	04	50		ACON	0450
3643	3AA4	00	00		ACON	0000
3644	3AA6	01	00		ACON	0100
3645	3AA8	00	00		ACON	0000
3646	3AAA	*			ACON	0000
3647	3AAA	20			GETSC	FORZ,RC
3648	3AAB	CC	19	F7	GET3C3	STRA,RO
3649	3AAE	3F	33	D5	BSTA,UN	GETCHR

Line 10

Line 12

LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
3650	3AB1	3F	3A	BD		ESTA,UN	CNUM0
3651	3AB4	9E	DE			BCFR,EQ	GET3C1
3652	3AB6	0C	19	F7		LODA,R0	ECSTR
3653	3ABC	0C	09			LODI,R2	9
3654	3ABB	C1				STRZ,R1	
3655	3AEC	81			GET3C2 ADDZ,R1		
3656	3ABD	FA	7D			*BD R,R2	GET3C2
3657	3ABF	47	0F			ANDI,R3	F
3658	3AC1	83				ADDZ,R3	
3659	3AC2	1B	67			BCTR,UN	GET3C3
3660	3AC4	0E	19	F7	GET3C1 LODA,R2	ECSTR	
3661	3AC7	1F	31	DE	*	DECP	
3662	3ACA						
3663	3ACA	3F	31	DE	EASCII BSTA,UN	SKPDEC	
3664	3ACD	3F	3A	73	BSTA,UN	PUSH0	INITIALIZE THE NUMBER
3665	3ADD	20			ESTA,UN	CNUM0	
3666	3ADD	C8	3E		EASCII STRR,R0	FASTG	
3667	3ADD	C2			STRZ,R2		
3668	3AD4	0F	84	5F	LODA,R3	*INPT	
3669	3AD7	3F	30	BD	ESTA,UN	CNUM0	
3670	3ADA	1F			RETC,GT		
3671	3ADB	16			RETC,LW		
3672	3ADC	3F	3A	88	BSTA,UN	PUSH10	
3673	3ADF	3F	32	91	BSTA,UN	FPMULT	
3674	3AE2	3F	33	D5	BSTA,UN	GETCHR	
3675	3AE5	47	0F		ANDI,R3	OF	MAKE IT DECIMAL
3676	3AE7	18	24		ECTR,EG	EASC12	
3677	3AE9	D3			RRL,R3		
3678	3AEA	D3			RRL,R3		
3679	3AEB	D3			RRL,R3		SET IT UP TO BE THE FIRST BYTE OF MANTISSA
3680	3AEC	CF	07	4F	STRA,R3	CPB+1	
3681	3AFF	04	04		LODI,R0	4	
3682	3AF1	CC	07	4D	STRA,R0	OPB	
3683	3AF4	22			EORZ,R2		
3684	3AF5	CC	07	4F	STRA,R0	OPB+2	
3685	3AF8	CC	07	50	STRA,R0	OPB+3	
3686	3AFB	77	08		PPSL	WC	
3687	3AID	3F	39	94	BSTA,UN	NORM	NORMALIZE THE DIGIT
3688	3B00	04	02		LODI,R0	2	
3689	3B02	93			LPSL		
3690	3B03	04	27		LODI,R2	^OPB	
3691	3B05	05	4D		LODI,R1	OPB	
3692	3B07	3F	32	7D	BSTA,UN	PUSH	PUSH THE DIGIT
3693	3B0A	3F	37	EF	ESTA,UN	FPADD	ADD THIS DIGIT TO ALL THE REST
3694	3B0D	08	02		EASC12 LODR,R0	EASTG	
3695	3B0F	D8	4C		BIRR,R0	EASC11	
3696	3B11			*			
3697	3B11			*			
3698	3B11			*			
3699	3B11	00			EASTG RES	1	
3700	3B12	00			XPNSGN RES	1	
3701	3B13	00			INTSGN RES	1	
3702	3B14	00			BYTON RES	1	
3703	3B15			*			
3704	3B15			*			
3705	3B15	05	08		FIYNL LODI,R1	A	
3706	3B15			*			

FORZ, R.

					FLAZ, R6	INTSTG,-
07	7	7	20	3B18 CD 47 2D	FIXNL1	
3708	3B18	CD 47	2D	STR A,R1		
3709	3B1B	59 7B		BRR,R1		FIXNL1
3710	3B1D	CC 1B	B5	STR A,R6		INTEXP
3711	3B20	CC 70		STR R,R6		EXP SGN
3712	3B22	CC 6F		STR R,R6		INTSGN
3713	3B24	CC 13	8E	LODA,R6		CBUF1+1
3714	3B27	F4 80		TMI ,R0		80
3715	3B29	98 20		BCFR,EQ		FIXNL2
3716	3B2B	05 04		LODI,R1		4
3717	3B2D	CD 53	8D	FIXNL3		CBUF1,-
3718	3B30	CC 67	4D	LODA,R1		OPB,I
3719	3B33	59 78		STR A,R1		FIXNL3
3720	3B35	77 08		PPSL		WC
3721	3B37	3F 38	4B	BSTA,UN		TCOM
3722	3B3A	75 08		CPSL		WC
3723	3B3C	05 04		LODI,R1		4
3724	3B3E	0D 47	4D	FIXNL4		OPB,-
3725	3B41	CD 73	8D	LODA,R1		CBUF1,1
3726	3B44	59 78		STR A,R1		FIXNL4
3727	3B46	04 FF		BRNR,R1		FF
3728	3B48	CC 1B	13	STR A,R6		INTSGN
3729	3B4B	0C 13	8D	FIXNL2		CPUF1
3730	3B4E	91 3B	CC	LODA,R0		EXPONENT
3731	3B51	04 01		BCFA,GT		FIXNL6
3732	3B53	CC 1F	14	LODI,R0		1
3733	3B56	C2		STR A,R0		BYTON
3734	3B57	07 40		LODI,R3		40
3735	3B59	3F 3C	5B	FIXNL6		INTX2
3736	3B5C	0D 1B	14	LODA,R1		BYTON
3737	3B5F	0D 73	ED	LODA,R1		CBUF1,1
3738	3B62	43		ANDZ,R3		
3739	3B63	E3		COMZ,R3		
3740	3B64	98 03		BCFR,EQ		FIXNL7
3741	3B66	3F 3C	47	BSTA,UN		INTAD
3742	3B69	86 01		ADDI,R2		1
3743	3B6B	FF 13	8D	COMA,R2		CBUF1
3744	3B6E	19 30		BCTR,GT		FIXNL8
3745	3B70	53		RRR ,R3		
3746	3B71	F7 80		TMI ,R3		80
3747	3B73	98 64		BCFR,EQ		FIXNL6
3748	3B75	0C 1E	14	LODA,R0		BYTON
3749	3B78	84 01		ADDI,R0		1
3750	3B7A	CC 1B	14	STR A,R0		BYTON
3751	3B7D	E4 04		COMI,R0		4
3752	3B7F	9C 3B	59	BCFA,EQ		FIXNL6
3753	3B82	*				
3754	3B82	07 00		LORI,R3		0
3755	3B84	3F 3C	5B	FIXNL11		INTX2
3756	3B87	00 07	30	LODA,R0		INTSTG+3
3757	3B8A	44 F0		ANDI,R0		F0
3758	3B8C	18 09		BC R,EQ		FIXNL3
3759	3B8E	87 01		ADDI,R3		1
3760	3B92	05 04		LODI,R1		ROTATE 4 BITS
3761	3B92	3F 3C	B2	ROTL11		INTROT
3762	3B95	F9 7B		BDRR,UN		ROTL11
3763	3B97	86 61		FIXNL13		ADDI,R2

LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
3764	3F99	FF	13	8D		COMA, R2	CBUF1
3765	3F9C	99	66			BCFR, GT	FIXN1
3766	3F9E	CB	15			ST, R, R3	INTEXP
3767	3BA0	05	04			FIXN18 LODT, R1	4
3768	3BA2	0D	47	2D		FIXN6 LODA, R1	INTSTG
3769	3BA5	FF	FF			COMT, R1	FF
3770	3BA7	18	17			ECTR, EQ	FIYN16
3771	3BA9	C2				STRZ, R2	
3772	3BAA	44	F0			ANDI, R, Q	F0
3773	3BAE	98	09			BCFR, EQ	FIYN15
3774	3BB0	46	0F			ANDI, R, Q	CF
3775	3BB0	18	70			ECTR, EQ	FIYN60
3776	3BB2	D1				RRL, R1	
3777	3BB3	1B	05	*		BCTR, UN	FIYN17
3778	3BB5			*			
3779	3BB5			*			
3780	3BB5			*			
3781	3BB5	0C			INTEXP RES	1	
3782	3BB6	00			BITON	RES	1
3783	3BB7			*			
3784	3BB7			*			
3785	3BB7			*			
3786	3BB7	D1			FIXN16 RRL	'R1	
3787	3BB8	85	01		ADDI, R, 1	1	
3788	3BBA	89	79		FIXN17 ADDR, R1	1	INTEXP
3789	3BBC	85	01		ADDI, R, 1	1	
3790	3BBF	C9	75		STRR, R1	1	INTEXP
3791	3BC0	0E	13	8D	FIXN16 LODA, R2	CBUEI	
3792	3BC3	75	02		CPSL	COM	
3793	3BC5	E6	16		COMI, R2	16	
3794	3BC7	77	02		PPSL	COW	
3795	3BC9	15			RETC, GT		
3796	3BCA	0C	13	8F	LODA, R, Q	CBUF1+1	
3797	3PCD	14			RETC, EQ		
3798	3BCE	04	17		LODI, R, Q	17	
3799	3BDE	A2			SUBZ, R2		
3800	3BD1	CC	1C	46	STRA, R, Q	FIXT2	
3801	3BD4	04	03		LODI, R, Q	3	
3802	3BD6	CC	1B	14	STRA, R, Q	BYTON	
3803	3BDE	0C	01		LODI, R, Q	1	
3804	3BDB	CA	59		STRR, R2	BITON	
3805	3BDD	0D	1B	14	FIXN18 LODA, R1	BYTON	
3806	3BEE	0D	73	8C	LODA, R, I	CBUF1, I	
3807	3BE3	07	00		LODI, R, 3	0	
3808	3BED	42			ANDZ, R, 2		
3809	3BED	E2			COMZ, R, 2		
3810	3BIE	98	02		BCFR, EQ	FIYN20	
3811	3BIE	07	50		LODI, R, 3	0	
3812	3BEB	3C	7A		BSTA, UN	FRC02	
3813	3BEE	0E	46		LODR, R, Q	BITON	
3814	3BFD	84	01		ADDI, R, 0	1	
3815	3BFE	C8	42		STRR, R, Q	BITON	
3816	3BFE	EC	1C	46	COMA, R, Q	FIYT2	
3817	3BDY	1E			RETC, GT		
3818	3BYA	D2			RRL, R, 2		
3819	3BF9	F6	01		TMI, R, 2	1	
3820	3BIB	9C	3F	DD	BCFA, EQ	FIYN18	

321	7E	0C	1B	14	LODA, R0	BY
3822	3C01	A4	01		SUB1, R0	1
3823	3C03	CC	1B	14	STRA, R0	BYTON
3E24	3C06	9C	3B	DD	BCFA, EQ	FIXN18
3825	3C09	07	00		FIXN22	LOD1, R3
3826	3C0B	3F	3C	7A	BSTA, UN	FRCDD2
3827	3C0E	0C	1B	B6	LODA, R0	BITON
3828	3C11	84	01		ADD1, R0	1
3829	3C13	CC	1B	B6	STRA, R0	BITON
3830	3C16	E8	2E		COM1, R0	FIXT2
3831	3C18	15			RETC, GT	
3832	3C19	0E	07	31	LODA, R2	FRCSTG
3833	3C1C	02			LODZ, R2	
3834	3C1D	44	F0		AND1, RC	FC
3835	3C1F	98	68		ECFR, EQ	FIXN22
3836	3C21	0C	1E	B5	LODA, R0	INTEXP
3837	3C24	84	01		ADD1, R0	1
3838	3C26	CC	1B	B5	STRA, R0	INTEXP
3839	3C29	04	FF		LODI, R0	FF
3840	3C2B	CC	1B	12	STRA, R0	EXPSGN
3841	3C2E	77	18		PPSL	RS+WC
3842	3C30	06	04		LODI, R2	Z4
3843	3C32	75	01		FIXN23	CRY
3844	3C34	05	04		LODI, R1	04
3845	3C36	CD	47	31	FIXN24	LODA, R1
3846	3C39	D0			RRL, R0	FRCSTG, -
3847	3C3A	CD	67	31	STRA, R1	FRCSTG, I
3848	3C3D	59	77		BRNF, R1	FIXN24
3849	3C3F	FA	71		BDRR, R2	FIXN23
3850	3C41	7E	1E		CPST	WC+RS
3851	3C43	1F	3C	09	BCTA, UN	FIXN22
3852	3C46			*		
3853	3C46			*		
3854	3C46			*		
3855	3C46			*		
3856	3C47			*		
3857	3C47			*		
3858	3C47			*		
3859	3C47	0E	FF		INTAD	LODI, R1
3860	3C49	77	09		PPSL	WC+CRY
3861	3C4B	CD	27	2D	INTAD1	LODA, R1
3862	3C4F	84	66		ADD1, R0	INTSTG, +
3863	3C50	94			DA, R0	66
3864	3C51	CD	67	2D	STRA, R1	INTSTG, I
3865	3C54	E5	03		COM1, R1	3
3866	3C56	98	73		BCFR, EQ	INTAD1
3867	3C58	75	08		CPNL	WC
3868	3C5A	17			RETC, UN	
3869	3C5B			*		
3870	3C5B			*		
3871	3C5B			*		
3872	3C5B	77	18		PPSL	WC+RS
3873	3C5D	05	FF		LODI, R1	FF
3874	3C5F	7E	21		CPNL	CRY
3875	3C61	0D	27	2D	INTX2A	LODA, R1
3876	3C64	C2			STRZ, R2	INTSTG, +
3877	3C65	13			SPSL	

LINE	ADDR	B1	B2	B3	LABEL	OPCODE	OPERAND
3878	3C66	75	01			CPSL	CRY
3879	3C68	86	66			ADDI,R2	66
3880	3C6A	93				LPSL	
3881	3C6B	72				LDZ,R2	
3882	3C6C	8D	67	2D		ADDA,R1	INTSTG,I
3883	3C6F	94				DAR,R0	
3884	3C70	CD	67	2D		STRA,R1	INTSTG,I
3885	3C73	E5	03			COMI,R1	3
3886	3C7E	98	6A			BCFR,FQ	INTX2A
3887	3C77	75	18			CPSL	WC+RS
3888	3C79	17				RETC,UN	
3889	3C7A	*					
3890	3C7A	*					
3891	3C7A	*					
3892	3C7A	05	FF			FRCD2	L0DI,R1 FF
3893	3C70	0D	27	31		FRCD2A	L0DA,R1 FRCSSTG,+
3894	3C7F	F4	20			FRCD2C	COMI,R2 20
3895	3C81	1A	06			BCTR,LT	FRCD2E
3896	3C83	A4	22			SUBI,R0	20
3897	3C8F	87	10			ADDI,R3	10
3898	3C87	1B	76			BCTR,UN	FRCD2C
3899	3C89	F4	10			FRCD2B	TMI,R0 10
3900	3C8B	92	04			ECER,Eq	FRCD2D
3901	3C8T	87	05			ADDI,R3	5
3902	3C8F	44	0F			ANDI,R0	0F
3903	3C91	E4	V2			COMI,Eq	2
3904	3C93	1A	06			BCTR,LT	FRCD2E
3905	3C95	A4	02			SUBI,Eq	2
3906	3C97	87	01			ADDI,R3	1
3907	3C99	1E	76			BCTR,UN	FRCD2D
3908	3C9B	F4	01			FRCD2E	TMI,R0 1
3909	3C9D	98	04			BCFR,FQ	FRCD2F
3910	3C9F	04	50			LODI,R0	50
3911	3CA1	1F	01			BCTR,UN	FRCD2G
3912	3CA3	22				FRCD2F	FORZ,R0
3913	3CA4	C8	0B			FRCD2G	STRR,R0 FIXTMP
3914	3CA6	03				LODZ,R3	
3915	3CA7	CD	67	31		STA,R1	FRCSSTG,I
3916	3CAA	0B	05			LODR,R3	FIXTMP
3917	3CAC	E5	03			COMI,R1	3
3918	3CAF	C8	4C			BCFR,FQ	FRCD2A
3919	3CB0	17				RETC,UN	
3920	3CB1	*					
3921	3CP1	*					
3922	3CP1	*					
3923	3CBI	00				INTROT PPSL	RS+WC
3924	3CBI	00				CPSL	CRY
3925	3CB2	*					
3926	3CB2	*					
3927	3CB2	77	18				
3928	3CB4	75	01				
3929	3CE6	05	04			LODI,R1	4
3930	3CFS	0D	47	2D		INTR1	
3931	3CBB	5C				RRR,R0	
3932	3CFC	CD	67	2D		STRA,R1	INTSTG,I
3933	3CF7	EC	77			PRNR,R1	INTR1
3934	3CC1	75	18			CPSL	WC+RS

3935	3CC3	17	*	RET, UN
3C26	3CC4	*	*	
3937	3CC4	*	*	
3938	3CC4	3F 3C F5 FFSGN	BSTA, UN	POPC1
3C35	3CC4	3F 3C F5 FFSGN	LDDA, R0	CBUF1+1
3940	3CC7	0C 13 8E	BCEA, LT	PPUSH1
3941	3CC9	9E 3A 7A	BCTA, UN	PPUSM1
3942	3CCD	1F 3A 8F	*	
3943	3CCD	*	*	
3944	3CD0	*	*	
3945	3CD0	*	*	
3946	3CD0	3F 3D 11 FPABS	BSTA, UN	POPOPB
3C47	3CD3	0C 07 4E	LDDA, R0	OPB+1
3948	3CD6	9E 3D 18	BCEA, LT	PUSOPB
3949	3CD9	3B 03	FPABSI	BSTR, UN
3950	3CDB	1F 3D 18	BCTA, UN	INVOPB
3951	3CDE	*	*	PUSOFPB
3952	3CDE	*	*	
3953	3CDE	*	*	
3C54	3CDE	77 08	INVOKE	PSI, WC
3C55	3CE0	3F 38 4B	BSTA, UN	TCOM
3956	3CE3	75 08	CPSE	WC
3957	3CE5	17	RETC	UN
3C58	3CE6	*	*	
3959	3CE6	*	*	
3960	3CE6	*	*	
3961	3CE6	3F 3C F5 FPINT	BSTA, UN	POPC1
3962	3CE6	3F 3C FC	BSTA, UN	PUSHC1
3963	3CEC	3F 3C FC	BSTA, UN	PUSHC1
3964	3CEF	3F 3D 20	BCTA, UN	PPFRC
3965	3CF2	1F 37 BD	BCTA, UN	FPSUB
3966	3CF5	*	*	
3967	3CF5	*	*	
3968	3CF5	04 33	POPC1	LDDI, R0 ~CBUF1
3C69	3CF7	05 8D	LDDI, R1	CBUF1
3970	3CF9	1F 32 45	BCTA, UN	PCP
3971	3CFC	04 33	PUSHC1	LDDI, R0 ~CBUF1
3972	3CFE	25 8D	LDDI, R1	CBUF1
3C73	3D00	1F 32 7D	BCTA, UN	PUSH
3C74	3D03	04 33	POP C2	LDDI, R0 ~CBUF2
3975	3D05	05 91	LDDI, R1	CBUF2
3C76	3D07	1F 32 45	BCTA, UN	POF
3C77	3D0A	04 33	PUSHC2	LDDI, R2 ~CBUF2
3978	3D0C	05 91	LDDI, R1	CBUF2
3979	3D0E	1F 32 7D	BCTA, UN	PUSH
3C80	3D11	04 27	POPCB	LDDI, R0 ~OPB
3C81	3D13	05 4D	LDDI, R1	OPB
3982	3D15	1F 32 45	BCTA, UN	POP
3983	3D18	04 27	PUSOPB	LDDI, R0 ~OPB
3984	3D1A	05 4E	LDDI, R1	OPR
3985	3D1C	1F 32 7D	BCTA, UN	PUSH
3986	3D1F	*	*	
3987	3D1F	*	*	
3988	3D1F	*	*	
3989	3D1F	00	INVERT	RES 1
3990	3D20	*	*	
3991	3D20	*	*	

LINE	ADDR	B1	R2	R3	LAREI	OPCODE	OPERAND
3992	3D20	*					
3993	3D20	3E 6F					
3994	3D22	20					
3995	3D23	C8	7A				
3996	3D25	00	07	4E			
3997	3D28	9A	07				
3998	3D2A	04	FF				
3999	3D2C	02	71				
399A	3D2E	3F	3C	DE			
4000	3D31	00	07	4D			
4001	3D31	00	07	4D			
4002	3D34	99	29				
4003	3D36	F4	17				
4004	3D38	9E	3A	73			
4005	3D3B	00					
4006	3D3C	C2					
4007	3D3D	05	00				
4008	3D3F	07	40				
4009	3D41	20					
4010	3D42	16	00				
4011	3D44	18	06				
4012	3D46	A6	01				
4013	3D48	63					
4014	3D49	53					
4015	3D4A	9A	76				
4016	3D4C	24	FF				
4017	3D4F	41	27	4D			
4018	3D51	CD	67	4D			
4019	3D54	02					
4020	3D55	98	6A				
4021	3D57	77	78				
4022	3D59	3F	39	94			
4023	3D5C	04	02				
4024	3D5E	93					
4025	3D5F	00	1D	1F			
4026	3D62	3E	3C	DE			
4027	3D65	1F	3D	18			
4028	3D68	*					
4029	3D68	*					
4030	3D6E	*					
4031	3D6E	3F	3D	12			
4032	3D6B	3F	3C	F5			
4033	3D6E	06	04				
4034	3D70	31	3C	FC			
4035	3D73	FA	7B				
4036	3D75	3F	38	91			
4037	3D78	3F	38	91			
4038	3D7B	3F	3D	23			
4039	3D7E	04	3D				
4040	3D82	05	A6				
4041	3D82	06	FF				
4042	3D84	1F	3E	0B			
4043	3D87	*					
4044	3D87	*					
4045	3D87	*					
4046	3D87	3F	3D	FPCOS			
4047	3D8A	3F	3C	F5			
4048	3D8D	3F	3A	7A			

I.R	0	0	3D92	3F	3C	FC	FPC0S1	BSTA,UN	SHC1
4050	3D95	FA	7B					BDRR,R2	FPC0S1
4051	3D95	FA	7B					BSTA,UN	FPMULT
4052	3D97	3F	38	91				BSTA,UN	POPC2
4053	3D9A	3F	3D	03				BSTA,UN	COSFAC
4054	3D9D	04	3D					LODI,RO	COSFAC
4055	3D9F	05	BE					LODI,RI	COSFAC
4056	3DA1	06	FF					LODI,RI	FF
4057	3DA3	1F	3F	0B				BC A,UN	SERIES
4058	3DA6	*	*	*					
4059	3DA6	*	*	*					
4060	3DA6	*	*	*					
4061	3DA6	FE			SINIFAC	DATA	FF		
4062	3DA7	AA			DATA	AA			
4063	3DA8	AA			DATA	AA			
4064	3DAG	AB			DATA	AB			
4065	3DAA	FA			DATA	FA			
4066	3DAB	44			DATA	44			
4067	3DAC	44			DATA	44			
4068	3DAE	44			DATA	44			
4069	3DAF	44			DATA	44			
4070	3DAF	97			DATA	97			
4071	3DB0	FS			DATA	FF			
4072	3DB1	80			DATA	80			
4073	3DB2	EE			DATA	EE			
4074	3DB3	5C			DATA	5C			
4075	3DP4	77			DATA	77			
4076	3DB5	8E			DATA	8E			
4077	3DB6	E7			DATA	E7			
4078	3DB7	94			DATA	94			
4079	3DB8	66			DATA	66			
4080	3DB9	FB			DATA	FB			
4081	3DBA	E0			DATA	E0			
4082	3DBB	58			DATA	58			
4083	3DEC	49			DATA	49			
4084	3DED	1A	*	*	DATA	1A			
4085	3DBE	*	*	*					
4086	3DBE	*	*	*					
4087	3DBE	*	*	*					
4088	3DBE	00			COSFAC	DATA	00		
4089	3DBF	C0			DATA	C0			
4090	3DC0	00			DATA	00			
4091	3DC1	00			DATA	00			
4092	3DC2	FC			DATA	FC			
4093	3DC3	55			DATA	55			
4094	3DC4	55			DATA	55			
4095	3DC5	55			DATA	55			
4096	3DC6	FF			DATA	FF			
4097	3DC7	A4			DATA	A4			
4098	3DC8	FA			DATA	FA			
4099	3DC9	50			DATA	50			
4100	3DCA	F1			DATA	F1			
4101	3DCB	68			DATA	68			
4102	3DCC	06			DATA	06			
4103	3DCD	80			DATA	80			
4104	3DCE	EP			DATA	EP			
4105	3DCF	B6			DATA	B6			

LINE	ADDR	B1	R2	B3	LABEL	OPCODE	OPEAND
4106	3D10	06				DATA	06
4107	3DE1	C2				DATA	C2
4108	3DD2	E4				DATA	E4
4109	3DD3	47				DATA	47
4110	3DE4	BB				DATA	BB
4111	3DD5	61	*			DATA	61
4112	3DD6	*					
4113	3DD6	*					
4114	3DE2	*					
4115	3DE6	3F	3F	68	FPTAN	BSTA,UN	FPSIN
4116	3DD9	3F	3C	FC		BSTA,UN	PUSHC1
4117	3DDC	3F	3D	87		BSTA,UN	FPCOS
4118	3DD1	1F	38	94		BCTA,UN	FPDIV
4119	3DE2	*					
4120	3DF2	*					
4121	3DE2	*					
4122	3DE2	3F	3C	FF	QUAD	BSTA,UN	POPC1
4123	3DE5	3F	3C	FC		BSTA,UN	PUSHC1
4124	3DE8	3F	3C	FC		BSTR,UN	PUSHQU
4125	3DEF	3F	0F			BSTA,UN	FPDIV
4126	3DED	3F	38	94		BSTA,UN	FPINT
4127	3DF0	3F	3C	E6		BSTR,UN	PUSHQU
4128	3DF3	3B	07			BSTA,UN	FPMULT
4129	3DFE	3F	38	91		BSTA,UN	FPSUB
4130	3DF8	3F	37	BD		BSTA,UN	FRTC,UN
4131	3DFB	17					
4132	3DFC	*					
4133	3DFC	*					
4134	3DFC	*					
4135	3DFC	04	3E		PUSHQU	LODI,R0	QUADC
4136	3DF1	05	03			LODI,R1	QUADC
4137	3E00	1F	32	7D	*	BC A,UN	PUSH
4138	3E03	*					
4139	3E03	*					
4140	3E03	*					
4141	3E03	02	64		QUADC	ACON	0264
4142	3E05	87				DATA	87
4143	3E06	EE					
4144	3E07	00	00	00	SRTMP	RES	4
4145	3E08	*					
4146	3E0B	*					
4147	3E0B	*					
4148	3E0B	C8	7A		SERIES	STRR,R0	SRTMP
4149	3E0D	C9	79			STRR,R1	MSB T44
4150	3E0F	CA	79			STRR,R2	LSB W44
4151	3E11	20					
4152	3E12	08	75			EORZ,R0	FPMULT
4153	3E14	3F	3D	0A	SERIES	BSTA,UN	SRTMP+2
4154	3E17	08	6E			LODR,R0	SRTMP
4155	3E19	09	6D			LODR,R1	SRTMP+1
4156	3E1B	3F	32	7D		BSTA,UN	PUSH
4157	3E1E	3F	38	01		BSTA,UN	FPADD
4158	3E21	3F	37	FF		BSTA,UN	PUSHC2
4159	3E24	3F	3D	0A		BSTA,UN	PUSHC1
4160	3E27	3F	3C	FC		BSTA,UN	SRTEMP+3
4161	3E2A	28	EE			LODR,P0	SRTEMP
4162	3E2C	1A	06			RCTR,FO	SRTEMP

33	E	3F	3C	FC	BSTA,UN			
4164	3E31	3F	3E	91	BSTA,UN	MULT		
4165	3E34	3F	38	91	SERIES	BSTA,UN	FPMULT	SET A, UN - 24545451
4166	3E37	3F	3D	03	BSTA,UN	POPC2		
4167	3E3A	2C	13	91	LODA,R0	CBUF2		
4168	3E3D	7F	02	CPSL	COM			
4169	3E3F	4F	E9	COMI,R0	E9	-17		
4170	3E41	7F	02	PPSL	COM			
4171	3E43	16		RET.C,LT				
4172	3E44	08	43	LODR,R0	SRTEMP+2			
4173	3E46	84	01	ADDI,R0	1			
4174	3E48	F4	06	COMI,R0	6			↳ Protection parent?
4175	3E4A	14		RETC,EQ				
4176	3E4B	CC	1E	09	STRA,R0	SRTEMP+2		
4177	3E4E	EC	1E	08	LODA,R0	SRTEMP+1		
4178	3E51	84	04	ADDI,R0	4			
4179	3E53	CC	1E	08	STRA,R0	SRTEMP+1		
4180	3E56	9C	3E	14	BCFA,EQ	SERIE2		
4181	3E59	0C	1E	07	LODA,R0	SRTEMP		
4182	3E5C	84	01	ADDI,R0	1			
4183	3E5E	CC	1E	07	STRA,R0	SRTEMP		
4184	3E61	1F	3F	14	BCTA,UN	SERIE2		
4185	3E64	*						
4186	3E64	*						
4187	3E64	*						
4188	3E64	00	00	RNDSTR RES	4			
4189	3E68	*						
4190	3E68	*						
4191	3E68	*						
4192	3E68	08	7B	FPRND	LODR,R0	RNDSTR+1		
4193	3E6A	3E	1C	ESTR,UN	RANDOM			
4194	3E6C	44	7F	ANDI,R0	7F			
4195	3E6E	CB	75	STR,R0	RNDSTR+1			
4196	3E70	07	02	LODI,R3	2			
4197	3E72	06	01	LODI,R2	1			
4198	3E74	0E	3F	64	FPRND1	LODA,R2	RNDSTR,+	
4199	3E77	3B	0F	BSTR,UN	RANDOM			
4200	3E79	CE	7F	64	STRA,R2	RNDSTR,1		
4201	3E7C	FB	76	BDRR,R3	FPRND1			
4202	3E7F	04	3F	LODI,R0	RNDSTR			
4203	3E80	05	64	LODI,R1	RNDSTR			
4204	3E82	3F	32	7D	BSTA,UN	PUSH		
4205	3E85	1F	38	91	BCTA,UN	FPMULT		
4206	3E88	*						
4207	3E88	*						
4208	3E88	*						
4209	3E88	00		RANDOM	LODZ,R0	RNDSTR		
4210	3E89	98	02	BCFR,EQ	RAND1	3E89	CO	RANDY d0D2, RO
4211	3E8B	04	01	ADDI,R0	1	3E89	98	02
4212	3E8C	C1		RAND1	STRZ,R1	3E89	94	01
4213	3E8E	45	8E	ANDI,R1	8E	3E8E	D1	ARL,R1
4214	3E90	77	08	FPSL	WC	3E8E	D1	RCR,R1
4215	3E92	18	0F	BCTR,EQ	RAND3	3E90	45	FC
4216	3E94	D1		RAND2	RRL,R1	3E92	81	ANDT,R1
4217	3E95	45	FE	ANDI,R1	FE	3E94	45	FO
4218	3E97	B5	01	TPSL	CRY	3E96	81	ANDZ,R1
4219	3E99	98	79	BCFR,EQ	RAND2	3E97	17	RETc, UN

LINE	ADDR	B1	R2	R3	LABEL	OPCODE	OPERAND
4220	3E9B	45	FF			ANDI,R1	FF
4221	3E9D	13	06			BTR,EQ	RND4
4222	3E9F	10			RAND3	ERL,RC	
4223	3EA0	44	FF			ANDI,RC	FE
4224	3EA2	75	08			CPSL	WC
4225	3EA4	17			RAND4	RET,UN	
4226	3EA5	10			RAND4	ANDI,RC	FE
4227	3EA6	84	FE			ADDI,RC	1
4228	3EA8	84	01			CPL	WC
4229	3EAA	75	0E			RETC,UN	
4230	3EAC	17		*			
4231	3EAD		*	*			
4232	3EAD		*	*			
4233	3EAD		*	*			
4234	3EAD	3F	3C	FF	FPLN	BSTA,UN	POPC1
4235	3FB0	04	07			LODI,RC	?
4236	3EB2	CC	07	4D		STRA,RC	OP,B
4237	3EB5	00	13	8D		LODA,RC	CBUF1
4238	3EB8	9A	04			BCFR,LT	EPLN1
4239	3EBA	24	FF			EORI,RC	FF
4240	3EBC	84	01			ADDI,RC	1
4241	3EBE	CC	07	4F	FPLNI	STRA,RC	OPB+1
4242	3FC1	20				EORZ,RC	
4243	3FC2	CC	07	4F		STRA,RC	OPB+2
4244	3FC5	CC	07	50		STRA,RC	OPB+3
4245	3FC8	00	13	FF		LOUA,RC	CBUF1+1
4246	3FCB	9D	30	6E		BCEA,GT	ERR15
4247	3FCE	77	08			PPSL	WC
4248	3EI0	3F	39	94		BSTA,UN	NORM
4249	3ED2	04	02			LODI,RC	2
4250	3ED5	93				LPSL	
4251	3ED6	2C	13	8D		LODA,RC	CBUF1
4252	3ED9	3E	3C	DE		BSTA,LT	INVPB
4253	3EFC	20				EORZ,RC	
4254	3EDD	CC	13	8D		STRA,RC	CBUF1
4255	3EE0	04	3F			LODI,RC	FFLN2
4256	3EE2	05	12			LODI,RC	FFLN2
4257	3EE4	3F	32	7D		BSTA,UN	PUSH
4258	3EE7	3F	3D	18		BSTA,UN	PUSOPB
4259	3EEA	3F	38	91		BSTA,UN	FPMULT
4260	3EED	3F	3C	FC		BSTA,UN	PUSHC1
4261	3EFO	3F	3A	7A		BSTA,UN	PPUSH1
4262	3EF3	3F	37	BD		BSTA,UN	FPSUB
4263	3EF6	3F	3C	FE		BSTA,UN	POPC1
4264	3EF9	06	03			LODI,RC	3
4265	3EFB	3F	3C	FF	FPLN4	BSTA,UN	PUSHC1
4266	3EFF	FA	7F			BDRR,RC	FFLN4
4267	3F00	2F	38	91		BSTA,UN	FPMULT
4268	3F03	3F	3D	03		BSTA,UN	POPC2
4269	3F06	3F	3C	03		BSTA,UN	PPADD
4270	3F09	04	3F			LODI,RC	INFAC
4271	3F0B	05	16			LODI,RC	INFAC
4272	3F0D	06	00			LODI,RC	0
4273	3F0F	1F	31	0F	*	ECTA,UN	SERIES
4274	3F12		*	*			
4275	3F12		*	*			
4276	3F12		*	*			

4277	3F12	00	58	FDDN2	AC'CN		
4278	C4	B9			LNA		
4279	3F15	09			DATA	09	
4280	3F16	*					
4281	3F16	*					
4282	3F16	*					
4283	3F16	00		INPAC	DATA	00	
4284	3F17	C7			DATA	C0	
4285	3F18	00			DATA	00	
4286	3F19	00			DATA	00	
4287	3F1A	FF			DATA	FF	
4288	3F1B	55			DATA	55	
4289	3F1C	55			DATA	55	
4290	3F1D	55			DATA	55	
4291	3F1E	FF			DATA	FF	
4292	3F1F	FF			DATA	FF	
4293	3F20	FF			DATA	FF	
4294	3F21	FC			DATA	FC	
4295	3F22	FF			DATA	FE	
4296	3F23	66			DATA	66	
4297	3F24	66			DATA	66	
4298	3F25	66			DATA	66	
4299	3F26	FF			DATA	FF	
4300	3F27	AA			DATA	AA	
4301	3F28	AA			DATA	AA	
4302	3F29	AA			DATA	AA	
4303	3F2A	FF			DATA	FF	
4304	3F2B	49			DATA	49	
4305	3F2C	24			DATA	24	
4306	3F2D	96	*		DATA	96	
4307	3F2E	*					
4308	3F2F	*					
4309	3F2F	*					
4310	3F2F	00		FPESTG RES		1	
4311	3F2F	*					
4312	3F2F	*					
4313	3F2F	*					
4314	3F30	3F	3C	FPEXP2	ESTA,UN	FPEXP1	
4315	3F32	3F	3C	FPEXP2	ESTA,UN	FUSHC1	
4316	3F33	3F	2A	17	ESTA,UN	DTOBNL	
4317	3F38	01			LODZ,R1		
4318	3F39	C2			STRZ,R2		
4319	3F3A	3F	3A	7A	PSTA,UN	PPUSH1	
4320	3F3D	02			LODZ,R2		
4321	3F3E	18	10		ECTR,EQ	FPEXP1	
4322	3F40	CA	6C	FPEXP1	STRZ,R2	FPESTG	
4323	3F42	04	3F		LODI,P0	FPEXP1	
4324	3F44	05	7B		LODI,R1	FPE	
4325	3F46	3F	32	7D	BSTA,UN	PUSH	
4326	3F49	3F	38	91	BSTA,UN	FPEULT	
4327	3F4C	0A	60		LODR,R2	FPESTG	
4328	3F4E	FA	72		BDRR,R2	FPEXP1	
4329	3F50	3D	03	FPEXP2	PSTA,UN	F0FC2	
4330	3F52	3F	3D	20	BSTA,UN	FPERC	
4331	3F56	3F	3C	F5	BSTA,UN	POP1	
4332	3F59	3F	3D	0A	BSTA,UN	FUSHC1	
4333	3FEC	3F	3A	7A	PSTA,UN	PPUSH1	

L1#	APP#	P1	P2	P3	Lap#	OPCODE	OPERAND
4334	3F5F	06	03			LODI,R2	3
4335	3F61	3F	3C	FC	FPEXPB	BSTA,UN	PUSHC1
4336	3F64	FA	7B			BDRR,R2	FPEFB
4337	3F66	3F	38	51		BSTA,UN	FPMULT
4338	3F69	3F	3D	03		BSTA,UN	POPC2
4339	3F6C	3F	37	EF		BSTA,UN	FPADD
4340	3F6F	64	3F			LODI,R2	EXPFAC
4341	3F71	0E	7F			LODI,R1	EXPFAC
4342	3F73	06	00			LODI,R2	00
4343	3F75	3F	3E	EB		BSTA,UN	SERIES
4344	3F78	1F	38	91		BSTA,UN	FPMULT
4345	3F7B	*	*	*		BSTA,UN	FE R2 BSTA,UN MULT
4346	3F7B	*	*	*			
4347	3F7B	*	*	*			
4348	3F7B	02			FPE	DATA	02
4349	3F7C	56			DATA	56	
4350	3F7D	FC			DATA	FC	
4351	3F7E	29			DATA	29	
4352	3F7F	*	*	*			
4353	3F7F	*	*	*			
4354	3F7F	*	*	*			
4355	3F7F	20			EXPFAC	DATA	00
4356	3F80	40			DATA	40	
4357	3F81	00			DATA	00	
4358	3F82	00			DATA	00	
4359	3F83	FF			DATA	FF	
4360	3F84	55			DATA	55	
4361	3F85	EE			DATA	EE	
4362	3F86	55			DATA	55	
4363	3F87	FC			DATA	FC	
4364	3F88	55			DATA	55	
4365	3F89	EE			DATA	EE	
4366	3F8A	55			DATA	55	
4367	3F8B	FA			DATA	FA	
4368	3F8C	44			DATA	44	
4369	3F8F	44			DATA	44	
4370	3F8E	48			DATA	48	
4371	3F8F	F7			DATA	F7	
4372	3F90	5F			DATA	5F	
4373	3F91	05			DATA	05	
4374	3F92	B0			DATA	B0	
4375	3F93	F4			DATA	F4	
4376	3F94	68			DATA	68	
4377	3F95	06			DATA	06	
4378	3F96	86			DATA	86	
4379	3F97	*	*	*			
4380	3F97	*	*	*			
4381	3F97	*	*	*			
4382	3F97	3F	3C	F5	FPEXP	BSTA,UN	POPC1
4383	3FGA	3F	3D	03		BSTA,UN	FOPC2
4384	3F9D	3F	3C	FC		BSTA,UN	PUSHC1
4385	3FA0	3F	3D	0A		BSTA,UN	PUSHC2
4386	3FA3	3F	3E	AD		BSTA,UN	FPLN
4387	3FA6	3F	38	91		BSTA,UN	FPMULT
4388	3FA9	1F	3F	2F		BSTA,UN	FPEXP2
4389	3FAC	*	*	*			

4392	3FAC	3E	AD	FPLG	BSTA,UN	EP,L,N
4393	3FAF	04	3F		L0DI,R0	LOGCON
43C4	3FB1	05	B9		L0DI,R1	LOGCON
4395	3FB3	3F	32	7D	BSTA,UN	PUSH
43C6	3FB6	1F	38	91	BCTA,UN	FPMULT
4397	3FB9		*			
43C8	3FB9		*			
43CC	3FB9		*			

4400	3FB9	FF		LOGCON	DATA	FF
4401	3FB9	6F		DATA	6F	
4402	3FBP	2D		DATA	2D	
4403	3FB9	EB	*	DATA	EB	
4404	3FB9		*			
4405	3FB9		*			
4406	3FB9		*			
4407	3FB9	00	40	EP,5	ACON	0040
4408	3FBF	00	00	ACON		0000
4409	3FC1		*			
4410	3FC1		*			
4411	3FC1		*			

4412	3FC1	3F	3E	AD	FPSORT	BSTA,UN	EP,L,N
4413	3FC4	04	3F		L0DI,R0	EP,5	
4414	3FC6	05	B1		L0DI,R1	EP,5	
4415	3FC8	3F	32	7D	BSTA,UN	PUSH	
4416	3FCB	3F	38	91	BSTA,UN	FPMULT	
4417	3FCF	1F	3F	2F	BCTA,UN	FPEXF2	

4418	3FD1	13		SETSC	S7SL	
4419	3FD2	E6	00	C0H1,R2	00	
4420	3FD4	1B	03	BCTA,Z	A	
4421	3FD6	93	*	LPSL		
4422	3FD7	B3	06	A	L7SL	
4423	3FD9	93	*	BCTA,UN	B	
4424	3FD9	14	09	BCTA,V	C	
4425	3FD9	0C	13	8E	L0DI,K0	CBAF,1
4426	3FD9	1E	93	9F	B	C0H1,T
4427	3FE1	1F	33	7C	BCTA,UN	C0H1,T
4428	3FE1	0C	13	8E	C	C0H1,T
4429	3FE1	33	AC	C0DA,RD	CBAF,1	
4430	3FE3	1E	33	AC	BCTA,V	C0H1,T
4431	3FE3	1E	33	9F	BCTA,AN	C0H1,T

*

3FEE 2E 14 H5 STARR STAR, RN & PLTH
1F 34 CD BCTA,UN STREP2

*

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Dear BASIC Customer:

The following following changes have been made to the 8K BASIC program. These changes are in versions 1.3 and higher.

→ x 33B9 9C 3F D1 C0
→ ✕ 3FD1 13 E6 00 18 03 93 1B 06 93 1A 09 0C 13 8E
1E 33 9F 1F 33 AC 0C 13 8E 1E 33 AC 1F 33
9F
→ ✕ 3995 03
✗ 25B9 1F 3E 98
✗ 3E88 00 98 02 84 01 C1 D1 D1 45 FC 81 D1 45 F8
81 17 70 F4 80 1C 25 BE 0C 1E 65 84 01 44
7F CC 1E 65 1F 3E 98
✗ 1780 33 8E 3F 38 91 0C 17 AF 14 15 3F 3D 03 3F
3A 7A 3F 3D 0A 1F 38 94 3F 3C F5 0C 97 80
CC 17 AF 3F 3C FC 3F 3C D0 3F 3C F5 1F 3F
32
3F2F —*2F2F 1F 17#96
✗ 3F78 1F 17#82
✗ 2C25 3F 3F EE
✗ 3FEE CE 14 A5 1F 34 0D