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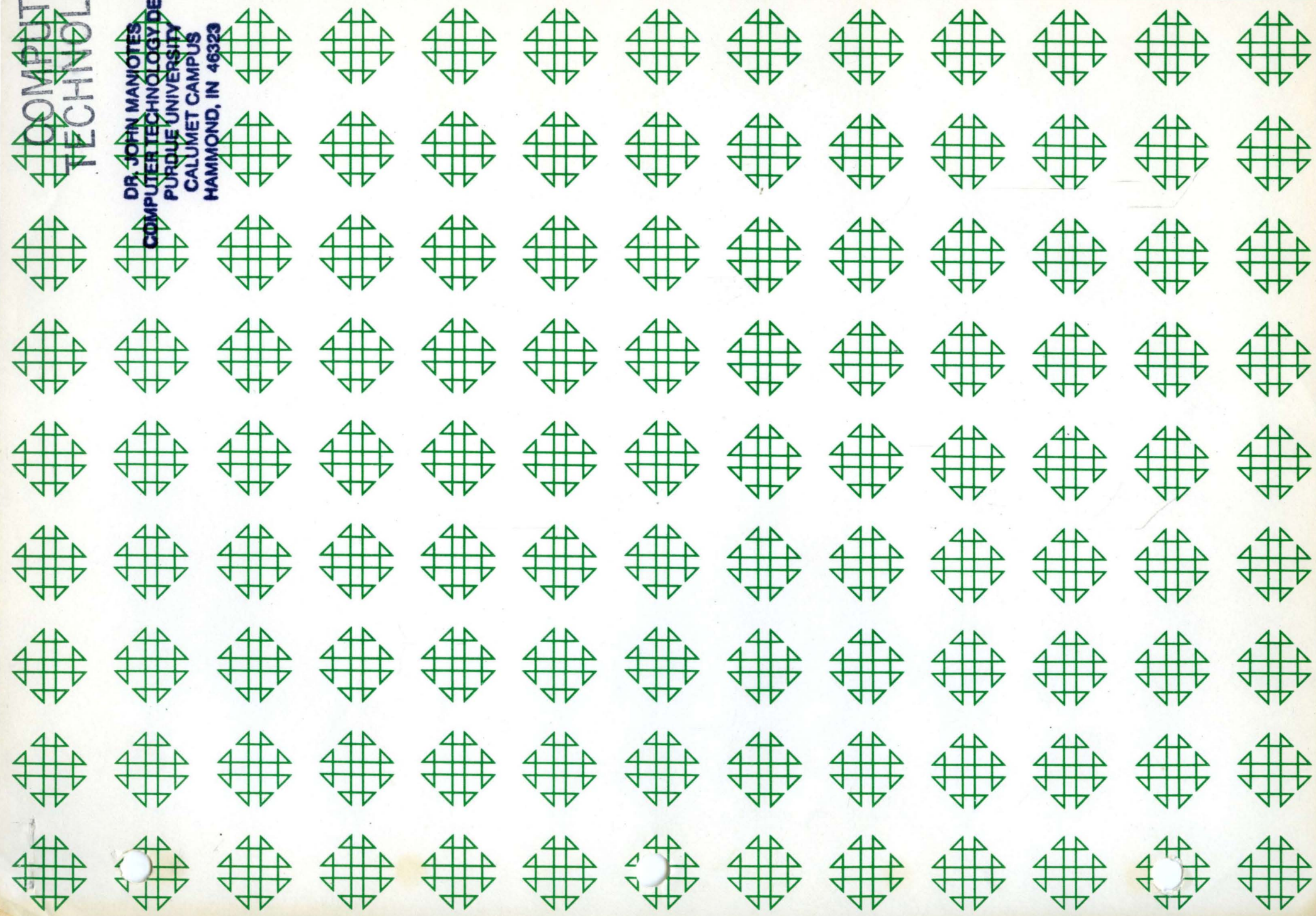
1620 GENERAL PROGRAM LIBRARY

PDQ FORTRAN
for the Fortran Language)

(An Interpretive Program

2.0.031

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1620 USERS GROUP PROGRAM REVIEW AND EVALUATION

Program No. _____

Date _____

Program Name: _____

1. Does the abstract adequately describe what the program is and what it does? Yes ___ No ___
Comment _____
2. Does the program do what the abstract says? Yes ___ No ___
Comment _____
3. Is the Description clear, understandable, and adequate? Yes ___ No ___
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4. Are the Operating Instructions understandable and in sufficient detail? Yes ___ No ___
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Are the Sense Switch options adequately described (if applicable)? Yes ___ No ___
Are the mnemonic labels identified or sufficiently understandable? Yes ___ No ___
Comment _____
5. Does the source program compile satisfactorily (if applicable)? Yes ___ No ___
Comment _____
6. Does the object program run satisfactorily? Yes ___ No ___
Comment _____
7. Number of test cases run _____
Are any restrictions as to data, size, range, etc. covered adequately in description? Yes ___ No ___
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8. Does the Program meet the minimal standards of the 1620 Users Group? Yes ___ No ___
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PDQ FORTRAN
(An Interpretive Program for the Fortran Language)

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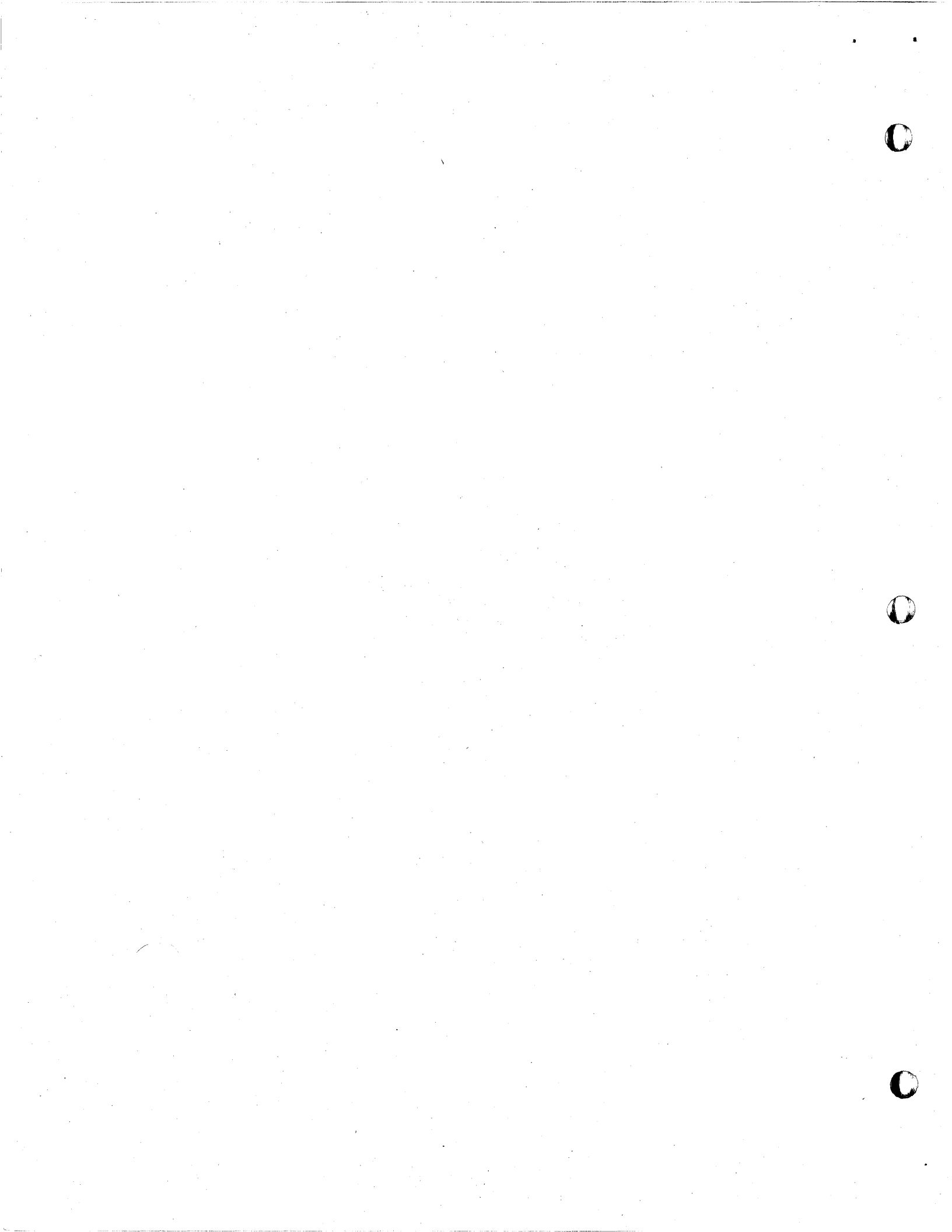
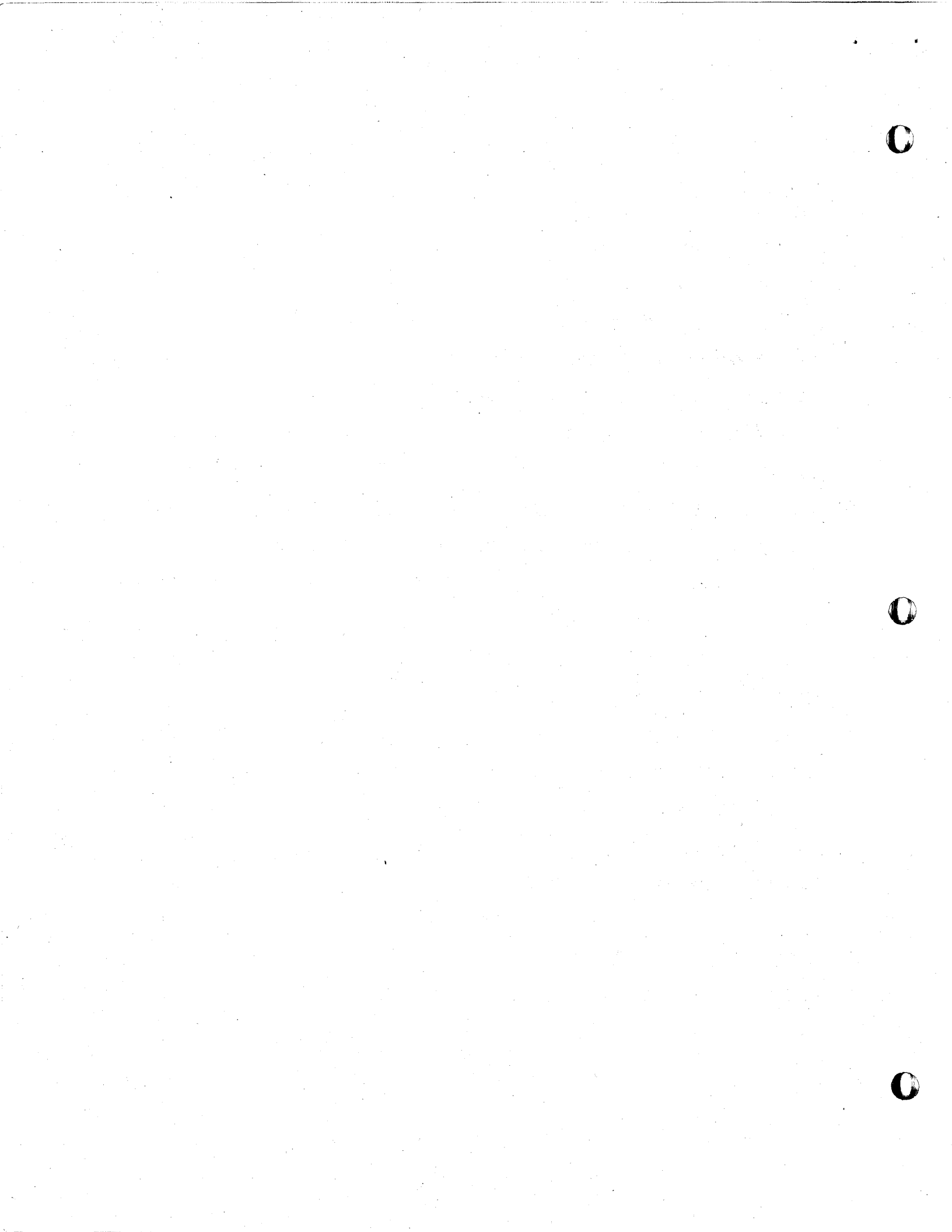


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1620 USERS GROUP LIBRARY
PROGRAM ABSTRACT

TITLE: PDQ FORTRAN (An Interpretive Program for the Fortran Language)

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Description/Purpose: PDQ FORTRAN is a modification of the UTO Fortran and Fortran with Format, which utilizes floating point variables in the "excess 50" notation. In the hundred plus programs compiled to date by the system, the object time running is less, the size of the object deck is smaller, and core storage requirements for the object program, subroutines, and data is less than any other Fortran system without floating point hardware.

Specifications:

- A. Storage Used by Program: The Processor requires 18008 digits permitting 199 symbol table entries on 20K, 2199 symbol table entries on 40K. Class "A" Subroutines for the object program require 6600 digits. Instructions of the object program begin loading in location 6600.
- B. Equipment Required by Program: Card System; Auto Divide. Program will operate on 20K and will internally adjust for any additional storage available. Programs may be compiled on a machine 40K or greater, for a machine of lesser capacity by means of a control digit.
- C. The Processor and Subroutines are written in SPS and then compressed.

Additional Remarks: Any program in FO-004 language may be compiled in the system; however, additional language facilities are included. The FO-004 language has been expanded in the PDQ FORTRAN system to include: (a) COMMON statement for reserving locations in the symbol table for nonsubscripted and subscripted variables, (b) batch compilation of programs without subroutines, (c) continuation cards for Format and input/output statements, (d) repetition of field format (nFw.d) etc.--Format also includes an A and a D specification, (e) listing or punching of referenced source statements and symbol table, (f) PROCEDURE statements permitting a group of Fortran statements to be utilized as a subroutine similar to the Fortran II Subroutine subprogram, (g) TRACE facility without generating additional instructions in line and including the address as well as the magnitude of the variable at running time,--The format of TRACE at object time may be altered by a single instruction, (h) two subroutine decks, one permitting a relaxed input format requiring only that a space or blank column separate input variables, and the second requiring input data to be in the precise format of the input statements---Either subroutine deck may be used with the compiled object program depending on the format of data to be used.



DECK LABELS

- DECK 1: PDQ FORTRAN Processor C2 consisting of 245 cards.
- DECK 2: PDQ FORTRAN Subroutines Free Form (11-63) for Relaxed Input Format consisting of 246 cards. (FORTRAN WITHOUT LOOPS)
Cards 0 thru 47 constitute the Subroutine Relocator.
Cards 1000 thru 7017 constitute Relocatable Subroutines with the system. Cards 24000 thru 24109 constitute the Class "A" Subroutine Package.
- DECK 3: PDQ FORTRAN Subroutines Fixed Format (11-63) consisting of 248 cards for input of data conforming to the precise input format specification. Cards 0 thru 47 constitute the Subroutine Relocator. Cards 1000 thru 7017 constitute Relocatable Subroutines with the system. Cards 25000 thru 25111 constitute the Class "A" Subroutine Package.
- DECK 4: Sample PDQ FORTRAN Test Source Deck
- DECK 5: Sample Data for Free Form Input
- DECK 6: Sample Object Deck compiled from DECK 4.
- DECK 7: PDQ FORTRAN Processor GLC2 consisting of 236 cards.
- DECK 8: PDQ FORTRAN Processor CLT2 consisting of 236 cards. (FORTRAN WITHOUT LOOPS)
Processor C2



Introduction

The PDQ FORTRAN system follows the language features of Fortran with Format, FO-004. However, the variables of this system are in "excess 50" notation, a characteristic of Fortran without Format, FO-002. The object deck prepared is of minimum size which may optionally have the subroutines punched immediately thereafter or which may have the subroutines loaded at object time running. Two alternate processors are available in the system to provide a larger symbol table at compile time---- See System Options.

Fortran Specifications

Any program written in FO-004 language can be run in this system without additional change. However, additional statements are possible in this system as elaborated hereafter.

Permissible Statements

A. Arithmetic Statements:

A = B op C etc.

B. Control Statements:

1. GO TO n

2. GO TO (n₁, n₂, ----- n_m), i

3. IF (a) n₁, n₂, n₃

4. IF (SENSE SWITCH i) n₁, n₂

5. DO n i = m₁, m₂ or

DO n i = m₁, m₂, m₃

6. BEGIN PROCEDURE n

7. RETURN n

8. END PROCEDURE n

9. EXECUTE PROCEDURE n

10. CONTINUE

11. CONTROL m

12. PAUSE

13. STOP m

14. END

15. BEGIN TRACE

16. END TRACE

C. Input/Output Statements:

1. READ n, list
2. PUNCH n, list
3. ACCEPT n, list
4. PRINT n, list
5. TYPE n, list

D. Specification Statements:

1. COMMON
2. DIMENSION
3. FORMAT

E. Fixed Point Arithmetic

The operators + , - and * in the fixed point mode give results MOD 10000. Hence, the addition of 9998 and 4 gives 2 with no error detection due to the overflow. Should division by 0 be attempted, an error overflow will be indicated.

F. Relocatable Subroutines

1. SIN and COS - evaluates $\sin(x)$ or $\cosine(x)$

Method - Hastings approximation with improved reduction to first quadrant.

Length - 650 digits

Speed - 128 msec.

Accuracy - Error not more than one in last digit of mantissa for all angles, except sine of angles near $\pi/2$ and cosine of angles near zero, when error occasionally reaches two in last digit.

Note: If all significance is lost, typewriter will indicate OFLO.

2. EXP - evaluates e^x

Method - Addition loop successively multiplies 1.0 by 2, 1.1, 1.01, 1.001, and 1.0001, reducing argument by the logs of those factors until argument mantissa is less than 0.0001; approximation $\exp(x) = 1 + x$ is then used.

Length - 500 digits

Speed - 76 msec.

Accuracy - Error not more than one in last digit of mantissa for positive arguments, not more than two for negative arguments.

3. LOG - evaluates $\log_e x$

Method - Addition loop successively multiplies argument by 2, 1.1, 1.01, 1.001, and 1.0001, accumulating negative logs of those factors until argument mantissa is greater than 0.9999; approximation $\log x = x - 1$ is then used.

Length - 568 digits

Speed - 79 msec.

Accuracy - Error not more than one in last digit of mantissa for arguments greater than 2.0 or less than 0.9; for arguments closer to one, loss of accuracy is inevitable, but routine is always more precise than is $x - 1$.

4. SQRT - evaluates \sqrt{x}

Method - Odd-integer method generating result by adding complements.

Length - 360 digits

Speed - 116 msec.

Accuracy - Perfect, rounded to an eight-digit mantissa.

5. ABS - evaluates $|x|$

Method - Load dividend to FAC.

Length - 20 digits

Speed - 1 msec.

Accuracy - Perfect

6. DRH - drops decimal digits of a variable

Method - Obvious

Length - 172 digits

Speed - 5.5 msec.

Accuracy - Perfect

7. ATAN - evaluates $\arctan(x)$. Result is in the range $-\frac{\pi}{2} \leq \arctan(x) \leq \frac{\pi}{2}$

Method - Table look-up and reduction of argument to less than 0.1; three-term Chebyshev approximation is then used. Result is complemented (if necessary) in fixed-point avoiding loss of last digit in FSB.

Length - 818 digits

Speed - 126 msec. for argument less than 1
178 msec. for argument 1 or over

Accuracy - Error not more than one in last digit of mantissa.

Additional Specifications

A. PROCEDURES

A procedure is defined as a group of FORTRAN statements which are to be executed as a unit more than once in any larger program. Such a group of statements is preceded by a statement

BEGIN PROCEDURE n

where n is a procedure number. This number must not appear anywhere in the program as a statement number, and cannot be used in more than one procedure. N.B.

The procedure statements must be followed by the statement

END PROCEDURE n

where n is the procedure number of the preceding procedure.

The procedure n may be executed at any time by the statement

EXECUTE PROCEDURE n

which transfers control to the statement immediately following the BEGIN PROCEDURE n statement and obeys the statements of procedure n until

- a) the END PROCEDURE n statement is executed, which transfers control to the statement immediately following the EXECUTE PROCEDURE n statement that entered the procedure.
- b) a RETURN n statement is executed. This returns control to the statement immediately following the EXECUTE PROCEDURE n statement that entered the procedure. A RETURN statement is valid only within the procedure from which it returns control.

Any statement may be included within a procedure, including EXECUTE PROCEDURE statements referring to other procedures, except:

- a) BEGIN PROCEDURE, RETURN, or END PROCEDURE statements referring to other procedures.
- b) EXECUTE PROCEDURE referring to the procedure within which it is placed.

B. CONTROL m

This statement controls the typewriter carriage.

- | | |
|---------|-----------------------------|
| m = 101 | spaces typewriter |
| m = 102 | returns typewriter carriage |
| m = 108 | tabulates |

C. PAUSE

The program execution is halted by a 48 OP CODE in the main line program. The "P" address of the instruction contains the address of the halt instruction. Depression of the "START" key will cause the computer to continue to the next program instruction.

D. STOP m

The program execution is halted after the carriage is returned and STOP m is typed. If m is omitted, STOP 0000 will be typed. Depressing "START" will cause the computer to continue to the next program instruction.

E. END

The program execution is halted after the carriage is returned and END is typed. Depressing "START" will cause the carriage to return and END to be typed.

F. TRACE

The results of all arithmetic statements may be traced without the generation of any additional instructions. Replacement type statements,

that is: $A = B; C = D(K); I = J;$ will not be traced since no arithmetic operation is required and, hence, FAC is not used. If the replacement statement includes a subscripted variable on each side of the equality, the statement may be traced. The tracing at object time is by the use of SWITCH 4.

BEGIN TRACE will turn on the trace feature. This will replace the normal EMFAC instruction (26 ADDR, FAC) with a combination "EMFAC-TRACE" instruction (17 EMTR, ADDR). Each arithmetic statement thereafter will permit tracing. Tracing will be terminated when an END TRACE card is encountered. Succeeding statements will not be traced until another BEGIN TRACE is read.

G. PRINT

Print n, list will cause the variables in the list to be printed according to the format specification n after a carriage return has been executed. This conforms with the print statement of FO-004. No indexing is permissible within the list.

H. TYPE

Type n, list performs the same function as Print n, list with the exception that no carriage return will be executed prior to the output of data. This will permit the printing of columns of data utilizing the typewriter tab settings and the Control 108 statement.

I. INPUT/OUTPUT LISTS

If the length of the list in an input/output statement requires more characters than are available before column 73, the list may be continued on the next card. Terminate the partial list preceding a continuation with a comma. The next card must have a digit punched in column 6 followed by the continuation of the list. The use of more than 3 or 4 continuation cards may generate a format string exceeding 460 digits which will destroy the compiler. Hence, some discretion is required.

J. COMMON

The common statement is followed by a list of variables whose object time addresses will begin in the first symbol location after the function symbols. This will enable the assignment of addresses to symbols common in several programs. Dimension variables which are listed in common statements will have the necessary space reserved and must not be again listed in a Dimension statement. CAUTION: The Common statement(s) must be the first compiled statement in the program.

Example: COMMON A,B,C,D(2,4),E

K. FORMAT

Two subroutine decks are included with this system to permit input data to be in either a fixed format or a relaxed format. Should a desired set of specifications require more characters than are available on the format card, the specifications may be continued on the next card beginning in column 7. A digit must be punched in column 6. A single format specification may not be split between cards. Any format card to be followed by a continue card should terminate with a comma in anticipation of another format specification. The duplication of the format statement number on continuation cards in columns 1 thru 5 is optional.

Permissible format specifications include I type (Iw), F type (Fw.d), E type (Ew.d), D type (Dw), A type (Aw), X type (wX), and H type (wH). All of the numerical field specifications and the A specification may have fields repeated by preceding the specification by the number of required repetitions such as (3F10.2) which is the equivalent of (F10.2,F10.2,F10.2).

I TYPE: The I specification defines a field of w characters from which or into which data will be transferred. The data must be in fixed point notation (maximum of 4 digits), however, the field width, w, is not so limited. On output, the sign of the variable will precede the digits, hence, a minimum field width of 5 is required to insure complete output of a fixed point number. Should the field width be less than one plus the digits to be output, the low order digit or digits will be lost and the output data will be in error.

Example: Fixed point number minus 144 is output under an I3 specification. The result will be -14 which, of course, is incorrect.

F TYPE: The F specification defines a field width of w characters from which or into which floating point data will be transferred. If a decimal point is not included in input data, the last d characters of the field will be recognized as decimal digits. On output, if the numerical value of the variable requires a field width greater than w to permit all non-decimal digits to be output, the specification will be automatically changed to an E type specification so that the output data will be complete.

Example: +1728. is the output under the specification (F6.0) of a variable. Had the specification been (F5.0), the output would have been +.17280000E+04.

Variables in E type notation may be input under the F type specification.

E TYPE:¹ The E specification permits the input or output of a floating point variable in the exponential form; that is, $+.XXXE+XX$. On output, 6 characters of the field are required for the sign, the decimal point, and the exponential notation.

Variables in F type notation may be input under the E type specification.

D TYPE: The D type specifications permit input or output of data of floating point variables in "excess 50" form. Only two forms of the D specification are acceptable; D10 for floating point numbers which will permit transfer of a variable numbered 12, as 5212000000 , and D4 which will permit transfer of a fixed point number such as -123 as 0123 .

A TYPE:¹ The A type specification permits the input or output of up to five alphanumeric characters. The alphanumeric characters are converted to their two digit form and stored in the symbol table as a 10 digit floating point variable. The width of the A field must not exceed 5 and the number of alphanumeric characters output will be determined by this field width designation. The input of characters under the A specification varies according to the subroutine deck which is being used; that is, fixed format or relaxed format.

X TYPE (BLANK FIELD SPECIFICATION): Blank characters may be provided in an output record by means of specification wX where w is the width of the field to contain blanks. When the X specification is used with an input record, w characters are ignored.

H TYPE: The specification wH permits the w alphanumeric characters immediately following H in the specification to be input or output. CAUTION: The characters of an H specification may not be split on two cards. Should more characters than are available on a given format card be required in an H specification, the H specification on the first card must include the count of the characters on the first card only and a new H specification must be stated on the format continuation card for the remaining desired characters.

Free Form Input Subroutine Deck (Relaxed Format)

The input accepted by this subroutine deck has been relaxed so that variables need not correspond precisely with the field widths defined by the input format specification. The only requirement for the entry of data is that a space or blank column exists between data.

The Free Form Subroutine deck requires that the letter E follow immediately the last digit of the mantissa when a variable is in the E form and no blanks are permitted until after the last digit of the exponent or the entry will be erroneous. Hence, the only acceptable E notations are $MM--ME+XX$, $MM--MEXX$, $MM--MEX$, $MM--ME-XX$, $MM--ME-X$ where M represents mantissa digits and X represents exponent digits.

¹ See Free Form Input Subroutine Deck and Fixed Format Input Subroutine Deck for variations of input in this specification.

The A format input will select the next non-blank and the four following characters. These will be converted to two digit notation and placed into the variable. For this reason, regardless of the field width of the A specification, an A specification on input will always be executed as A5 regardless of the field width which has been specified. The output, of course, will conform to the specific format specification.

Fixed Format Input Subroutine Deck

When data cards contain information in a specific format observing a correlation between card columns and the variable fields, the fixed format input subroutines may be utilized. By means of these subroutines, data may be packed on cards and a digit in only one column between adjacent punched columns may be recognized as a complete input variable. On output, a single column is insufficient to represent a variable since the sign of the variable will always precede the first digit.

The Fixed Format Subroutines will extract a variable from the specified field width, w, filling in any blanks with zeros. The exponent digits must be right justified and may be preceded by the sign, optional if +, and the letter E or a blank. Hence, the following are all acceptable forms of the exponent in the fixed format input where b denotes a blank: b2 b12 E+02 Ebl2 -2 Ebb2 bbb2 -b2

Alphanumeric data read in by the A format specification may be extracted from one to five columns. However, when the variable is stored in the symbol table, blanks will be filled in to complete the 10 digit symbol. There is no restriction on the characters read by the A specification; however, should leading blanks or special symbols be used in the first two columns, erroneous results may be incurred should the field be used in compare or arithmetic operations.

The PDQ FORTRAN Object Deck See System Options #2

The size of the output (object) deck will be materially altered by the use of PROGRAM SWITCHES 2 and 3.

PROGRAM SWITCH 2 OFF will cause a card to be punched for each card in the source deck. This card will contain the location of the first instruction compiled by the statement and then the entire statement. These referenced source statement cards will be intermingled with the object program instruction cards and symbol table entry cards but may be identified by an 11 (X) punch in column 2. After the END statement is processed, the symbol table will be punched, seven symbols per card with the address of the first character of the first symbol on the card punched in columns 2 thru 6. Column 2 also contains an 11 (X) punch. On completion of the compilation, all referenced source statement cards and referenced symbol cards may be removed from the output deck by sorting on an 11 (X) punch in column 2. The off line listing of these cards provides a ready reference to statement locations and symbol locations of the source program at execution time. It is not necessary to remove these referenced cards prior to loading the object deck since the loader will simply disregard their presence.

PROGRAM SWITCH 3 OFF will cause the punching of all relocatable subroutines and the input/output and arithmetic subroutines into the object deck. This will also prevent a subsequent processing of a source program without reloading the processor. With program switch 3 ON, the subroutine deck will be called for and must be loaded at object running time. This also permits the batch compilation of several source programs.

Makeup of the Processor Deck See System Options #2

The first two cards of the Processor deck will zero core of any size memory. The next seven cards constitute the loader for the remainder of the Processor and the add tables. The remainder of the cards up to the fifth or sixth from the end are identified by the first five digits punched into the card. These are the addresses into which the sixth digit of the card will be placed. These numbers should be recognized as the card number. The last card or two cards as may be required, contain the names of the Relocatable Subroutines available. The preceding four cards constitute a control card beginning zero, recordmark, and the next three-- the multiply tables.

Makeup of the Subroutine Deck

The makeup of the Subroutine deck is as follows: The Subroutine Relocator constitutes the first 48 cards numbered from 000000 to 000047. After this, the Relocatable Subroutines follow with the subroutine number in the thousandths positions. After the last relocatable subroutine is the Class "A" Subroutine deck which is numbered 24000 thru 24109 for the Free Form Input Subroutine deck. For the Fixed Format Subroutine deck, the Class "A" Subroutines are numbered 25000 thru 25111. Additional relocatable subroutines to either of the subroutine decks should be located immediately prior to card 24000 or 25000.

System Options

There are frequently many variations of a Fortran System satisfying the needs and desires of different users of the systems. The following variations include the more common and more feasible alterations which may be wanted.

1. Compile for the 1620 of Smaller Capacity

The PDQ FORTRAN system examines memory of the computer on which it is being used, determines the memory size, and proceeds to adjust itself for that memory. Should it be desired to confine the object program to a smaller memory size, the digit 2, 4, or 6 for memory capacity of 20, 40, or 60 thousand should be located in column 71 of Card 17974 of the Processor. No alterations are necessary in the Subroutine deck regardless of whether it is compiled with the object program or whether it is read in at object time running.

2. Enlarging the Symbol Table

It is recognized that the available symbol table on a 20K machine is materially reduced from the symbol table of other systems. For this reason, the system includes two alternate processors. In addition to the changes below, neither of these processors will produce as the first two cards of the output deck the zero core procedure normally output by the processor, PDQ FORTRAN C2.

"PDQ FORTRAN CLC2" processor does not contain the facility for punching referenced source statements and symbol table under control of Switch 2. By eliminating this feature, the symbol table on a 20K machine accommodates 260 symbols.

If the referenced source statements and symbol table are desired on cards, the processor "PDQ FORTRAN CLT2" may be used. In this processor, the facility of listing the symbol table on the typewriter has been eliminated. This processor will accommodate 265 symbol table entries on a 20K machine.

3. Elimination of Printed Statement in Listing

The address of the first instruction of each statement may be listed without listing the entire statement by changing columns 26 thru 32 of Card 00842 from 3917497 to 3816239.

4. Source Program Record Length of 80 Characters

The Processor permits card identification or sequence numbers to be located in the source cards in columns 73 thru 80. Hence, statements punched onto cards must not go beyond column 72. If it is desired to use all 80 columns of a card for source statements, change Card 00538 of the Processor, columns 48 and 49 from 55 to 71.

5. Change in Length of Input/Output Record

The PDQ FORTRAN Processor presently checks the record width specified in a FORMAT statement and will generate an Error 12 if 80 characters are exceeded. Should it be desired to alter this maximum record width, on Card 02961 of the Processor, insert in columns 27 and 28 the maximum record to be permitted. Caution: A flag must exist in column 27 and the character count cannot exceed 99.

6. Printing of Plus Signs on Output Data

If it is desired that plus signs be inserted on both card and type-writer output, the following changes are to be made in the Free Form PDQ FORTRAN Subroutine deck (11/63). On Card 24051, change column 15 to I. On Card 24081, change column 37 to I. In the Fixed Format PDQ Subroutine deck (11/63) changes are as follows: On Card 25051, change column 15 to I. On Card 25081, change column 37 to I.

7. Elimination of Output Card Sequence Numbers Permitting 80 Column Output on Cards

Normally, the last four columns on output cards will contain sequence numbers. If it is desired that data occupy these last four positions, columns 77 thru 80, the following changes must be made: In the Free Form Subroutine deck (11/63) on Card 24058, replace columns 7 thru 13 with 4903158. In the Fixed Format Subroutine deck (11/63) on Card 25058, replace columns 7 thru 13 with 4903158.

8. Elimination of Four Digit Address Prior to Trace Output

The address of traced variables may be eliminated at object running time by depressing SIE STOP during the typing of LOAD DATA. Then Insert 360264600100 4906600 RS. Type 41 RS. To make this change in the Subroutine deck, change Card 24042 or 25042 columns 13 and 14 to 41.

9. Alter the Format of Traced Output

The results of tracing may be output under an F format by changing Card 2X035, column 23 thru 27 from 51408 to 6wdd where ww is field width and dd is decimal digits desired. The change may be made at execution time after the program is loaded prior to execution by Reset, Insert 16023896wdd 4906600 Release, Start. If execution of the program is in process, SIE STOP during printing of a traced variable, Insert 1602389 6wdd42 Release, Start.

10. Output Trace in Tabular Form

To permit the output of trace to be tabulated, follow any of the processes in #9 above, using instruction 150264500008. In the Subroutine Deck, Card 2X042 column 12 change 2 to 8.

11. Terminate Object Program Execution on Error Detection

Each computation Error type out is followed by a NOP instruction. These (4) may be converted to HALT if computation is not desired following the detection of an error. Change 1 to 8 as required per the following table:

Error Message	Location	Column	Card No.
UFLO	00937	18	20010
OFLO	01099	32	2X013
NSQR		38	4007
NLOG		38	3012

12. Elimination of Processing Messages

After personnel are well acquainted with this system and the sequence in which card decks must be fed to the computer, it may be desired to eliminate some of the typed out messages in the compiling process. Caution: These messages should be eliminated only when the system is to be used by persons who have gained familiarity with the system and can recognize the proper times for loading (a) a new source program, (b) the subroutine deck, or (c) program data.

The LOAD SUBROUTINE message may be eliminated by changing Card 08034 in the Processor, columns 8 and 9, 20 and 21. to 41 (NO OP).

The END OF COMPILATION message may be eliminated by changing Card 08109 in the Processor, columns 37 and 38, 49 and 50 to 41 (NO OP).

The START message can be eliminated by changing Card 08259 in the Processor, columns 19 and 20, 43 and 44 to 41 (NO OP).

To eliminate the LOAD DATA message, replace columns 9 and 10 on the last card of either Subroutine deck with 41 (NO OP).

Since there are alternate Subroutine decks, either of which may be used depending on the format of input data for an object program, it is felt advisable to retain the identity of the Subroutine deck used. However, should an installation feel this identification is not required, the PDQ SUBROUTINE message can be eliminated by changing the first card of either Subroutine deck replacing columns 13 and 14, and 25 and 26 with 41 (NO OP).

SYSTEM OPTIONS

13 * REREAD--A NEW TERM IN THE FORTRAN LANGUAGE TO ENABLE A DATA CARD TO SELECT THE FORMAT BY WHICH IT WILL BE READ

REREAD STATEMENT IN PDQ FORTRAN

IN FORTRAN PROGRAMMING, APPLICATIONS INVOLVING MULTIPLE FORMATS OF INPUT DATA FREQUENTLY PRESENT A PROBLEM TO THE PROGRAMMER DUE TO THE REQUIREMENT THAT THE FORMAT OF THE CARD MUST BE KNOWN BEFORE THAT CARD IS READ. THE REREAD STATEMENT ELIMINATES THIS PROBLEM BY PROVIDING THE PROGRAMMER WITH THE ABILITY, IN EFFECT, TO READ THE SAME CARD REPEATEDLY IN ORDER TO DETERMINE THE APPROPRIATE FINAL FORMAT.

THIS HAS BEEN ACCOMPLISHED BY MODIFYING THE COMPILER IN SUCH A MANNER THAT THE IMAGE OF ALL CARDS READ IS TRANSFERRED TO A SECONDARY CARD IMAGE PRIOR TO THE NORMAL FORMATTING OPERATIONS. UPON ENCOUNTERING A SUBSEQUENT REREAD STATEMENT, DATA IS DRAWN FROM THIS SECONDARY IMAGE AREA INSTEAD OF FROM AN INPUT CARD.

IN PRACTICE, THE PROGRAMMER WILL FIRST CALL FOR A NORMAL READ OPERATION, SPECIFYING A FORMAT WHICH WILL DEFINE THE IDENTIFYING DATA IN THE CARD. THEN AFTER PERFORMING THE NECESSARY LOGICAL OPERATIONS ON THE IDENTIFYING DATA, HE WILL CALL FOR A REREAD OPERATION, SPECIFYING THE DESIRED FORMAT FOR THE PARTICULAR CARD.

EXAMPLE

```

READ1,J
GO TO 217, 18, 19,J
17 REREAD 2, D, E, F, G
GO TO NNN
18 REREAD 3, A, B, C
GO TO NNN
19 REREAD 4, X, Y, IT

```

FORMAT 1 DEFINES THE LOCATION OF THE CONTROL DIGIT J.
IF J IS 1, CONTROL TRANSFERS TO STATEMENT 17
CAUSING THE CARD TO BE REREAD IN FORMAT 2, ETC.

*** CHANGES TO THE PDQ FORTRAN PROCESSOR C2

00426						DORG 00426	
00426	16	16243	-6900	00	040	TFM L	,6900
02358						DORG 02358	
02358	47	17996	01200	01	750	BNE RRPAT	
02370	31	17510	17518	01	760	TR CHI-1	,CHI&7
08212						DORG 08212	
08212	14	08182	J8088	07	630	CM *-30	,RRPAT&92
18424						DORG 18424	
18424	49	18630	00000	17	380	B RRPAT1	
18630					17	680	
18630	31	17996	18650	17	690	RRPAT1 TR RRPAT	,RRPAT1&20
18642	49	08164	00000	17	700	B MOON7	
18650					17	710	
18650	14	17515	000N9	17	720	DORG *-3	
18662	31	17510	17518	17	730	CM CHI&4	,59 ,10
						TR CHI-1	,CHI&7

12C

18674	47	02450	01200	17	740	BNE	RDCD	
18686	16	13024	-6820	17	750	TFM	INST266	,RERD
18698	31	17510	17514	17	760	TR	CHI-1	,CHI&3
18710	49	02482	00000	17	770	B	IO1	
17996	00000			17	780	RRPAT	DS	,17996

*** CHANGES IN THE PDQ SUBROUTINES FIXED FORMAT DECK

03182						DORG	03182	
03182	49	06704	00000	03	390	B	CRRD	
06542				07	090	DORG	06542	
06543	00001X2	*		07	100	RDBUF	DAC 1	,2
06703	00160			07	110	DS	160	
06704	43	06772	03166	07	120	CRRD	BD RSRD	,MARK-1
06716	44	06748	03167	07	130	BNF	CKRD	,MARK
06728	44	03266	03159	07	140	BNF	ACCEPT	,MARK1
06740	49	03194	00000	07	150	B	POST	
06748				07	160	DORG	*-3	
06748	14	03167	000-5	07	170	CKRD	CM MARK	,5 ,10
06760	47	03194	01200	07	180	BNE	POST	
06772	15	03164	00003	07	190	RSRD	TDM MARK-3	,3
06784	16	03169	0-500	07	200	TFM	MARK&2	,500 ,8
06796	31	06542	05102	07	210	TR	RDBUF-1	,INOUT-1
06808	49	03194	00000	07	220	B	POST	
06820	15	03159	00001	07	230	RERD	TDM MARK1	,1
06832	16	03169	-6542	07	240	TFM	MARK&2	,RDBUF-1
06844	15	03164	00002	07	250	TDM	MARK-3	,2
06856	26	03061	06819	07	260	TF	PINFMT	,RERD-1
06868	49	03002	00000	07	270	B	LOOK-24	

*** THE FOLLOWING CARDS ACCOMPLISH THE ABOVE CHANGES

*** IN PDQ FORTRAN PROCESSOR C2 THE FIRST CHANGE IS IN THE 8TH CARD
 89-JKLMNOP9-JKLMNOPQ#01611631000-01608535R99991616243-69002616861162431500459000
 -295734717996012003117510175181613024-291849024820311751017522141751100003470247
 -818464572608241081811208182000J01408182J808846081760110015000080000026056480818
 J8425918630-00000046000000000#0M1414141M1414141M1414141M1414141M1414141M1414141M1414141
 J857514141M1414141M1414141M1414141M1414141-#M141414141000031179961865049081640
 J86501417515000N93117510175184702450012001613024-68203117510175144902482#

*** IN PDQ FIXED FORMAT SUBROUTINES

23905103000001503168000004906704031591603128-510344030260337#1-1-3157-3217-25052
 430677203166440674803167440326603159490319400000# 1-1-6704-6752-25110
 1403167000-547031940120015031640000316031690-500310654205102#1-1-6748-6808-25111
 4903194000001503159000011603169-6542150316400002260306106819#1-1-6808-6868-25112
 490300200000# 1-1-6868-6880-25113
 250219000400250221400400250226600400250227800400490000000000#0-1-5190-5250-25114
 49069000390004100100410000000000490690005356414400444163410# -25115

*** THIS SUBROUTINE COURTESY J. E. OKEEFFE, AMERICAN BRIDGE CO.



OPERATING INSTRUCTIONS

A. Loading the PDQ FORTRAN Processor

Note: The processor will check the memory size of the computer and compile programs utilizing full memory unless a control digit has been set for smaller memory. See "System Options".

- 1) Set the PARITY and I/O and OFLOW switches to PROGRAM.
- 2) Place the processor deck in the reader, followed by the source deck.
- 3) Fill the punch hopper with blank cards.
- 4) Press the RESET and LOAD keys.

NOTE:

The first two cards of the processor will zero core. When cards begin to be read again, if a MAR CHK light is on, press SIE STOP, RESET and START. Turn PARITY and I/O switches to STOP. Eventually, START will be typed and compilation will begin.

B. Running the PDQ FORTRAN Processor See System Options #2

- 1) Set the sense switches as follows:

TABLE I

<u>SWITCH</u>	<u>ON</u>	<u>OFF</u>
1	Do not list source statements	List source statements and symbol table
2	Do not punch referenced source statements	Punch referenced source statements and symbol table
3	Do not compile subroutines into object deck	Compile subroutines into object deck
4	Source program is on cards	Source program is to be entered through the console typewriter

NOTES:

- a. If a typing error is made with switch 4 OFF, turn switch 4 ON, press RELEASE and START, and turn switch 4 OFF again IMMEDIATELY. The statement may then be re-entered correctly.
 - b. Switches 1 and 2 may be turned on or off at will during assembly to alter the functions of the processor. If switch 1 is OFF after the END statement is assembled, the symbol table will be listed. This listing may be suppressed at any time by turning switch 1 ON.
 - c. When switch 3 is ON, the subroutine deck is not called for at compile time, but at object time. When switch 3 is OFF, the subroutine deck is called at compile time and the required relocatable subroutines are punched out, followed by the arithmetic package. This takes 1 - 2 minutes and is not recommended, unless the program is known to be correct and is going to be used many times.
- 2) The source deck can be stacked on the compiler, and the subroutines on it (if subroutines are to be compiled) and the computer will not halt until the job is complete.
 - 3) Press the START key. After the source program has been processed, the program will proceed to step 4 (a) if SWITCH 3 is ON, and to step 4 (b) if SWITCH 3 is OFF.
- 4a) After the END statement has been assembled, the processor will type

PROCESSING COMPLETE

START

The processing is now complete.

If it is desired to process another source program, it is not necessary to reload the processor; just place the source program in the reader and push START.

4b) The processor will type LOAD SUBROUTINES, PUSH START

Place the PDQ FORTRAN Subroutine deck in the reader. Press the reader start key. After the subroutine deck has been copied, the processor will type PROCESSING COMPLETE. If it is desired to process another source program, the processor must be reloaded. If the processor detects an error in the source program, all punching will cease and step 4 (a) will be selected regardless of the setting of switch 3.

C. Error Messages During Processing

PDQ FORTRAN has a limited ability to detect errors in the grammar and syntax of FORTRAN. This capability is not adequate and is present mainly to ensure that the processor does not destroy itself.

The PDQ FORTRAN error messages are:

TABLE II

<u>Error No.</u>	<u>Condition</u>
1	Incorrectly formed statement.
2	Subscripted variable for which no DIMENSION statement has previously appeared in the program, dimensioned variable used without subscripts, variable in DIMENSION statement has already appeared in the source program.
3	Floating point number not in allowable range of values, or fixed point number contains more than four digits.
4	Symbol table full.
5	Mixed mode expression.
6	Variable name in an expression contains more than five characters.

<u>Error No.</u>	<u>Condition</u>
7	Switch number has been omitted in an IF (SENSE SWITCH n) statement, or the first character following the right parenthesis in an IF statement is a comma.
8	A comma follows the statement number in a DO statement.
9	A DIMENSION statement ends with a comma, more than two dimensions have been specified in a DIMENSION statement.
10	Unnumbered FORMAT statement.
11	Incorrect representation in a FORMAT statement in one of the following ways: a. Special character (= @ - * + . ,) in numerical field specification. b. Alphabetic character other than D, E, F, I or A in a numerical field specification. c. Decimal point missing in an E or F-type numerical field specification. d. The number of positions to the right of the decimal point has not been given in an E or F-type numerical field specification. e. A record mark appears in a numerical field specification or an alphanumeric field. f. The first character following the word FORMAT is not a left parenthesis.
12	The total record width specified in a FORMAT statement is greater than 80 characters.
13	A FORMAT statement number has been omitted in an input/output statement.

If the length of the compiled program plus the area required for data storage exceeds the capacity of the memory, the error message OVERLAP is typed.

D. Running the Object Program

- 1) Set the PARITY and I/O and OFLOW switches to PROGRAM.
- 2) Place the object deck in the reader.
- 3) Press the RESET and LOAD keys. The first two cards of the object deck will zero core. The subsequent cards will load the program. After core has been cleared and the program cards begin to read in, set PARITY and I/O switches to STOP.

CAUTION: If the program is to utilize data already in core which has been developed by a previous program, the first two cards of the object deck must be discarded. The two zero core cards may be identified by having X punches in columns 3 thru 6 in the first card, 3 thru 5 in the second card.

- 4) If LOAD SUBROUTINES is typed, place the proper PDQ FORTRAN Subroutine deck in the reader. Push READER START. If the Subroutine deck is stacked on the object deck, it will be read automatically.
- 5) When LOAD DATA, PRESS START is typed, the object program is ready to be executed. Place the data deck, if any, in the reader; prepare the punch, if needed; set the sense switches, if used; and then press START.

To restart the object program from the beginning after the END statement has been reached:

1. Press RESET and INSERT keys;
2. Type 4906600;
3. Press the RELEASE and START keys.

E. Error Messages at Object Program Time

A number of error messages may be encountered at object running time:

<u>MESSAGE</u>	<u>CONDITION</u>	<u>CONTENTS OF FAC</u>	<u>TABLE III</u>
ERIN	Input data in incorrect form or Outside Allowable Range Too Large Too Small	9999999999 or 9999 0000000000	
UFLO	Underflow in FAD, FMP, FDV	0000000000	
OFLO	Overflow in FAD, FSB, FMP, FDV, EXP, LOG, SIN, COS	9999999999	
OFLO	Zero divisor in: FDV FXD	9999999999 9999	
OFLO	Zero argument in LOG	9999999999	

<u>MESSAGE</u>	<u>CONDITION</u>	<u>CONTENTS OF FAC</u>
NSQR	Negative argument in SQRT	SQRT of Absolute Value of Argument
ERLN	Negative argument of LOG	LOG of Absolute Value of Argument

F. Error Messages While Subroutines are being Processed

If the program, data and subroutines require more memory than is available, then the message OVERLAP xxxxx POSITIONS is typed where xxxxx is the number of digits overlap. If the subroutine deck was being loaded and compiled, then the resulting object deck is not complete. If the subroutines were being loaded at object time, the program will not run.

G. Data Input at Typewriter

Each execution of an ACCEPT statement causes the typewriter carriage to return. The operator then types the desired data in the required format, and presses RELEASE and START. If a typing error is made, set Switch 4 ON, press RELEASE and START. The typewriter carriage will be returned and the data may be entered correctly.

H. Trace Mode

If the trace mode has been compiled, then when the object program is executed the program will operate in the trace mode if console switch 4 is ON, and in the non-trace mode if console switch 4 is OFF.

The trace mode causes the result of each executed arithmetic statement to be typed using I5 or E14.8 format preceded by the first four digits of the address of the variable traced. Normal output

is not inhibited. If an ACCEPT statement is executed while tracing, the following procedure must be used to cause the machine to ACCEPT the data and still trace (Switch 4 has two uses). See "System Options" for modifying format of traced data.

1. Type in the data.
2. If the data is correct, set switch 4 OFF and proceed to step 3; otherwise RELEASE, START and try again.
3. Press SIE (STOP) 7 or 8 times, set switch 4 ON, and press START.

I. Adding Relocatable Subroutines

Both the processor and the subroutine decks must be altered to include new subroutines.

a. Processor Deck

The last card of the compiler deck contains the 4 digit fields.

0008

SIN *

COS *

EXP *

LOG *

SQRT

ABS

DRH

ATAN

The first field is the number of subroutines, the following 8 fields, the names of the individual subroutines. The last four columns on the card are the sequence number.

To change the subroutine capability of the system, it is necessary to change the number of subroutines to the new, correct, number; and to add or delete subroutine names. If more than 18 subroutines are required, continue the names on a second card.

Special restrictions apply to the subroutines marked with an asterisk.

SIN and COS, if present, must be in their present positions. In order to delete SIN and COS, the subroutine relocater must be changed. To do this, proceed as follows:

1. Alter the processor as desired.
2. Alter, either on cards or each time the cards are loaded, the instruction in the subroutine relocater which is at location
00700 from 46 00884 01200
to 41 00000 00000

This instruction is in card 6 in the subroutine deck. EXP and LOG, if present, must be in their present positions. Note that A * * B uses EXP and LOG, but that A * * N does not.

b. Subroutine Deck

Subroutines should be written and processed in 4/4 SPS

RULES FOR WRITING SUBROUTINES

1. Define origin at 5000. This must be the start of the subroutine.
2. If the P or Q address of the instruction is to be relocated, a flag should be set over position 0 or 1, respectively, of the instruction. No flags should appear on positions 0 or 1 of instructions for any reason but relocation, and no flags should appear on positions 3 to 5 or 8 to 10 of the P or Q part, respec-

tively, of an instruction which is being relocated. Note: A flag in position 6 or 11 of a field to be relocated implies use of Indirect Addressing. The Subroutine Relocator will properly modify these addresses so that IA may be used if available and desired. The rest of the instruction may contain any combination of flags.

3. The field address of the data will be given by the formula

$$ADDR = 19989 - 20 n,$$

where n is the subroutine number. If the machine is larger than 20K, the formula should be altered to contain 39989, or 59989, etc.

The subroutine number is the order number of the records at the end of the processor. At present SIN is 00, COS is 01.... ATAN is 07. The subroutine number must not exceed 23.

4. Compile the subroutine using SPS and condense the resulting deck. Throw away the first two and last seven cards. Make a header card as follows:

Col. 1-2	the subroutine number as a 2 digit unflagged number
" 3	record mark (0-2-8)
" 65-66	a zero and a record mark
" 76-80	card number

Make trailer cards as follows:

Col. 1	a zero
" 2	record mark (0-2-8)
" 63	a flagged zero
" 64	a one
" 65-69	a five digit field, flagged on the high order digit, the address of any digit in the subroutine which must be

altered for a larger memory. The alteration which is made is to replace the digit with a

1 in a 20K machine

3 " " 40K "

5 " " 60K "

Col. 70	record mark
" 75	flagged zero
" 76-80	card number

If more than one digit requires alteration, two or more such cards should be included.

Make a final card as follows:

Col. 1-5	a 5 digit unflagged number, the length of the subroutine (must be even)
" 6	record mark
" 65-66	flagged zero - record mark
" 76-80	card number

Make a deck of the header card, the SPS output without the first 2 or last 7 cards, the trailer cards, if any, and the final card.

Insert this deck before card 24000 or 25000 of the appropriate Subroutine deck.

J. Known Errors

There is one known error in PDQ FORTRAN inherited from FORTRAN with FORMAT.

The statements

A = - B * * C or

A = - B * * I

will compile as if they were

A = (-B) * * C or

A = (-B) * * I

To obtain the desired result, it is necessary to write

A = - (B * * C) or

A = - (B * * I)

K. Reproducing the Processor and Subroutine Decks

To reproduce the processor and subroutine decks, use the program:

00000	37	11111	00500
00012	39	11111	00400
00024	49	00000	000000



C TEST PROGRAM FOR PDQ FORTRAN

```

COMMON VALUE%10, ARG%10, CNT%4
DIMENSION E%10, F%10, G%10, H%5, 5, FUNCT%10, H1%5, 5
15 IF%SENSE SWITCH 4 10, 20
10 ACCEPT1, XZERO, XMAX, DELX
GO TO 200
20 READ1, XZERO, XMAX, DELX
200 X%XZERO
PUNCH1, XZERO, XMAX, DELX
PRINT 5
30 X1#SIN%X
X2#COS%X
X3#SIN%X/%COS%X
X4#EXP%X
X5#EXP%-X
X6#LOG%X
X7#LOG%X/2.3058509
X8#SQRT%X
X9#ATAN%X
X10#LOG%X3/2.3058509
PRINT1, X, X1, X2, X3
PRINT1, X, X4, X5
PRINT1, X, X6, X7
PRINT1, X, X8
PRINT1, X, X9, X10
IF%X-XMAX 40, 50, 50
40 X%X&DELX
GO TO 30
50 READ1, A, B, C, D
READ 4, FLH1, FLH2, FLH3, FLH4, FLH5
PUNCH1, A, B, C, D
CONTROL102
PRINT4, FLH1, FLH2, FLH3, FLH4, FLH5
PUNCH4, FLH1, FLH2, FLH3, FLH4, FLH5
A1#A&B-C&D
A2#A*B*C*D
A3#A/B
A4#A**2-B
A5#A/2-B
A6#A**2B&2.0*C
A7#2A*B/2C*D
A8#A/C*B/D
PRINT1, A1, A2, A3, A4
PRINT1, A5, A6, A7, A8
PRINT6, A5, A6, A7, A8
DO 60 I#1, 10, 5
READ 8, F%I, F%I&1, F%I&2, F%I&3, F%I&4
PUNCH8, F%I, F%I&1, F%I&2, F%I&3, F%I&4
60 CONTINUE
DO 29 J#1, 10, 2
READ1, G%J, G%J&1
PUNCH1, G%J, G%J&1
29 CONTINUE
DO 61 I#1, 10, 5
E%I#2SIN%F%I**2&COS%F%I**2
DO 55 J#1, 10, 3
F%I#J

```

```

PRINT1,FZ1□
K#GZJ□
PRINT1,EZ1□
PRINT 2,J,GZJ□,K
55 CONTINUE
61 CONTINUE
DO 47 J#1,10,2
READ1,ARGZJ□,ARGZJ&1□
PUNCH1,ARGZJ□,ARGZJ&1□
47 CONTINUE
DO 48 L#1,10,5
READ1,VALUEZL□,VALUEZL&1□,VALUEZL&2□,
1VALUEZL&3□,VALUEZL&4□
PUNCH1,VALUEZL□,VALUEZL&1□,VALUEZL&2□,VALUEZL&3□,VALUEZL&4□
48 CONTINUE
DO 49 L#1,10,5
READ1,FUNCTZL□,FUNCTZL&1□,FUNCTZL&2□,FUNCTZL&3□,FUNCTZL&4□
PUNCH1,FUNCTZL□,FUNCTZL&1□,FUNCTZL&2□,FUNCTZL&3□,FUNCTZL&4□
49 CONTINUE
DO 63 J#1,10
DO 70 L#1,10
IFZARGZJ□-VALUEZL□ 70,65,70
65 PRINT1,ARGZJ□,FUNCTZL□
70 CONTINUE
63 CONTINUE
DO 140 M#1,5
READ1,HZM,1□,HZM,2□,HZM,3□,HZM,4□,HZM,5□
PUNCH1,HZM,1□,HZM,2□,HZM,3□,HZM,4□,HZM,5□
140 CONTINUE
CNTZ1□#6.263E20
CNTZ2□#55.44E20
CNTZ3□#594.4E20
CNTZ4□#6348.E20
DO 130 M#1,4
DO 80 N#1,5
H1ZM,N□#HZM,N□*1.0E&2
PRINT1,H1ZM,N□
80 CONTINUE
PRINT1,HZ1,1□,HZ4,5□
TYPE7,CNTZM□
GO TO Z90,100,110,120□,M
90 D1#SINZA□*COSZB□
100 D2#SINZA□**ZCOSZB□
110 D3#SQRTZSINZA□**2□&ZCOSZA□**2□□
120 PRINT1,A,B,D1,D2,D3
EXECUTE PROCEDURE 300
130 CONTINUE
Z#0
PRINT1,Z
D4#-B&C
PRINT1,D4
D5#SINZA□*COSZA□*COSZB□
PRINT1,D5
I1#2
D6#A**Z11□
D7#A**Z-11□
PRINT1,D6,D7

```

```
READ4,FXH1,FXH2
PUNCH4,FXH1,FXH2
CONTROL102
PRINT4,FXH1,FXH2,FLH4,FLH5
READ3,I2,I3,I4
PUNCH3,I2,I3,I4
I5#I2&I3&I4
I6#I5-I4
I7#I2*I3
I8#I2*I3*I4
I9#I4/I3
```

```
C NOTE--I IS DEFINED BY DO 61 I # 1,10,5
```

```
J1#I2&I3&I3*I4/I
PRINT3,I2,I3,I4
PRINT3,I5,I6,I7,I8,I9,J1
PAUSE
STOP555
GO TO 15
BEGIN PROCEDURE 300
```

```
C A TO NEAREST 1/16, B TO NEAREST INTEGER, D2 TO NEAREST 0.0001
```

```
A1#0.0625*DRHZA*16.&.5
A2#DRHZA&.5
D2#0.0001*DRHZA*10000.&.5
PRINT1,A1,A2,D1,D2
END PROCEDURE 300
```

```
1 FORMAT$F15.8
```

```
2 FORMAT$I15,F15.8,I15
```

```
3 FORMAT$5I15
```

```
4 FORMAT$5A5
```

```
5 FORMAT$11X 1HX 13X 6HSIN$X 10X 6HCOS$X 10X 6HTAN$X /11X1HX 13X
```

```
1 6HEXP$X 10X 7HEXP%-X/ 11X 1HX 13X 6HLOG$X 9X 8HLOG10$X/ 11X
```

```
2 1HX 13X 7HSQRT$X/ 11X 1HX 13X 7HATAN$X 7X 13HLOG10$TAN$X//
```

```
6 FORMAT$D10,5X,D10,5X,D10,5X,D10
```

```
7 FORMAT$14H THIS IS THE ,A3,25H OF THE 4 LOOPS OF DO 130
```

```
8 FORMAT$5E15.8
```

```
END
```

***** THIS DATA IS ACCEPTABLE TO THE FREE FORM SUBROUTINES ONLY.

***** THE OUTPUT FROM THE EXECUTION OF THE PROGRAM WILL

***** BE IN FIXED FORMAT SUITABLE FOR USE WITH EITHER

***** THE FREE FORM OR THE FIXED FORMAT SUBROUTINES.

***** DATA CARDS ARE AS FOLLOWS

***** XZERO,XMAX,DELX

.40 .80 .10

***** A,B,C,D

1.111 2.222 3.333 4.444

***** FLH

FLOATING POINT ARITHMETIC

***** FXI□

1.1 2.2 3.3 .14E1 .0015E3

.00E0 170.E-2 1.8 1.9 2.0

***** GXJ□

2.1 2.2

3.3 2.4

2.5 2.6

2.7 2.8

2.9 3.0

***** ARGXJ□

5.0 10.0

24.0 11.0

39.0 17.0

44.0 41.0

50.0 1.0

***** VALUEX□

1.0 2.0 3.0 4.0 5.0

6.0 7.0 8.0 9.0 10.0

***** FUNCTX□

1.1 2.1 3.1 4.1 5.1

6.1 7.1 8.1 9.1 10.1

***** HXM,N□

.11 .22 .33 .44 .55

.66 .77 .88 .99 .10

.11 .12 .13 .14 .15

.16 .17 .18 .19 .20

.21 .22 .23 .24 .25

***** FXH

INTEGER

***** I2,I3,I4

22 11 93

TEST PROGRAM TYPED OUTPUT

LOAD SUBROUTINES
 PDQ FREE FORM SUBROUTNS 11/63
 LOAD DATA

X	SIN(X)	COS(X)	TAN(X)
X	EXP(X)	EXP(-X)	
X	LOG(X)	LOG10(X)	
X	SORT(X)		
X	ATAN(X)	LOG10(TAN(X))	
.40000000	.38941834	.92106099	.42279322
.40000000	1.49182470	.67032004	
.40000000	-.91629073	-.39737640	
.40000000	.63245553		
.40000000	.38050637	-.37334246	
.50000000	.47942554	.87758256	.54630249
.50000000	1.64872130	.60653066	
.50000000	-.69314718	-.30060364	
.50000000	.70710678		
.50000000	.46364760	-.26219494	
.60000000	.56464247	.82533561	.68413681
.60000000	1.82211880	.54881163	
.60000000	-.51082562	-.22153454	
.60000000	.77459667		
.60000000	.54041950	-.16462355	
.70000000	.64421769	.76484218	.84228839
.70000000	2.01375270	.49658530	
.70000000	-.35667494	-.15468256	
.70000000	.83666002		
.70000000	.61072596	-.07443361	
.80000000	.71735609	.69670670	1.02963850
.80000000	2.22554090	.44932896	
.80000000	-.22314355	-.09677275	
.80000000	.89442719		
.80000000	.67474094	.01266680	

FLOATING POINT ARITHMETIC

4.44400000	36.56516000	.50000000	.79144978
-.50000000	5.19804550	.16666666	.16666666
N05000000-	N151980455	N016666666	N016666666
1.00000000			
1.00000000			
1	2.10000000		2
4.00000000			
1.00000000			
4	2.40000000		2
7.00000000			
1.00000000			
7	2.70000000		2
10.00000000			
1.00000000			
10	3.00000000		3
1.00000000			
1.00000000			
1	2.10000000		2
4.00000000			
1.00000000			
4	2.40000000		2

```

7.00000000
1.00000000
7 2.70000000 2
10.00000000
1.00000000
10 3.00000000 3
5.00000000
5.10000000
10.00000000
10.10000000
1.00000000
1.10000000
11.00000000
22.00000000
33.00000000
44.00000000
55.00000000
.11000000 .20000000 THIS IS THE 1ST OF THE 4 LOOPS OF DO 130
1.11100000 2.22200000 -.54319181 1.06872570 1.00000000
1.12500000 2.00000000 -.54319181 1.06870000
66.00000000
77.00000000
88.00000000
99.00000000
10.00000000
.11000000 .20000000 THIS IS THE 2ND OF THE 4 LOOPS OF DO 130
1.11100000 2.22200000 -.54319181 1.06872570 1.00000000
1.12500000 2.00000000 -.54319181 1.06870000
11.00000000
12.00000000
13.00000000
14.00000000
15.00000000
.11000000 .20000000 THIS IS THE 3RD OF THE 4 LOOPS OF DO 130
1.11100000 2.22200000 -.54319181 1.06870000 1.00000000
1.12500000 2.00000000 -.54319181 1.06870000
16.00000000
17.00000000
18.00000000
19.00000000
20.00000000
.11000000 .20000000 THIS IS THE 4TH OF THE 4 LOOPS OF DO 130
1.11100000 2.22200000 -.54319181 1.06870000 1.00000000
1.12500000 2.00000000 -.54319181 1.06870000
.00000000
1.11100000
-.24104984
1.23432100 .81016201

```

INTEGER ARITHMETIC

22
66
66

11
33

33
242

7986

3

STOP 0555

*** LISTING OF THE REFERENCED SOURCE CARDS AFTER SORTING

```

-8600 C TEST PROGRAM FOR PDQ FORTRAN#
-8600 COMMON VALUE%10, ARG%10, CNT%4#
-8600 DIMENSION E%10, F%10, G%10, H%5, 5, FUNCT%10, H1%5, 5#
-8600 15 IF%SENSE SWITCH 4, 10, 20#
-8620 10 ACCEPT1, XZERO, XMAX, DELX#
-8668 GO TO 200#
-8676 20 READ1, XZERO, XMAX, DELX#
-8724 200 X%XZERO#
-8736 PUNCH1, XZERO, XMAX, DELX#
-8784 PRINT 5#
-8796 30 X1#SIN%X#
-8820 X2#COS%X#
-8844 X3#SIN%X#/X%COS%X#
-8904 X4#EXP%X#
-8928 X5#EXP%-X#
-8976 X6#LOG%X#
-7000 X7#LOG%X%/2.3058509#
-7036 X8#SQRT%X#
-7060 X9#ATAN%X#
-7084 X10#LOG%X3%/2.3058509#
-7120 PRINT1, X, X1, X2, X3#
-7180 PRINT1, X, X4, X5#
-7228 PRINT1, X, X6, X7#
-7276 PRINT1, X, X8#
-7312 PRINT1, X, X9, X10#
-7360 IF%X-XMAX, 40, 50, 50#
-7428 40 X%X&DELX#
-7464 GO TO 30#
-7472 50 READ1, A, B, C, D#
-7532 READ 4, FLH1, FLH2, FLH3, FLH4, FLH5#
-7604 PUNCH1, A, B, C, D#
-7664 CONTROL102#
-7676 PRINT4, FLH1, FLH2, FLH3, FLH4, FLH5#
-7748 PUNCH4, FLH1, FLH2, FLH3, FLH4, FLH5#
-7820 A1#A&B-C&D#
-7880 A2#A*B*C*D#
-7940 A3#A/B#
-7976 A4#A**X-B#
-8012 A5#A/X-B#
-8060 A6#A**XB&2.#*C#
-8144 A7#XA=B/XC*D#
-8228 A8#A/C*B/D#
-8288 PRINT1, A1, A2, A3, A4#
-8348 PRINT1, A5, A6, A7, A8#
-8408 PRINT6, A5, A6, A7, A8#
-8468 DO 60 I#1, 10, 5#
-8480 READ 8, F%I, F%I&1, F%I&2, F%I&3, F%I&4#
-8672 PUNCH8, F%I, F%I&1, F%I&2, F%I&3, F%I&4#
-8864 60 CONTINUE#
-8900 DO 29 J#1, 10, 2#
-8912 READ1, G%J, G%J&1#
-8996 PUNCH1, G%J, G%J&1#
-9080 29 CONTINUE#
-9116 DO 61 I#1, 10, 5#
-9128 E%I#%SINXF%I##2%&XCOSXF%I##2#

```

```

-9284      DO 55 J#1,10,3#
-9296      F#I#J#
-9356      PRINT1,F#I#
-9404      K#G#J#
-9464      PRINT1,E#I#
-9512      PRINT 2,J,G#J#,K#
-9584      55 CONTINUE#
-9620      61 CONTINUE#
-9656      DO 47 J#1,10,2#
-9668      READ1,ARG#J#,ARG#J&1#
-9752      PUNCH1,ARG#J#,ARG#J&1#
-9836      47 CONTINUE#
-9872      DO 48 L#1,10,5#
-9884      READ1,VALUE#L#,VALUE#L&1#,VALUE#L&2#,
J0004      1VALUE#L&3#,VALUE#L&4#
J0076      PUNCH1,VALUE#L#,VALUE#L&1#,VALUE#L&2#,VALUE#L&3#,VALUE#L&4#
J0268      48 CONTINUE#
J0304      DO 49 L#1,10,5#
J0316      READ1,FUNCT#L#,FUNCT#L&1#,FUNCT#L&2#,FUNCT#L&3#,FUNCT#L&4#
J0508      PUNCH1,FUNCT#L#,FUNCT#L&1#,FUNCT#L&2#,FUNCT#L&3#,FUNCT#L&4#
J0700      49 CONTINUE#
J0736      DO 63 J#1,10#
J0748      DO 70 L#1,10#
J0760      IF#ARG#J#-VALUE#L# 70,65,70#
J0876      65 PRINT1,ARG#J#,FUNCT#L#
J0960      70 CONTINUE#
J0996      63 CONTINUE#
J1032      DO 140 M#1,5#
J1044      READ1,H#M,1#,H#M,2#,H#M,3#,H#M,4#,H#M,5#
J1236      PUNCH1,H#M,1#,H#M,2#,H#M,3#,H#M,4#,H#M,5#
J1428      140 CONTINUE#
J1464      CNT#1#6.263E20#
J1476      CNT#2#55.44E20#
J1488      CNT#3#594.4E20#
J1500      CNT#4#6348.E20#
J1512      DO 130 M#1,4#
J1524      DO 80 N#1,5#
J1536      H1#M,N#H#M,N#1.0E&2#
J1692      PRINT1,H1#M,N#
J1776      80 CONTINUE#
J1812      PRINT1,H#1,1#,H#4,5#
J1848      TYPE7,CNT#M#
J1896      GO TO #90,100,110,120#,M#
J1980      90 D1#SIN#A#*COS#B#
J2040      100 D2#SIN#A#**#XCOS#B##
J2124      110 D3#SQRT##SIN#A#**2#&#XCOS#A#**2##
J2220      120 PRINT1,A,B,D1,D2,D3#
J2292      EXECUTE PROCEDURE 300#
J2304      130 CONTINUE#
J2340      Z#0#
J2376      PRINT1,Z#
J2400      D4#-B&C#
J2448      PRINT1,D4#
J2472      D5#SIN#A#*COS#A#*COS#B#
J2568      PRINT1,D5#
J2592      I1#2#
J2604      D6#A##I1#

```

```

J2640      D7#A**Z-I1#
J2676      PRINT1,D6,D7#
J2712      READ4,FXH1,FXH2#
J2748      PUNCH4,FXH1,FXH2#
J2784      CONTROL102#
J2796      PRINT4,FXH1,FXH2,FLH4,FLH5#
J2856      READ3,I2,I3,I4#
J2904      PUNCH3,I2,I3,I4#
J2952      I5#I2&I3&I4#
J3000      I6#I5-I4#
J3036      I7#I2-I3#
J3072      I8#I2-I3-I4#
J3120      I9#I4/I3#
J3156      C NOTE--I IS DEFINED BY DO 61 I # 1,10,5#
J3156      J1#I2&I3&I4#I#
J3252      PRINT3,I2,I3,I4#
J3300      PRINT3,I5,I6,I7,I8,I9,J1#
J3384      PAUSE#
J3396      STOP555#
J3408      GO TO 15#
J3416      BEGIN PROCEDURE 300#
J3444      C A TO NEAREST 1/16, B TO NEAREST INTEGER, D2 TO NEAREST 0.0001#
J3444      A1#0.0625*DRHZA*16.&.5#
J3516      A2#DRHZA&.5#
J3564      D2#0.0001*DRHZA*D2*10000.&.5#
J3636      PRINT1,A1,A2,D1,D2#
J3696      END PROCEDURE 300#
J3704      1 FORMAT$F15.8#
J3746      2 FORMAT$I15,F15.8,I15#
J3778      3 FORMAT$J15#
J3820      4 FORMAT$A5#
J3862      5 FORMAT$11X 1HX 13X 6HSIN$X# 10X 6HCOS$X# 10X 6HTAN$X# /11X1HX 13X#
J3862      1 6HEXP$X# 10X 7HEXP$-X# / 11X 1HX 13X 6HLOG$X# 9X 8HLOG10$X# / 11X#
J3862      2 1HX 13X 7HSQRT$X# / 11X 1HX 13X 7HATAN$X# 7X 13HLOG10$TAN$X# // #
J4274      6 FORMAT$D10,5X,D10,5X,D10,5X,D10#
J4332      7 FORMAT$14H THIS IS THE ,A3,25H OF THE 4 LOOPS OF DO 130#
J4446      8 FORMAT$E15.8#
J4488      END#
J7610      N5100000-M71000000-N05000000-N21600000-M96250000-N171000000M979000000
J7680      M978000000M977000000M976000000M975000000M974000000M973000000M972000000
J7750      J3784K-003M667487200M667487100M477000000M476000000M971000000M475000000
J7820      M474000000-00000-00-090000000-00000-300J34320-300M473000000M472000000
J7890      M471000000J2220--120J2124--110J2040--100J1980--090J4338K-007N31000000-
J7960      N500000000J1776--080J2304--130P46348000-P35944000-P25544000-P16263000-
J8030      N400000000J1428--140J0876--065J0960--070J0996--063J0700--049N300000000
J8100      J0268--048-9836--047J3752K-002N200000000-9584--055-00000-00K-9620--061
J8170      N100000000-9080--029J4452K-008M900000000-8864--060J4280K-006M178000000
J8240      -000000-03M177000000N12000000-M176000000M175000000-000000-01M174000000
J8310      M173000000M172000000M171000000M653487500M653487400M653487300M653487200
J8380      M653487100J3826K-004M400000000M300000000M200000000M100000000-7472--050
J8450      -7428--0400771700000007790000000778000000N12305850R07770000000776000000
J8520      07750000000774000000-000000-0207730000000772000000-000000-000771000000
J8590      -6796--030J3868K-0050700000000-6724--200M44553670007544167000769455956
J8660      J3710K-001-6676--020-6620--010-6600--015--005J8709M871000000--010J8959
-          M664554363--005J9059M800000000--010J9309M700000000--010J9409M600000000
-          --010J9509M500000000--004J9609M355630000--010J9649M159470000--010J9749
-          0541536445M163415546M163415500M459484600M459480000M142624600M142620000

```

*** OBJECT PROGRAM LISTING (COMPILED WITHOUT SUBROUTINES)

36--KM00050+2600047000541600054-00011100054-000031-0139-001045000120024049002420
00JD-0035-0100260009000299170006000J40-3936000000050049000000123456789123456789-
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**** LISTING OF DATA CARDS OUTPUT BY THE TEST PROGRAM

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2.50000000	2.60000000				008
2.70000000	2.80000000				009
2.90000000	3.00000000				010
5.00000000	10.00000000				011
24.00000000	11.00000000				012
39.00000000	17.00000000				013
44.00000000	41.00000000				014
50.00000000	1.00000000				015
1.00000000	2.00000000	3.00000000	4.00000000	5.00000000	016
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000	017
1.10000000	2.10000000	3.10000000	4.10000000	5.10000000	018
6.10000000	7.10000000	8.10000000	9.10000000	10.10000000	019
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.16000000	.17000000	.18000000	.19000000	.20000000	023
.21000000	.22000000	.23000000	.24000000	.25000000	024
INTEGER					025
	22	11	33		026

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND	REMARKS	PAGE
				00 000	** PDQ FORTRAN PROCESSOR	C2	10/24/63#			1
00402				00 010		DORG	402#			
00402	16	11631	000-0	00 020	INITL	TFM	0MM1,0,10#			
00414	16	08535	R9999	00 030		TFM	SMCNT,99999#			
00426	16	16243	-6600	00 040		TFM	L ,6600#			
00438	26	16861	16243	00 050		TF	LOAD,L#			
00450	15	00459	00000	00 060		TDM	SKPPCH,0#			
00459				00 070	SKPPCH	DS	,*-2#			
00462	16	11495	000-1	00 080	BEGIN	TFM	SUBN,1,10#			
00474	24	16243	08535	00 090		C	L,SMCNT#			
00486	47	00534	01100	00 100		ENH	*848#			
00498	34	00000	00102	00 110		RCTY	#			
00510	39	16831	00100	00 130		WATY	OVERL#			
00522	15	00459	0000J	00 140		TDM	SKPPCH,1,11#			
00534	26	00702	11595	00 150		TF	IFSWCH,ZERO9-2#			
00546	47	00694	00400	00 160		BNC4	BA#			
00558	37	17511	00500	00 170		RACD	CHI#			
00570	16	00641	J7655	00 180		TFM	*871,CHI&144#			
00582	26	00680	00641	00 190		TF	*898,*859#			
00594	12	00641	000-2	00 200		SM	*847,2,10#			
00606	14	00641	J7511	00 210		CM	*835,CHI#			
00618	47	00462	01300	00 220		BL	BEGIN#			
00630	26	00470	00000	00 230		TF	BEGIN&8#			
00642	43	00674	00470	00 240		BD	*832 ,BEGIN&8#			
00654	43	00674	00469	00 250		BD	*820 ,BEGIN&7#			
00666	49	00582	00000	00 260		B	*-84#			
00674				00 270		DORG	*-3#			
00674	16	00000	-0000	00 280		TFM	,#			
00685		2		00 285		DC	2 , @,##			
00686	49	00730	00000	00 290		B	BA&36#			
00694				00 300		DORG	*-3#			
00694	34	00000	00102	00 310	BA	RCTY	#			
00706	37	17511	00100	00 320		RATY	CHI#			
00718	46	00694	00400	00 330		BC4	BA#			
00730	16	17509	0-000	00 331		TFM	CHI-2 , ,8#			
00742	25	17505	16243	00 332		TD	CHI-6 ,L#			
00754	25	17503	16242	00 333		TD	CHI-8 ,L-1#			
00766	25	17501	16241	00 334		TD	CHI-10 ,L-2#			
00778	25	17499	16240	00 335		TD	CHI-12 ,L-3#			
00790	25	17497	16239	00 336		TD	CHI-14 ,L-4#			
00802	46	00838	00200	00 337		BC2	*836#			
00814	43	00838	00459	00 338		BD	*824 ,SKPPCH#			
00826	39	17495	00400	00 339		WACD	CHI-16#			
00838	46	00886	00100	00 340	TYST	BC1	BRC#			
00850	34	00000	00102	00 350		RCTY	#			
00862	39	17497	00100	00 380		WATY	CHI-14#			
00874	15	00839	00006	00 385		TDM	TYST&1 ,6#			
00886	49	00894	00000	00 390	BRC	B	*88#			
00894				00 395		DORG	*-3#			
00894	16	10972	J7032	00 400		TFM	PUTETB&6,PHI&12#			
00906	43	00938	17511	00 510		BD	*832,CHI#			
00918	31	17510	17512	00 520		TR	CHI-1,CHI&1#			
00930	49	00906	00000	00 530		B	*-24#			
00938				00 540		DORG	*-3#			
00938	14	17511	000M3	00 550		CM	CHI,43,10#			

LCCTN	GP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	2
00950	47	01010	01200	00	560		BNE	*860#			
00962	24	00985	17513	00	570		C	*823,CHI82#			
00974	47	01010	012-0	00	580		BNE	*836,0,10#			
00986	24	00985	17515	00	590		C	*-1,CHI84#			
00998	46	00462	01200	00	600		BE	BEGIN#			
01010	14	17511	0000	00	610		CM	CHI,70,10#			
01022	47	01398	01300	00	620		BL	BLANKS812#			
01034	17	09356	-1046	00	630		BTM	CFXN,*812,7#			
01046	26	01068	08454	00	640		TF	*822,SMTLUI810#			
01058	44	01106	00004	00	650		BNF	*848,4#			
01070	15	00701	0000P	00	660		TDM	DCSWCH,7,11#			
01082	26	01104	08454	00	670		TF	*822,SMTLUI810#			
01094	26	01153	00004	00	680		TF	SLOT,4#			
01106	26	01123	08454	00	690		TF	*817,SMTLUI810#			
01118	26	00004	16243	00	700		TF	4,L#			
01130	26	01147	08454	00	710		TF	*817,SMTLUI810#			
01142	32	00005	00000	00	720		SF	5#			
01153				00	730	SLOT	DS	,*#			
01154	16	01264	-0089	00	740	FRMAT1	TFM	FRMAT286,89#			
01166	26	16398	16243	00	750		TF	BRINST86,L#			
01178	26	16249	08535	00	760		TF	LCDER,SMCNT#			
01190	16	01276	-0088	00	770		TFM	FRMAT2818,88#			
01202	31	17019	17510	00	780		TR	PHI-1,CHI-1#			
01214	45	01234	17020	00	790		BNR	*820,PHI#			
01226	49	01386	00000	00	800		B	BLANKS#			
01234				00	810		DCRG	*-3#			
01234	14	17020	000-0	00	820		CM	PHI,,10#			
01246	46	01330	01200	00	830		BE	FRMAT2872#			
01258	26	-0000	17020	00	840	FRMAT2	TF	,PHI,2#			
01270	33	-0000	00000	00	850		CF	,,2#			
01279		2		00	852		DC	2	,37		,*-2#
01281		2		00	854	AVOID	DC	2	,		@,*#
01282	14	01264	-0099	00	860		CM	FRMAT286,99#			
01294	46	01350	01200	00	870		BE	*856#			
01306	11	01264	000-2	00	880		AM	FRMAT286,2,10#			
01318	11	01276	000-2	00	890		AM	FRMAT2818,2,10#			
01330	31	17019	17021	00	900		TR	PHI-1,PHI81#			
01342	49	01214	00000	00	910		B	FRMAT1860#			
01350				00	920		DCRG	*-3#			
01350	32	00088	00000	00	930		SF	88#			
01362	24	00099	16263	00	940		C	99,FRMSCT810#			
01374	46	02852	01200	00	950		BE	FORMAT#			
01386	27	14928	14927	00	960	BLANKS	BT	BGO,BGO-1#			
01398	31	17019	17510	00	970		TR	PHI-1,CHI-1#			
01410	26	01661	05067	00	980		TF	BLNK1811,ELEVEN811#			
01422	14	17020	000-0	00	990		CM	PHI,,10#			
01434	31	17019	17021	01	000		TR	PHI-1,PHI81#			
01446	46	01650	01200	01	010		BE	BLNK1#			
01458	21	01661	08279	01	020		A	BLNK1811,INCREM#			
01470	45	01422	17020	01	030	BLNK2	BNR	*-48,PHI#			
01482	26	01500	01656	01	040		TF	*818,BLNK186#			
01494	31	00000	01278	01	050		TR	,AVOID-3#			
01506	49	01514	00000	01	052		B	*88#			
01514				01	054		DCRG	*-3#			
01514	31	17021	17510	01	060	SDECOD	TR	PHI81,CHI-1#			

LOCIN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	3
01526	31	17019	17021	01 070		TR	PHI-1,PHI&1‡		
01538	14	17020	000L3	01 080		CM	PHI,33,10‡		
01550	47	01670	01200	01 090		BNE	ISITF-12‡		
01562	31	17019	17021	01 100	STDCD2	TR	PHI-1,PHI&1‡		
01574	45	01594	17024	01 110		BNR	*&20,PHI&04‡		
01586	49	11622	00000	01 120		B	ASCAN‡		
01594				01 130		DORG	*-3‡		
01594	14	17020	000K4	01 140		CM	PHI,24,10‡		
01606	46	11622	01200	01 150		BE	ASCAN‡		
01618	14	17020	000K3	01 160		CM	PHI,23,10‡		
01630	47	01562	01200	01 170		BNE	STDCD2‡		
01642	49	05282	00000	01 180		B	DO‡		
01650				01 190		DORG	*-3‡		
01650	31	J7510	17512	01 200	BLNK1	TR	CHI-1,CHI&1,2‡		
01662	49	01470	00000	01 210		B	BLNK2‡		
01670				01 220		DORG	*-3‡		
01670	45	01526	17024	01 230		BNR	SDECODE&12,PHI&4‡		
01682	14	17511	000M6	01 240	ISITF	CM	CHI,46,10‡		
01694	47	01718	01200	01 250		BNE	*&24‡		
01706	17	11534	0P170	01 260		BTM	ERROR,7170,8‡		
01718	14	17511	000M9	01 270		CM	CHI,49,10‡		
01730	46	04584	01200	01 280		BE	IF‡		
01742	14	17511	000M7	01 290		CM	CHI,47,10‡		
01754	46	05706	01200	01 300		BE	GOTO‡		
01766	14	17511	000M4	01 310		CM	CHI,44,10‡		
01778	46	04520	01200	01 320		BE	DIM‡		
01790	14	17511	000M2	01 330		CM	CHI,42,10‡		
01802	47	01858	01200	01 332		BNE	*&56‡		
01814	14	17521	000N7	01 334		CM	CHI&10 ,57 ,10‡		
01826	46	06134	01200	01 336		BE	BEGPRO‡		
01838	15	16099	00004	01 338		TDM	TRACE&1 ,4‡		
01850	49	00462	00000	01 340		B	BEGIN‡		
01858				01 342		DORG	*-3‡		
01858	14	17511	000M3	01 350		CM	CHI,43,10‡		
01870	47	01926	01200	01 360		BNE	*&56‡		
01882	14	17519	000N6	01 370		CM	CHI&8 ,56 ,10‡		
01894	47	06724	01300	01 380		BL	CONTIN‡		
01906	46	04552	01200	01 390		BE	COMM‡		
01918	49	07200	00000	01 400		B	CONTRL‡		
01926				01 410		DORG	*-3‡		
01926	14	17511	000N9	01 420		CM	CHI,59,10‡		
01938	47	01974	01200	01 430		BNE	*&36‡		
01950	14	17515	00003	01 440		CM	CHI&4,63,10‡		
01962	46	06354	01200	01 450		BE	XETURN‡		
01974	14	17511	00002	01 460		CM	CHI,62,10‡		
01986	46	07160	01200	01 470		BE	STOP‡		
01998	14	17511	000N7	01 480		CM	CHI,57,10‡		
02010	46	02210	01200	01 490		BE	OUTCHK‡		
02022	46	02346	01100	01 500		BH	INCHK‡		
02034	14	17511	000M1	01 510		CM	CHI,41,10‡		
02046	46	02402	01200	01 520		BE	ACCEPT‡		
02058	14	17511	000M5	01 530		CM	CHI,45,10‡		
02070	47	11754	01200	01 540		BNE	ER1‡		
02082	14	17517	000N7	01 550		CM	CHI&6 ,57 ,10‡		
02094	46	06334	01200	01 554		BE	ENDPRO‡		

COMPUTER TECHNOLOGY

LOCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	4
02106	47	02138	01300	01 558		BL	*832#		
02118	15	16099	00001	01 562		TDM	TRACE&1 ,1#		
02130	49	00462	00000	01 566		B	BEGIN#		
02138				01 570		DORG	*-3#		
02138	45	06494	17519	01 574		BNR	EXPROC ,CHI&8#		
02150	49	07324	00000	01 580		B	END#		
02158				01 590		DORG	*-3#		
02158	43	02178	17521	01 591	CONIO	BD	*820 ,CHI&10#		
02170	49	11754	00000	01 592		B	ER1#		
02178				01 593		DORG	*-3#		
02178	16	01512	-2690	01 594		TFM	SDECOD-2 ,IO2&88#		
02190	31	17510	17522	01 595		TR	CHI-1 ,CHI&11#		
02202	49	01398	00000	01 596		B	BLANKS&12#		
02210				01 597		DORG	*-3#		
02210	14	17513	000N9	01 600	OUTCHK	CM	CHI&2,59,10#		
02222	46	02314	C1200	01 610		BE	PRINT#		
02234	47	07140	01100	01 620		BNH	PAUSE#		
02246	31	17510	17520	01 630		TR	CHI-1,CHI&9#		
02258	14	17511	00003	01 640		CM	CHI,63,10#		
02270	47	02294	01200	01 650		BNE	*824#		
02282	31	17510	17518	01 660		TR	CHI-1,CHI&7#		
02294	16	13024	-2882	01 670		TFM	INST2&6,WACD#		
02306	49	02482	00000	01 680		B	IO1#		
02314				01 690		DORG	*-3#		
02314	31	17510	17520	01 700	PRINT	TR	CHI-1,CHI&9#		
02326	16	13024	-2954	01 710		TFM	INST2&6,WATY#		
02338	49	02482	00000	01 720		B	IO1#		
02346				01 730		DORG	*-3#		
02346	14	17511	00003	01 740	INCHK	CM	CHI,63,10#		
02358	31	17510	17518	01 750		TR	CHI-1,CHI&7#		
02370	47	02450	01200	01 760		BNE	RDCD#		
02382	16	13024	-2918	01 770		TFM	INST2&6 ,WATYSC#		
02394	49	02482	00000	01 780		B	IO1#		
02402				01 790		DORG	*-3#		
02402	31	17510	17522	01 800	ACCEPT	TR	CHI-1,CHI&11#		
02414	14	17511	00003	01 810		CM	CHI,63,10#		
02426	47	02470	01200	01 820		BNE	*844#		
02438	31	17510	17518	01 830		TR	CHI-1,CHI&7#		
02450	16	13024	-2798	01 840	RDCD	TFM	INST2&6,RACD#		
02462	49	02482	00000	01 850		B	IO1#		
02470				01 860		DORG	*-3#		
02470	16	13024	-2834	01 870		TFM	INST2&6,RATY#		
02482	16	13019	000K7	01 880	IO1	TFM	INST&1,27,10#		
02494	14	17511	00009	01 890		CM	CHI,69,10#		
02506	46	02530	01100	01 900		BH	*824#		
02518	17	11534	0P173	01 910		BTM	ERROR,7173,8#		
02530	17	09356	-2542	01 920		BTM	CFXN,*812#		
02542	26	02564	08534	01 930		TF	*822,SMCNT-1#		
02554	16	13029	-0006	01 940		TFM	INST&11,6#		
02566	16	13033	0-000	01 950		TFM	INST&15,,8#		
02577		1		01 960		DC	1,,*#		
02578	27	14104	14103	01 970		BT	PUT2,PUT2-1#		
02590	26	13024	02812	01 980		TF	INST&6,IOINST&6#		
02602	45	02622	17513	01 990	IO2	BNR	IO2&20,CHI&2#		
02614	49	06724	00000	02 000		B	TESTDG#		

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE
02622				02 010		DORG	*-3#	
02622	14	17511	000K3	02 020		CM	CHI,23,10#	
02634	31	17508	17510	02 030		TP	CHI-3,CHI-1#	
02646	47	02602	01200	02 040		BNE	IO2#	
02658	45	02702	17513	02 050		BNR	*844 ,CHI&2#	
02670	16	00892	-2158	02 060		TFM	BRC&6 ,CONIO#	
02682	49	00546	00000	02 064		B	BEGIN&84#	
02690				02 070		DORG	*-3#	
02690	16	01512	-1514	02 075		TFM	SDECOD-2 ,SDECOD#	
02702	15	00698	00000	02 080		TDM	SBSWCH#	
02714	17	09582	-2726	02 090		BTM	CSORN,*812#	
02726	26	02749	10972	02 100		TF	*823,PUTETB&6#	
02738	31	13025	00000	02 110		TR	INST2&7#	
02750	45	02774	17513	02 120		BNR	*824,CHI&2#	
02762	16	13024	-3914	02 130		TFM	INST2&6,COMPLT#	
02774	27	14104	14103	02 140		BT	PUT2,PUT2-1#	
02786	12	10972	-0009	02 150		SM	PUTETB&6,9#	
02798	49	02602	00000	02 160		B	IO2#	
02806				02 170		DORG	*-3#	
02806	J7	03938	-2818	02 180	IOINST	BTM	SWC,LSUBS-1,07#	
02819		17		02 190	LSUBS	DAC	17,LOAD SUBROUTINESa#	
02852	31	17510	17019	02 200	FORMAT	TR	CHI-1,PHI-1#	
02864	26	02881	08454	02 210		TF	*817,SMTLUI&10#	
02876	11	00004	000-6	02 220		AM	4,6,10#	
02888	26	02905	08454	02 230		TF	*817,SMTLUI&10#	
02900	15	00005	0000K	02 240		TDM	5,2,11#	
02912	11	16398	-0006	02 250		AM	BRINST&6,6#	
02924	27	14940	14939	02 260		BT	BGO&12,BGO&11#	
02936	16	03145	000J7	02 270		TFM	SWLP&1,17,10#	
02948	16	03630	J7026	02 280		TFM	TRANS&18,PHI&6#	
02960	31	17017	04509	02 290		TR	PHI-3,FMTSP-10#	
02972	16	03575	000Q0	02 300		TFM	WIDTH ,80 ,10#	
02984	31	17510	17512	02 310	FSCAN	TR	CHI-1,CHI&1#	
02996	45	03028	17511	02 320		BNR	*832,CHI#	
03008	16	00892	-3994	02 330		TFM	BRC&6 ,CONFMT#	
03020	49	00546	00000	02 340		B	BEGIN&84#	
03028				02 350		DORG	*-3#	
03028	14	17511	000K3	02 360		CM	CHI,23,10#	
03040	46	02984	01200	02 370		BE	FSCAN#	
03052	14	17511	000-0	02 380		CM	CHI,,10#	
03064	46	02984	01200	02 390		BE	FSCAN#	
03076	14	17511	000K4	02 400		CM	CHI,24,10#	
03088	47	03144	01200	02 410		BNE	SWLP#	
03100	16	03635	-2726	02 420		TFM	TRANS&23,LTPAR#	
03112	16	03654	-2984	02 430		TFM	TRNSR&6,FSCAN#	
03124	16	03145	000M1	02 440		TFM	SWLP&1,41,10#	
03136	49	03612	00000	02 450		B	TRANS#	
03144				02 460		DORG	*-3#	
03144	17	11534	0P171	02 470	SWLP	BTM	ERROR,7171,8#	
03156	47	03742	01100	02 480		BNH	PUNCT#	
03168	14	17511	000M0	02 490		CM	CHI,40,10#	
03180	47	04046	01100	02 500		BNH	CHCHI&12#	
03192	14	17511	00009	02 510		CM	CHI,69,10#	
03204	46	04182	01100	02 520		BF	HOLL#	
03216	25	03631	17511	02 530		TD	TRANS&19,CHI#	
03228	16	03563	00-00	02 540		TFM	LFIND,,9#	

LCCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE
03240	14	17511	000M1	02 550		CM	CHI ,41	,10+	
03252	46	03360	01200	02 560		BE	TIER+		
03264	14	17511	000M4	02 570		CM	CHI,44,10+		
03276	47	04046	01300	02 580		BL	CHCHI&12+		
03288	46	03360	01200	02 590		BE	TIER+		
03300	14	17511	000M9	02 600		CM	CHI,49,10+		
03312	46	03360	01200	02 610		BE	TIER+		
03324	16	03563	000-0	02 620		TFM	EFIND,,10+		
03336	14	17511	000M6	02 630		CM	CHI,46,10+		
03348	46	04046	01100	02 640		BH	CHCHI&12+		
03360	31	17510	17512	02 650	TIER	TR	CHI-1,CHI&1+		
03372	17	09356	000-0	02 660		BTM	CFXN,00,10+		
03384	17	03658	000-0	02 670		BTM	WIDTST,,10+		
03396	26	04079	17481	02 680		TF	RPFMT&21 ,SYM+		
03408	16	03635	000-0	02 690		TFM	TRANS&23,00,10+		
03420	44	03552	03562	02 700		BNF	PRETRN,EFIND-1+		
03432	27	04034	04033	02 710		BT	CHCHI ,CHCHI-1+		
03444	14	17511	000-3	02 720		CM	CHI,03,10+		
03456	47	04046	01200	02 730		BNE	CHCHI&12+		
03468	31	17510	17512	02 740		TR	CHI-1,CHI&1+		
03480	27	04034	04033	02 750		BT	CHCHI ,CHCHI-1+		
03492	14	17511	000C9	02 760		CM	CHI,69,10+		
03504	47	04046	01100	02 770		BNH	CHCHI&12+		
03516	17	09356	000-0	02 780		BTM	CFXN,,10+		
03528	32	17480	00000	02 790		SF	SYM-1+		
03540	26	03635	17481	02 800		TF	TRANS&23,SYM+		
03552	33	03632	CC000	02 810	PRETRN	CF	TRANS&20+		
03563		2		02 820	EFIND	DS	2,*+		
03564	33	03634	CC000	02 830		CF	TRANS&22+		
03576	32	03635	00000	02 840		SF	TRANS&23+		
03588	32	03631	00000	02 850		SF	TRANS&19+		
03600	16	03654	-2996	02 860		TFM	TRNSBR&6,FSCAN&12+		
03612	11	03630	000-5	02 870	TRANS	AM	*&18,5,10+		
03624	16	17026	-0000	02 880		TFM	PHI&6+		
03636	21	17019	03623	02 890		A	PHI-1,TRANS&11+		
03648	49	00000	00000	02 900	TRNSBR	B	+		
03658				02 910		DORG	*-1+		
03658	32	17480	CC000	02 920	WIDTST	SF	SYM-1+		
03670	26	03633	17481	02 930		TF	TRANS&21,SYM+		
03682	22	03575	17481	02 940		S	WIDTH,SYM+		
03694	47	03730	01300	02 950		BN	*&36+		
03706	14	17481	000-0	02 960		CM	SYM,,10+		
03718	46	09556	01100	02 970		BH	CSORN-26+		
03730	17	11534	0P172	02 980		BTM	ERROR,7172,8+		
03742	14	17511	000K1	02 990	PUNCT	CM	CHI,21,10+		
03754	47	03798	01200	03 000		BNE	*&44+		
03766	16	03635	-3298	03 010		TFM	TRANS&23,SLASH+		
03778	16	03654	-2972	03 020		TFM	TRNSBR&6,FSCAN-12+		
03790	49	03612	CC000	03 030		B	TRANS+		
03798				03 040		DORG	*-3+		
03798	46	02984	01100	03 050		BH	FSCAN+		
03810	14	17511	000-4	03 060		CM	CHI,04,10+		
03822	47	04046	01200	03 070		BNE	CHCHI&12+		
03834	16	03635	-3574	03 080		TFM	TRANS&23,RTPAR+		
03846	16	03654	-3866	03 090		TFM	TRNSBR&6,FINISH+		

03858	49	03612	00000	03	100		B	TRANS‡	
03866				03	110		DORG	*-3‡	
03866	16	03896	J7020	03	120	FINISH	TFM	*‡30,PHI‡	
03878	21	03896	17019	03	130		A	*‡18,PHI-1‡	
03890	31	00000	16397	03	140		TR	,BRINST‡5‡	
03902	25	03925	17019	03	150		TD	*‡23,PHI-1‡	
03914	43	03938	00210	03	160		BD	*‡24,210‡	
03926	11	17019	000-1	03	170		AM	PHI-1,1,10‡	
03938	26	17026	16243	03	180		TF	PHI‡6,L‡	
03950	21	17026	17019	03	190		A	PHI‡6,PHI-1‡	
03962	27	14664	17019	03	200		BT	PUTPHI,PHI-1‡	
03974	16	00892	-0894	03	210		TFM	BRC‡6 ,BRC‡8‡	
03986	49	00462	00000	03	220		B	BEGIN‡	
03994				03	230		DORG	*-3‡	
03994	43	04014	17521	03	240	CONFMT	BD	*‡20 ,CHI‡10‡	
04006	49	04046	00000	03	250		B	CHCHI‡12‡	
04014				03	260		DORG	*-3‡	
04014	31	17510	17522	03	270		TR	CHI-1 ,CHI‡11‡	
04026	49	029R6	00000	03	280		B	FSCAN‡12 , ,5‡	
04034				03	290		DORG	*-3‡	
04034	45	09556	17511	03	300	CHCHI	BNR	CSORN-26 ,CHI‡	
04046	17	11534	0P171	03	310		BTM	ERROR ,7171 ,8‡	
04058	16	03611	-4126	03	320	RPFMT	TFM	TRANS-1 ,RPT1‡	
04070	32	17480	00000	03	330		SF	SYM-1‡	
04082	26	04081	17481	03	340		TF	*-1 ,SYM‡	
04094	49	02996	00000	03	350		B	FSCAN‡12‡	
04102				03	360		DORG	*-3‡	
04102	22	03575	04079	03	370	RPT2	S	WIDTH ,RPFMT‡21‡	
04114	47	03730	01300	03	380		BN	PUNCT-12‡	
04126	16	03654	-4102	03	390	RPT1	TFM	TRNSBR‡6 ,RPT2‡	
04138	16	03611	-2996	03	400		TFM	TRANS-1 ,FSCAN‡12‡	
04150	12	04081	000-1	03	410		SM	RPFMT‡23 ,1 ,10‡	
04162	46	03612	01100	03	420		BH	TRANS‡	
04174	49	02996	00000	03	430		B	FSCAN‡12‡	
04182				03	440		DORG	*-3‡	
03575				03	450	WIDTH	DS	,EFIND‡12‡	
04182	17	09356	000-0	03	460	HOLL	BTM	CFXN, ,10‡	
04194	27	04034	04033	03	470		BT	CHCHI ,CHCHI-1‡	
04206	14	17511	00007	03	480		CM	CHI,67,10‡	
04218	46	04322	01200	03	490		BE	*‡104‡	
04230	14	17511	000M8	03	500		CM	CHI,48,10‡	
04242	47	04058	01200	03	510		BNE	RPFMT‡	
04254	17	03658	000-0	03	520		BTM	WIDTST , ,10‡	
04266	16	03635	-3690	03	530		TFM	TRANS‡23,HTYPE‡	
04278	16	04413	-4434	03	540		TFM	HOLL1‡11,HCONT2‡	
04290	31	17510	17512	03	550		TR	CHI-1,CHI‡1‡	
04302	16	03654	-4366	03	560		TFM	TRNSBR‡6,HCONT1‡	
04314	49	03612	00000	03	570		B	TRANS‡	
04322				03	580		DORG	*-3‡	
04322	17	03658	000-0	03	590		BTM	WIDTST , ,10‡	
04334	16	03635	-3654	03	600		TFM	TRANS‡23 ,XTYPE‡	
04346	16	04413	-4490	03	610		TFM	HOLL1‡11 ,HCONT4‡24‡	
04358	49	04302	00000	03	620		B	*-56‡	
04366				03	630		DORG	*-3‡	
04366	16	03623	000-2	03	640	HCONT1	TFM	TRANS‡11,2,10‡	

LOCTN	OP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	8
04378	32	17480	C0000	03	650		SF	SYM-1#			
04390	26	03635	17481	03	660		TF	TRANS&23,SYM#			
04402	16	03654	-4434	03	670	HOLL1	TFM	TRNSBR&6,HCONT2#			
04414	49	03612	00000	03	680		B	TRANS#			
04422				03	690		DORG	*-3#			
04422	31	17510	17512	03	700	HCONT3	TR	CHI-1,CHI&1#			
04434	16	03654	-4466	03	710	HCONT2	TFM	TRNSBR&6,HCONT4#			
04446	26	03635	17511	03	720		TF	TRANS&23,CHI#			
04458	49	03612	00000	03	730		B	TRANS#			
04466				03	740		DORG	*-3#			
04466	12	17481	000-1	03	750	HCONT4	SM	SYM,1,10#			
04478	46	04422	01100	03	760		BP	HCONT3#			
04490	16	03623	000-5	03	770		TFM	TRANS&11,5,10#			
04502	49	02984	C0000	03	780		B	FSCAN#			
04509				03	790		DORG	*-4#			
04519		11		03	800	FMTSP	DC	11,74900000a#			
04520	15	00699	00004	03	810	DIM	TDM	DMSWCH,4#			
04532	31	17510	17528	03	820		TR	CHI-1,CHI&17#			
04544	49	09710	00000	03	830		B	CS#			
04552				03	840		DORG	*-3#			
04552	31	17510	17522	03	850	COMM	TR	CHI-1,CHI&11#			
04564	15	00699	0000M	03	860		TDM	DMSWCH,4,11#			
04576	49	09710	00000	03	870		B	CS#			
04584				03	880		DORG	*-3#			
04584	31	17510	17516	03	890	IF	TR	CHI-1,CHI&5#			
04596	16	17240	000M9	03	900		TFM	PHI&220,49,10#			
04608	16	11631	000M9	03	910		TFM	OMI&1,49,10#			
04620	15	00697	000C1	03	920		TDM	FSTSW,1#			
04632	32	00702	00000	03	930		SF	IFSWCH#			
04644	49	11634	C00C0	03	940		B	ASCAN&12#			
04652				03	950		DORG	*-3#			
04652	33	17480	00000	03	960		CF	SYM-1#			
04664	33	17478	00000	03	970		CF	SYM-3#			
04676	33	17476	00000	03	980		CF	SYM-5#			
04688	33	17474	00000	03	990		CF	SYM-7#			
04700	24	17481	04745	04	000		C	SYM,SENSE&8#			
04712	46	04756	01200	04	010		BE	IFSS#			
04724	17	11534	0-076	04	020	ER6	BTM	ERROR,76,8#			
04737		10		04	040	SENSE	DAC	10,SENSE#			
04756	31	00000	05261	04	050	IFSS	TR	OUT,IFSSRC#			
04768	14	17523	00009	04	060		CM	CHI&12,69,10#			
04780	47	04840	01100	04	070		BNH	*&60#			
04792	25	00009	17523	04	080		TD	OUT&9,CHI&12#			
04804	31	17510	17526	04	090		TR	CHI-1,CHI&15#			
04816	14	17511	00009	04	100		CM	CHI,69,10#			
04828	46	04852	01100	04	110		BH	*&24#			
04840	17	11534	C-077	04	120	ER7	BTM	ERROR,77,8#			
04852	16	06020	-0005	04	130		TFM	KK&6,OUT&5#			
04864	16	05151	000K0	04	140		TFM	THAT&11,20,10#			
04876	49	05068	00000	04	150		B	ELEVEN&12#			
04884				04	160		DORG	*-3#			
04884	26	04907	10972	04	170	TEN	TF	*&23,PUTETB&6#			
04896	31	13009	000C0	04	180		TR	INST1&7#			
04908	26	13008	16391	04	190		TF	INST1&6,TFFAC#			
04920	31	13018	16432	04	200		TR	INST2,RVINST#			

LOCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE
04932	44	04952	13015	04 210		BNF	*&20, INST1&13#	
04944	49	04964	00000	04 220		B	*&20#	
04952				04 230		DORG	*-3#	
04952	27	14084	14083	04 240		BT	PUT1, PUT1-1#	
04964	44	04988	13016	04 250		BNF	*&24, INST1&14#	
04976	27	14104	14103	04 260		BT	PUT2, PUT2-1#	
04988	43	05032	13016	04 270		BD	*&44, INST1&14#	
05000	31	00000	05172	04 280		TR	OUT ,IFRCFL#	
05012	21	00006	16243	04 290		A	OUT&6 ,L#	
05024	49	05044	00000	04 300		B	*&20#	
05032				04 310		DORG	*-3#	
05032	31	00000	05216	04 320		TR	OUT ,IFRCFX#	
05044	16	06020	-0041	04 330		TFM	KK&6 ,OUT&41#	
05056	31	J7510	17512	04 340	ELEVEN	TR	CHI-1, CHI&1, 2#	
05068	17	06002	-5080	04 350		BTM	STATNO, *&12#	
05080	14	06020	-0041	04 360		CM	KK&6 ,OUT&41#	
05092	47	05116	01200	04 370		BNE	*&24#	
05104	16	06020	-0005	04 380		TFM	KK&6 ,OUT&5#	
05116	11	06020	000J2	04 390		AM	KK&6, 12, 10#	
05128	45	05056	17513	04 400		BNR	ELEVEN, CHI&2#	
05140	17	14630	000M4	04 410	THAT	BTM	PUTX, 44, 10#	
05152	16	05151	000M4	04 420		TFM	*-1, 44, 10#	
05164	49	00462	00000	04 430		B	BEGIN#	
05172				04 440		DORG	*-3#	
05172	43	-0024	00053	04 450	IFRCFL	BD	24, FAC-7, 2#	
05184	49	00000	00000	04 460		B	#	
05196	44	00000	00060	04 470		BNF	, FAC#	
05208	49	00000	00000	04 480		B	#	
05216				04 490		DORG	*-3#	
05216	14	00060	0-000	04 500	IFRCFX	CM	FAC, , 8#	
05228	46	00000	01200	04 510		BE	#	
05240	46	00000	01100	04 520		BH	#	
05252	49	00000	00000	04 530		B	#	
05260				04 540		DORG	*-3#	
05260		1		04 550		DC	1, a#	
05261		1		04 560	IFSSRC	DC	1, 4#	
05272		11		04 570		DC	11, 60000000000#	
05281		9		04 580		DC	9, 4900000000a#	
05282	31	17510	17514	04 590	DO	TR	CHI-1, CHI&3#	
05294	17	09356	-5306	04 600		BTM	CFXN, *&12#	
05306	26	05323	08454	04 610		TF	*&17, SMTLU1&10#	
05318	12	00004	000L6	04 620		SM	4, 36, 10#	
05330	14	17511	000K3	04 630		CM	CHI, 23, 10#	
05342	47	05366	01200	04 640		BNE	*&24#	
05353		1		04 650		DC	1, a, *#	
05354	17	11534	0-078	04 660		BTM	ERROR, 78, 8#	
05366	17	09582	-5378	04 670		BTM	CSORN, *&12#	
05378	K6	00011	05389	04 680		TF	OUT&11 , *&11 , 0#	
05390	26	00006	08535	04 690		TF	OUT&6 , SMCNT#	
05402	26	05689	08535	04 700		TF	DSADD , SMCNT#	
05414	16	05704	0-001	04 710		TFM	DSADD&15, 1, 8#	
05426	16	05528	-5689	04 720		TFM	KAY&6, DSADD#	
05438	31	17510	17512	04 730	ELL	TR	CHI-1, CHI&1#	
05450	14	17511	000P0	04 740		CM	CHI, 70, 10#	
05462	46	05486	01300	04 750		BNL	*&24#	

LOC TN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE
05474	17	09582	-5510	04 760		BTM	CSORN,*&36‡	
05486	17	09356	000-0	04 770		BTM	CFXN,,10‡	
05498	26	08535	17481	04 780		TF	SMCNT,SYM‡	
05510	11	05528	-0005	04 790		AM	*&18,5‡	
05522	26	00000	08535	04 800	KAY	TF	,SMCNT‡	
05534	45	05438	17513	04 810		BNR	ELL,CHI&2‡	
05546	26	00011	05694	04 820		TF	OUT&11 ,DSADD&5‡	
05558	44	05582	00008	04 830		BNF	*&24 ,OUT&8‡	
05570	15	00000	0000J	04 840		TDM	OUT ,1 ,11‡	
05582	17	14630	000J2	04 850		BTM	PUTX,12,10‡	
05594	26	05694	16243	04 860		TF	DSADD&5,L‡	
05606	26	05641	05648	04 862		TF	*&35 ,EMM&6‡	
05618	11	05641	000J9	04 864		AM	*&23 ,19 ,10‡	
05630	45	11516	00000	04 866		BNR	NGSPCE‡	
05642	31	00000	05685	04 870	EMM	TR	,DSADD-4‡	
05654	11	05648	-0020	04 880		AM	*-6,20‡	
05666	26	08535	16850	04 890		TF	SMCNT,MEMCAP-1‡	
05678	49	00462	00000	04 900		B	BEGIN‡	
05685				04 910		DORG	*-4‡	
05689		00005	-0000	04 920	DSADD	DSA	0,0,0,0‡	
05694		00005	-0000					
05699		00005	-0000					
05704		00005	-0000					
05705		1		04 930		DC	1,‡	
05706	31	17510	17518	04 940	GOTO	TR	CHI-1,CHI&7‡	
05718	14	17511	000K4	04 950		CM	CHI,24,10‡	
05730	46	05798	01200	04 960		BE	COMPUT‡	
05742	31	00000	07131	04 970		TR	OUT ,GGG‡	
05754	17	09356	-5766	04 980		BTM	CFXN,*&12‡	
05766	26	00005	08534	04 990		TF	OUT&5 ,SMCNT-1‡	
05778	17	14630	000-8	05 000		BTM	PUTX,8,10‡	
05790	49	00462	00000	05 010		B	BEGIN‡	
05798				05 020		DORG	*-3‡	
05798	16	06020	J7091	05 030	COMPUT	TFM	KK&6,PHI&71‡	
05810	31	17017	07068	05 040		TR	PHI-3,GOTDRC-3‡	
05822	15	00698	00001	05 050		TDM	SBSWCH,1‡	
05834	31	17510	17512	05 060		TR	CHI-1,CHI&1‡	
05846	17	06002	-5858	05 070		BTM	STATNO,*&12‡	
05858	11	17019	000-4	05 080		AM	PHI -1,4,10‡	
05870	11	06020	000-4	05 090		AM	KK&6,4,10‡	
05882	43	05822	17510	05 100		BD	CCOMPUT&24,CHI-1‡	
05894	21	17055	16243	05 110		A	PHI&35,L‡	
05906	21	17062	16243	05 120		A	42&PHI,L‡	
05918	21	17074	16243	05 130		A	54&PHI,L‡	
05930	31	17510	17514	05 140		TR	CHI-1,CHI&3‡	
05942	17	09582	-5954	05 150		BTM	CSORN,*&12‡	
05954	15	00698	00000	05 160		TDM	SBSWCH,0‡	
05966	26	17026	08535	05 170		TF	PHI&6,SMCNT‡	
05978	27	14664	17019	05 180		BT	PUTPHI,PHI-1‡	
05990	49	00462	00000	05 190		B	BEGIN‡	
06002	17	09356	-6014	05 200	STATNO	BTM	CFXN,*&12‡	
06014	26	00000	08534	05 210	KK	TF	,SMCNT-1‡	
06026	26	06048	08454	05 220		TF	*&22,SMTL01&10‡	
06038	44	06070	00005	05 230		BNF	*&32,5‡	
06050	26	06068	06001	05 240		TF	*&18,STATNO-1‡	

LOCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	11
06062	49	00000	00000	05 250		B	#		
06069				05 260		DORG	*-4#		
06070	26	06092	08454	05 270		TF	*&22,SMTLUI&10#		
06082	44	06102	00004	05 280		BNF	*&20,4#		
06094	49	06050	00000	05 290		B	KK&36#		
06102				05 300		DORG	*-3#		
06102	26	06119	08454	05 310		TF	*&17,SMTLUI&10#		
06114	16	00005	-0090	05 320		TFM	5,90#		
06126	49	06050	00000	05 330		B	KK&36#		
06134				05 340		DORG	*-3#		
06134	17	06566	-6146	05 350	BEGPRO	BTM	GETNO,*&12#		
06146	31	00000	06682	05 360		TR	OUT ,BEREC#		
06158	21	00005	08534	05 370		A	OUT&5 ,SMCNT-1#		
06170	17	14630	000J6	05 380		BTM	PUTX,16,10#		
06182	26	06199	08454	05 390		TF	*&17,SMTLUI&10#		
06194	26	00004	16243	05 400		TF	4,L#		
06206	26	00088	08535	05 410		TF	88,SMCNT#		
06218	26	16398	16243	05 420		TF	BRINST&6,L#		
06230	33	16394	00000	05 430		CF	BRINST&2#		
06242	31	00089	16454	05 440		TR	89,CRAM-3#		
06254	31	00091	16392	05 450		TR	91,BRINST#		
06266	31	00098	16455	05 460		TR	98,CRAM-2#		
06278	27	14976	14975	05 470		BT	COMGO,COMGO-1#		
06290	21	00006	16243	05 480		A	OUT&6 ,L#		
06302	26	00010	08534	05 490		TF	OUT&10 ,SMCNT-1#		
06314	17	14630	000J2	05 500		BTM	PUTX,12,10#		
06326	49	00462	00000	05 510		B	BEGIN#		
06334				05 520		DORG	*-3#		
06334	32	06354	00000	05 530	ENDPRO	SF	XETURN#		
06346	49	06366	00000	05 540		B	XETURN&12#		
06354				05 550		DORG	*-3#		
06354	33	06354	00000	05 560	XETURN	CF	XETURN#		
06366	17	06566	-6378	05 570		BTM	GETNO,*&12#		
06378	31	00000	06690	05 580		TR	OUT ,BEREC&8#		
06390	26	06412	08454	05 590		TF	*&22,SMTLUI&10#		
06402	21	00006	00004	05 600		A	OUT&6 ,4#		
06414	17	14630	000-8	05 610		BTM	PUTX,8,10#		
06426	44	00462	06354	05 620		BNF	BEGIN,XETURN#		
06438	26	16249	08535	05 630		TF	LODER,SMCNT#		
06450	12	16249	000J0	05 640		SM	LODER,10,10#		
06462	26	16398	16243	05 650		TF	BRINST&6,L#		
06474	27	14928	14927	05 660		BT	BGO,BGO-1#		
06486	49	00462	00000	05 670		B	BEGIN#		
06494				05 680		DORG	*-3#		
06494	17	06566	-6506	05 690	EXPROC	BTM	GETNO,*&12#		
06506	31	00000	06711	05 700		TR	OUT ,EXREC#		
06518	26	00005	08534	05 710		TF	OUT&5 ,SMCNT-1#		
06530	21	00011	16243	05 720		A	OUT&11 ,L#		
06542	17	14630	000J2	05 730		BTM	PUTX,12,10#		
06554	49	06724	00000	05 740		B	TESTDO#		
06566	31	17510	17512	05 750	GETNO	TR	CHI-1,CHI&1#		
06578	14	17511	00009	05 760		CM	CHI,69,10#		
06590	47	06566	01100	05 770		BNH	*-24#		
06602	17	09356	-6614	05 780		BTM	CFXN,*&12#		
06614	26	06655	08454	05 790		TF	*&41,SMTLUI&10#		

LOC TN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	12
06626	26	06660	08454	05 800		TF	*834,SMTLU1&10‡		
06638	12	06655	000-1	05 810		SM	*817,1,10‡		
06650	26	00009	00009	05 820		TF	9,9‡		
06662	26	06680	06565	05 830		TF	*818,GETNO-1‡		
06674	49	98765	00000	05 840		B	98765‡		
06681				05 850		DORG	*-4‡		
06682	49	-00J0	00000	05 860	BEREC	B	10,,25‡		
06690				05 870		DORG	*-3‡		
06690	49	-000Q	00000	05 880		B	8,,26‡		
06698				05 890		DORG	*-3‡		
06698	26	-000K	00001	05 900		TF	2,1,26‡		
06710		1		05 910		DC	1,2‡		
06711		1		05 920	EXREC	DC	1,1‡		
06717		6		05 930		DC	6,700002‡		
06723		6		05 940		DC	6,000122‡		
06724	44	03974	00701	05 950	TESTDO	BNF	CONFMT-20 ,DOSWCH‡		
06736	31	00000	07031	05 960		TR	OUT ,DORCRD‡		
06748	12	05648	-0020	05 970		SM	EMM&6,20‡		
06760	26	06783	05648	05 980		TF	*823,EMM&6‡		
06772	31	00040	00000	05 990		TR	OUT&40‡		
06784	26	06802	06783	06 000		TF	*818,*-1‡		
06796	15	00000	00000	06 010		TDM	‡		
06807		1		06 020		DC	1,2,*‡		
06808	11	06802	-0010	06 030		AM	*-6,10‡		
06820	26	06838	06802	06 040		TF	*818,*-18‡		
06832	26	00000	16457	06 050		TF	,CRAM‡		
06844	11	06838	-0010	06 060		AM	*-6,10‡		
06856	26	06874	06838	06 070		TF	*818,*-18‡		
06868	26	00000	16457	06 080		TF	,CRAM‡		
06880	26	00006	00044	06 090		TF	OUT&6 ,OUT&44‡		
06892	26	00011	00059	06 100		TF	OUT&11 ,OUT&59‡		
06904	26	00018	00044	06 110		TF	OUT&18 ,OUT&44‡		
06916	26	00023	00054	06 120		TF	OUT&23 ,OUT&54‡		
06928	26	00030	00049	06 130		TF	OUT&30 ,OUT&49‡		
06940	44	06964	00007	06 140		BNF	*824 ,OUT&7‡		
06952	15	00000	00002	06 150		TDM	OUT ,2‡		
06964	44	06988	00019	06 160		BNF	*824 ,OUT&19‡		
06976	15	00012	00002	06 170		TDM	OUT&12 ,2‡		
06988	17	14630	000L6	06 180		BTM	PUTX,36,10‡		
07000	11	01153	000L6	06 190		AM	SLOT ,36,10‡		
07012	47	06736	01200	06 200		BNE	TESTDO&12‡		
07024	49	03974	00000	06 210		B	CONFMT-20‡		
07031				06 220		DORG	*-4‡		
07031		1		06 230	DORCRD	DC	1,1‡		
07042		11		06 240		DC	11,10000000000‡		
07054		12		06 250		DC	12,14000000000‡		
07067		13		06 260		DC	13,4700000011002‡		
07070		3		06 270		DC	3,68‡		
07071		1		06 280	GOTORC	DC	1,1‡		
07080		9		06 290		DC	9,300009000‡		
07082		2		06 300		DC	2,04‡		
07094		12		06 310		DC	12,32000950000‡		
07101		7		06 320		DC	7,1100099‡		
07106		5		06 330		DC	5,00067‡		
07118		12		06 340		DC	12,260005900099‡		

LOC TN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE
07130		12		06 350		DC	12,260C065C0C00#	15
07131		1		06 360	GGG	DC	1,4#	
07139		8		06 370		DC	8,9000000a#	
06724				06 380	CGNTIN	DS	,TESTDC#	
07140	16	13003	000M8	06 390	PAUSE	TFM	INST1&1,48,10#	
07152	49	07284	00000	06 420		B	ENDX-32#	
07160				06 430		DORG	*-3#	
07160	31	17510	17518	06 450	STOP	TR	CHI-1,CHI&7#	
07172	26	13009	07199	06 460		TF	INST1&7,CONTRL-1#	
07184	49	07224	00000	06 470		B	CONTRL&24#	
07192				06 480		DORG	*-3#	
07192	J7	02452	-0000	06 490		BTM	STOPSR,07#	
07200				06 500		DORG	*-3#	
07200	31	17510	17524	06 510	CONTRL	TR	CHI-1,CHI&13#	
07212	16	13003	000L4	06 520		TFM	INST1&1,34,10#	
07224	17	09356	000-0	06 550		BTM	CFXN,,10#	
07236	26	13013	17481	06 560		TF	INST1&11,SYM#	
07248	33	13010	00000	06 570		CF	INST1&8#	
07260	45	07284	17511	06 580		BNR	*&24,CHI#	
07272	16	13013	-0000	06 590		TFM	INST1&11#	
07284	31	13014	16453	06 595		TR	INST1&12,CRAM-4#	
07296	27	14084	14093	06 600		BT	PUT1,PUT1-1#	
07308	49	06724	00000	06 610		B	TESTDU#	
07316				06 620		DORG	*-3#	
07316	49	02562	00000	06 630	ENDX	B	ENDSR#	
07323				06 640		DORG	*-4#	
07323		1		06 650		DC	1,a#	
07324	31	00000	07316	06 660	END	TR	OUT,ENDX#	
07336	17	14630	000-8	06 670		BTM	PUTX,8,10#	
07348	16	14864	-7368	06 680		TFM	DUMPE54,*&20#	
07360	49	14810	00000	06 690		B	DUMP#	
07368				06 700		DORG	*-3#	
07368	16	14864	J4700	06 710		TFM	DUMPE54,PUTPHI&36#	
07380	45	07400	16937	06 720		BNR	*&20,IMAGE#	
07392	49	07424	00000	06 730		B	*&32#	
07400				06 740		DORG	*-3#	
07400	43	07424	00459	06 750		BD	*&24,SKPPCH#	
07412	38	16937	00400	06 760		WNCD	IMAGE#	
07424	26	16868	16243	06 770		TF	BUFBAS&6,L#	
07436	16	17481	00R99	06 780		TFM	SYM,999,9#	
07448	16	09581	-7468	06 790		TFM	CSORN-1,*&20#	
07460	49	08388	00000	06 800		B	SMTLU#	
07468				06 810		DORG	*-3#	
07468	26	16873	08535	06 820		TF	BUFBAS&11,SMCNT#	
07480	26	16878	08455	06 830		TF	BUFBAS&16,SMTLU1&11#	
07492	31	16879	16264	06 840		TR	BUFBAS&17,USED FS#	
07504	31	16929	16846	06 850		TR	BUFBAS&67,MEMCAP-5#	
07516	26	07575	16850	06 870	DOI	TF	*&59,MEMCAP-1#	
07528	26	07558	16850	06 880		TF	*&30,MEMCAP-1#	
07540	46	17670	00100	06 890		BCI	PSTAB#	
07552	34	00000	00102	06 900		RCTY	#	
07559		1		06 910		DC	1,a,*-4#	
07564	26	07985	00000	06 920		TF	DOIT-3#	
07576	44	07640	07985	06 930		BNF	NOTCON,DOIT-3#	
07588	44	07620	07982	06 940		BNF	FLPCON,DOIT-6#	
07600	16	07758	-7982	06 950	FXPCON	TFM	WNUMB&6,DOIT-6#	

LOC TN	CP	P/L	C	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE
07612	49	07716	00000	06 960		B	WADDR#	
0762C				06 970		DCRG	*-3#	
0762C	16	07758	-7976	06 980	FLPCON	TFM	WNUMB&6 ,DOIT-12#	
07632	49	07716	00000	06 990		B	WADDR#	
07640				07 000		DORG	*-3#	
07640	44	07696	07983	07 010	NOTCON	BNF	NOTACC,DOIT-5#	
07652	14	07985	00999	07 020		CM	DOIT-3,999,9#	
07664	46	17670	01200	07 030		BE	PSTAB#	
07676	16	07758	-7983	07 040		TFM	WNUMB&6,DOIT-5#	
07688	49	07716	00000	07 050		B	WADDR#	
07696				07 060		DORG	*-3#	
07696	44	07796	07982	07 070	NOTACC	BNF	VAR,DOIT-6#	
07708	49	07600	00000	07 080		B	FXPCON#	
07716				07 090		DORG	*-3#	
07716	38	07554	00100	07 100	WADDR	WNTY	DCI&38#	
07728	34	00000	0010J	07 110		SPTY	,,11#	
07735		1		07 120		DC	1,2,*-4#	
07740	44	07816	07739	07 130		BNF	VAR&20,*-1#	
07752	38	00000	00100	07 140	WNUMB	WNTY	#	
07764	12	07575	000J0	07 150	RETURN	SM	DCI&59,10,10#	
07776	12	07558	000J0	07 160		SM	DCI&42,10,10#	
07788	49	07540	00000	07 170		B	DCI&24#	
07796				07 180		DORG	*-3#	
07796	33	07739	00000	07 190	VAR	CF	WADDR&23#	
07808	49	07716	00000	07 200		B	WADDR#	
07816				07 210		DORG	*-3#	
07816	39	07977	00100	07 220		WATY	DOIT-11#	
07828	32	07739	00000	07 230		SF	WADDR&23#	
07840	26	07874	07574	07 240		TF	*&34,DCI&58#	
07852	12	07874	000-1	07 250		SM	*&22,1,10#	
07864	44	07764	00005	07 260		BNF	RETURN,5#	
07876	26	07898	07874	07 270		TF	*&22,*-2#	
07888	44	07908	00006	07 280		BNF	*&20,6#	
07900	49	07764	00000	07 290		B	RETURN#	
07908				07 300		DORG	*-3#	
07908	26	07930	07874	07 310		TF	*&22,VAR&78#	
07920	26	07558	00009	07 320		TF	DCI&42,9#	
07932	34	00000	00101	07 330		SPTY	#	
07944	38	07554	00100	07 340		WNTY	DCI&38#	
07956	12	07575	000K0	07 350		SM	DCI&59,20,10#	
07968	49	07776	00000	07 360		B	RETURN&12#	
07985		6		07 370		DS	6#	
07986		1		07 380		DC	1,2#	
07987		1		07 390		DC	1,2#	
07988				07 400	DCIT	DS	,*&1#	
07988	43	08140	00459	07 410	EXIT	BC	MCON7-24,SKPPCH#	
08000	46	08080	00300	07 420		BC3	LOCP#	
08012	31	00402	16864	07 430		TR	402,BUF&2#	
08024	49	08036	-0152	07 440		B	STOPER,152,7#	
08036	34	00000	00102	07 450	STOPER	RCTY	#	
08048	39	02819	00100	07 470		WATY	LSUBS#	
08060	36	00000	00500	07 480		RNCD	#	
08072	49	00000	00000	07 490		B	#	
08079		1		07 500		DC	1,2,*-4#	
08080				07 510		DORG	*-3#	

08080	15	16912	0000J	07	520	LOOP	TDM	BUFBAS&50,1,11‡	
08092	16	16863	-C402	07	530		TFM	BUFBAS&1,402‡	
08104	38	16859	00400	07	540		WNCD	LOAD-2‡	
08116	38	02813	00400	07	550		WNCD	LSUBS-6‡	
08128	38	08031	00400	07	560		WNCD	STOPER-5‡	
08140	34	00000	00102	07	570		RCTY	‡	
08152	39	16779	00100	07	580		WATY	EOC‡	
08164	26	08182	16856	07	590	MOON7	TF	*&18,FCTEND‡	
08176	26	00000	16457	07	600		TF	,CRAM‡	
08188	26	08241	08181	07	610		TF	*&53,*-7‡	
08200	12	08182	000J0	07	620		SM	*-18,10,10‡	
08212	14	08182	J8008	07	630		CM	*-30,LAST&12‡	
08224	46	08176	01100	07	640		BH	*-48‡	
08236	15	00008	00000	07	650		TDM	8‡	
08248	26	05648	08182	07	660		TF	EMM&6,MOON7&18‡	
08260	22	16313	16313	07	670		S	USED FS&49,USED FS&49‡	
08272	34	K0000	20102	07	680		K	20000 ,20102 ,2‡	
08279				07	685	INCREM	DS	,*-4‡	
08284	15	16099	00001	07	687		TDM	TRACE&1 ,1‡	
08296	39	16819	00100	07	690		WATY	LSTM‡	
08308	41	N1000	00000	07	700		NOP	51000 , ,2‡	
08319				07	705	F1	DS	,*‡	
08320	15	08309	00008	07	710		TDM	*-11,8‡	
08332	38	16458	00400	07	720		WNCD	ZERCR1‡	
08344	38	16538	00400	07	730		WNCD	ZERCR2-2‡	
08356	38	16618	00400	07	740		WNCD	LROUT‡	
08368	38	16698	00400	07	750		WNCD	LROUT2‡	
08380	49	00402	00000	07	760		B	INITL‡	
08388				07	770		DORG	*-3‡	
08388	26	08535	16850	07	780	SMTLU	TF	SMCNT,MEMCAP-1‡	
08400	26	08454	16849	07	790		TF	SMTLU1&10,MEMCAP-2‡	
08412	49	08444	00000	07	800		B	SMTLU1‡	
08420				07	810		DORG	*-3‡	
08420	12	08534	000-1	07	820	SMLOOP	SM	SMCNT-1,1,10‡	
08432	12	08454	000-1	07	830		SM	SMTLU1&10,1,10‡	
08444	26	17491	00009	07	840	SMTLU1	TF	COMP,9‡	
08456	44	08488	17489	07	850		BNF	*&32,COMP-2‡	
08468	44	08420	17479	07	860		BNF	SMLOOP,SYM-2‡	
08480	49	08704	00000	07	870		B	SMTST‡	
08488				07	880		DORG	*-3‡	
08488	44	08536	17487	07	890		BNF	SMNOT,COMP-4‡	
08500	26	08534	17490	07	900		TF	SMCNT-1,COMP-1‡	
08512	15	17487	00000	07	910		TDM	COMP-4,0‡	
08524	49	08420	R9999	07	920		B	SMLOOP,99999,7‡	
08535				07	930	SMCNT	DS	,*‡	
08536	45	08704	17491	07	940	SMNOT	BNR	SMTST,COMP‡	
08548	45	11516	17490	07	950		BNR	NOSPCE,COMP-1‡	
08560	26	08577	08454	07	960		TF	*&17,SMTLU1&10‡	
08572	26	00009	17481	07	970		TF	9,SYM‡	
08584	44	08656	17481	07	980		BNF	MOON3,SYM‡	
08596	33	17481	00000	07	990		CF	SYM‡	
08608	15	17482	00000	08	000		TDM	SYM&1‡	
08619		1		08	010		DC	1,2,*‡	
08620	31	00089	17472	08	020		TR	89,SYM-9‡	
08632	26	00088	08535	08	030		TF	88,SMCNT‡	

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	16
08644	27	14976	14975	08 040		BT	COMGO,COMGO-1‡		
08656	43	08972	00699	08 050	MOON3	BD	DMM,DMSWCH‡		
08668	14	17511	000K4	08 070		CM	CHI,24,10‡		
08680	47	11440	01200	08 080		BNE	PUTETA-12‡		
08692	17	11534	C-072	08 090		BTM	ERROR,72,8‡		
08704	24	17481	17491	08 100	SMTST	C	SYM,COMP‡		
08716	46	08420	01400	08 110		BV	SMLOOP‡		
08728	47	08420	01200	08 120		BNE	SMLOOP‡		
08740	24	17491	17481	08 130		C	COMP,SYM‡		
08752	46	08420	01400	08 140		BV	SMLOOP‡		
08764	31	17483	11007	08 150		TR	COMP-8,ETAC-7‡		
08776	24	08455	16856	08 160		C	SMTLU1&11,FCTEND‡		
08788	47	11416	01100	08 170		BNH	PUTETA-36‡		
08800	25	08822	08534	08 180		TD	*&22,SMCNT-1‡		
08812	43	08836	00200	08 190		BD	*&24,200‡		
08824	11	08534	000-1	08 200		AM	SMCNT-1,1,10‡		
08836	16	08890	J6213	08 210		TFM	*&54,USEDIFS-51‡		
08848	26	08883	08534	08 220		TF	*&35,SMCNT-1‡		
08860	32	08882	00000	08 230		SF	*&22‡		
08872	11	08890	-0000	08 240		AM	*&18,‡		
08884	15	16213	00001	08 250		TDM	USEDIFS-51,1‡		
08896	15	08535	00000	08 260		TDM	SMCNT,0‡		
08908	16	17511	000M6	08 270		TFM	CHI,46,10‡		
08920	15	11705	000C0	08 280		TDM	FXORFL‡		
08932	16	09581	-8952	08 290		TFM	CSORN-1,*&20‡		
08944	49	11452	00000	08 300		B	PUTETA‡		
08952				08 310		DORG	*-3‡		
08952	15	00697	00001	08 320		TDM	FSTSW,1‡		
08964	49	12690	00000	08 330		B	TFSAVE‡		
08971				08 340		DORG	*-4‡		
08972	26	09231	08535	08 350	DMM	TF	DIMONT,SMCNT‡		
08984	14	17511	000K4	08 351		CM	CHI ,24 ,10‡		
08996	46	09028	01200	08 352		BE	*&32‡		
09008	44	09300	00699	08 354		BNF	DIMC-32 ,DMSWCH‡		
09020	49	09232	00000	08 356		B	DIMB&12‡		
09028				08 358		DORG	*-3‡		
09028	12	08454	000-1	08 360		SM	SMTLU1&10,1,10‡		
09040	26	09105	08454	08 370		TF	DIMA&5,SMTLU1&10‡		
09052	26	09225	08454	08 380		TF	DIMB&5,SMTLU1&10‡		
09064	11	09230	000-1	08 390		AM	DIMONT-1,1,10‡		
09076	31	17508	17510	08 400		TR	CHI-3,CHI-1‡		
09088	17	09356	000-0	08 410		BTM	CFXN,0,10‡		
09100	26	19994	17481	08 420	DIMA	TF	19994,SYM‡		
09112	31	17508	17510	08 430		TR	CHI-3,CHI-1‡		
09124	14	17509	000-4	08 440		CM	CHI-2,4,10‡		
09136	46	09332	01200	08 450		BE	DIMC‡		
09148	26	17491	17481	08 460		TF	SYM&10,SYM‡		
09160	17	09356	000-0	08 470		BTM	CFXN,,10‡		
09172	23	17491	17481	08 480		M	SYM&10,SYM‡		
09184	32	00096	00000	08 490		SF	96‡		
09196	31	17508	17510	08 500		TR	CHI-3,CHI-1‡		
09208	22	09230	00099	08 510		S	DIMONT-1,99‡		
09220	16	19999	-0000	08 520	DIMB	TFM	19999,‡		
09231				08 530	DIMONT	DS	,‡‡		
09232	45	09264	17513	08 540		BNR	*&32,CHI&2‡		

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE
09244	15	00699	CC0C0	08	550		TDM	DMSWCH#	
09256	49	00462	CC0C0	08	560		B	BEGIN#	
09264				08	570		DORG	*-3#	
09264	14	17511	000K3	08	580		CM	CHI,23,10#	
09276	31	17508	17510	08	590		TR	CHI-3,CHI-1#	
09288	46	09312	C1200	08	600		BE	*824#	
09300	17	11534	C-079	08	610		BTM	ERROR,79,8#	
09312	45	09710	17513	08	620		BNR	CS,CHI&2#	
09324	49	09300	CC0C0	08	630		B	*-24#	
09332				08	640		DORG	*-3#	
09332	22	09230	17481	08	650	DIMC	S	DIMONT-1,SYM#	
09344	49	09220	CC0C0	08	660		B	DIMB#	
09356	16	17477	C-CC0	08	670	CFXN	TFM	SYM-4,,8#	
09368	16	09398	J7477	08	680		TFM	*830,SYM-4#	
09380	11	09398	CC0-1	08	690		AM	*818,1,10#	
09392	25	17478	17511	08	700		TD	SYM-3,CHI#	
09404	31	17508	17510	08	710		TR	CHI-3,CHI-1#	
09416	45	09436	17511	08	720		BNR	*820,CHI#	
09428	49	09484	CC0C0	08	730		B	*856#	
09436				08	740		DORG	*-3#	
09436	14	17511	CC0-0	08	750		CM	CHI,,10#	
09448	46	09404	01200	08	760		BE	*-44#	
09460	14	17511	CC009	08	770		CM	CHI,69,10#	
09472	46	09380	01100	08	780		BH	CFXN&24#	
09484	14	09398	J7481	08	790		CM	CFXN&42,SYM#	
09496	46	10570	C1100	08	800		BH	EXCESS#	
09508	26	09531	09398	08	810		TF	*823,CFXN&42#	
09520	26	17481	CC0C0	08	820		TF	SYM#	
09532	32	17478	CC0C0	08	830		SF	SYM-3#	
09544	44	09558	C9354	08	840		BNF	*814,CFXN-2#	
09556	42	CC0C0	CC0C0	08	850		BE	#	
09558				08	860		DORG	*-9#	
09558	26	09581	09355	08	870		TF	CSORN-1,CFXN-1#	
09570	49	08388	CC0C0	08	880		B	SMTLU#	
09582	14	17511	CC0-3	08	890	CSCORN	CM	CHI,3,10#	
09594	15	11705	CC0C0	08	900		TDM	FXORFL#	
09606	46	09558	C1200	08	910		BE	NUMBER#	
09618	14	17511	CC0P0	08	920		CM	CHI,70,10#	
09630	46	09958	01300	08	930		BNL	NUMBER#	
09642	14	17511	CC0M8	08	940		CM	CHI,48,10#	
09654	46	09674	C1100	08	950		BH	*820#	
09666	49	09710	CC0C0	08	960		B	CS#	
09674				08	970		DORG	*-3#	
09674	14	17511	CC0N5	08	980		CM	CHI,55,10#	
09686	46	09710	01100	08	990		BH	CS#	
09698	15	11705	CC002	09	000		TDM	FXORFL,2#	
09710	16	09740	J7473	09	010	CS	TFM	SALT&6,SYM-8#	
09722	26	17482	11597	09	020		TF	SYM&1,ZERO9#	
09734	26	17473	17511	09	030	SALT	TF	SYM-8,CHI#	
09746	31	17508	17510	09	040		TR	CHI-3,CHI-1#	
09758	11	09740	CC0-2	09	050		AM	SALT&6,2,10#	
09770	14	17511	CC0MC	09	060		CM	CHI,40,10#	
09782	46	10638	01300	09	070		BNL	SYMCHK#	
09794	33	17480	CC0C0	09	080		CF	SYM-1#	
09806	33	17478	CC0C0	09	090		CF	SYM-3#	
09818	33	17476	CC0C0	09	100		CF	SYM-5#	

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	18
09830	33	17474	00000	09 110		CF	SYM-7‡		
09842	49	08388	00000	09 120		B	SMTLU‡		
09850	14	10116	J7478	09 130		DORG	*-3‡		
09862	15	11705	00002	09 140	FXNUMB	CM	NUMB1&6 ,SYM-3‡		
09874	46	10570	01100	09 150		TDM	FXORFL,2‡		
09886	16	17473	C-000	09 160		BH	EXCESS‡		
09898	26	09921	10116	09 170		TFM	SYM-2 , ,8‡		
09910	26	17482	00000	09 180		TF	*823,NUMB1&6‡		
09922	32	17481	00000	09 190		TF	SYM&1‡		
09934	32	17478	00000	09 200		SF	SYM‡		
09946	49	08388	00000	09 210		SF	SYM-3‡		
09958	26	17481	08319	09 220		B	SMTLU‡		
09970	16	09957	J0226	09 230	NUMBER	TF	SYM ,F1‡		
09982	16	10116	J7474	09 240		TFM	NUMBER-1,NUMB3‡		
09994	14	17511	00000	09 250		TFM	NUMB1&6 ,SYM-7‡		
10006	47	10038	01200	09 260		CM	CHI,70,10‡		
10018	31	17510	17512	09 270		BNE	*832‡		
10030	49	09994	00000	09 280		TR	CHI-1,CHI&1‡		
10038				09 290		B	*-36‡		
10038	14	17511	000-3	09 300		DORG	*-3‡		
10050	46	10166	01200	09 310	NUMB	CM	CHI,3,10‡		
10062	14	17511	00009	09 320		BE	FLNUMB‡		
10074	47	09850	01100	09 330		CM	CHI,69,10‡		
10086	14	10116	J7481	09 340		BNH	FXNUMB‡		
10098	46	10122	01100	09 350		CM	NUMB1&6,SYM‡		
10110	25	00000	17511	09 360		BH	NUMB1&12‡		
10122	31	17510	17512	09 370	NUMB1	TD	,CHI‡		
10134	11	10116	-0001	09 380		TR	CHI-1,CHI&1‡		
10146	J1	17473	000-1	09 390		AM	NUMB1&6,1‡		
10158	49	10038	00000	09 400	NUMB5	AM	SYM-8 ,1 ,010‡		
10166				09 410		B	NUMB‡		
10166	26	10328	10116	09 420		DORG	*-3‡		
10178	14	17473	000N1	09 430	FLNUMB	TF	NUMB2&6,NUMB1&6‡		
10190	46	10214	01200	09 440		CM	SYM-8 ,51 ,10‡		
10202	16	09957	J0334	09 450		BE	*824‡		
10214	26	10268	09957	09 460		TFM	NUMBER-1,NUMB2&12‡		
10226	12	17473	000-1	09 470		TF	VARBR&6,NUMBER-1‡		
10238	31	17510	17512	09 480	NUMB3	SM	SYM-8 ,1 ,10‡		
10250	14	17511	000P0	09 490		TR	CHI-1,CHI&1‡		
10262	46	00000	01200	09 500		CM	CHI,70,10‡		
10274	47	10354	01100	09 510	VARBR	BE	‡		
10286	16	10268	J0334	09 520		BNH	CMPAR‡		
10298	14	10328	J7481	09 530		TFM	VARBR&6,NUMB2&12‡		
10310	46	10334	01100	09 540		CM	NUMB286 ,SYM‡		
10322	25	00000	17511	09 550		BH	NUMB2&12‡		
10334	11	10328	-0001	09 560	NUMB2	TD	,CHI‡		
10346	49	10238	00000	09 570		AM	NUMB2&6,1‡		
10354				09 580		B	NUMB3&12‡		
10354	14	17511	000M5	09 590		DORG	*-3‡		
10366	47	10546	01200	09 600	CMPAR	CM	CHI,45,10‡		
10378	26	10544	10156	09 610		BNE	PLUS&12‡		
10390	14	17513	000K0	09 620		TF	PLUS&10,NUMB5&10‡		
10402	47	10438	01300	09 630		CM	CHI&2,20,10‡		
10414	47	10450	01200	09 640		BL	*836‡		
				09 650		BNE	*836‡		

LOCTN	OP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	19
10426	15	10535	00002	09	660		TDM	PLUS&1,2‡		
10438	31	17510	17512	09	670		TR	CHI-1,CHI&1‡		
10450	25	10545	17513	09	680		TD	PLUS&11,CHI&2‡		
10462	31	17510	17514	09	690		TR	CHI-1,CHI&3‡		
10474	14	17511	00009	09	700		CM	CHI,69,10‡		
10486	47	10534	01100	09	710		BNH	PLUS‡		
10498	22	10544	10545	09	720		S	PLUS&10,PLUS&11‡		
10510	25	10545	17511	09	730		TD	PLUS&11,CHI‡		
10522	31	17510	17512	09	740		TR	CHI-1,CHI&1‡		
10534	11	17473	-0000	09	750	PLUS	AM	SYM-8‡		
10546	46	10570	01400	09	760		BV	EXCESS‡		
10558	44	10582	17473	09	770		BNF	*&24 ,SYM-8‡		
10570	17	11534	0-073	09	780	EXCESS	BTM	ERROR ,73 ,8‡		
10582	15	11705	00000	09	790		TDM	FXORFL,0‡		
10594	32	17481	00000	09	800		SF	SYM‡		
10606	43	08388	17474	09	810		BD	SMTLU,SYM-7‡		
10618	16	17473	000-0	09	820		TFM	SYM-8 , ,10‡		
10630	49	08388	00000	09	830		B	SMTLU‡		
10638				09	840		DORG	*-3‡		
10638	14	09740	J7483	09	860	SYMCHK	CM	SALT&6,SYM&2‡		
10650	47	09734	01200	09	870		BNE	SALT‡		
10662	44	04724	00702	09	880		BNF	ER6 ,IFSWCH‡		
10674	49	04652	00000	09	890		B	IF&68‡		
10682				09	900		DORG	*-3‡		
10682	26	10716	08454	09	920	SCRIPT	TF	*&34,SMTLU1&10‡		
10694	12	10717	000J0	09	930		SM	*&23,10,10‡		
10706	44	08692	00005	09	940		BNF	SMTST-12,5‡		
10718	26	10740	10716	09	950		TF	*&22,*-2‡		
10730	44	10750	00006	09	960		BNF	*&20,6‡		
10742	49	08692	00000	09	970		B	SMTST-12‡		
10750				09	980		DORG	*-3‡		
10750	15	00698	00002	09	990		TDM	SBSWCH,2‡		
10762	31	10997	11006	10	000		TR	ETAN,ETAC-8‡		
10774	26	11001	08535	10	010		TF	ETAN&4,SMCNT‡		
10786	11	11000	000-1	10	020		AM	ETAN&3,1,10‡		
10798	26	10832	08454	10	030		TF	*&34,SMTLU1&10‡		
10810	12	10832	000-1	10	040		SM	*&22,1,10‡		
10822	26	00004	00004	10	050		TF	OUT&4 ,4‡		
10834	17	11192	J0846	10	060		BTM	COLECT,*&12‡		
10846	31	00005	16245	10	070		TR	OUT&5 ,SYMB5B-4‡		
10858	22	11000	11395	10	080		S	ETAN&3,NOMB‡		
10870	14	17511	000K3	10	090		CM	CHI,23,10‡		
10882	46	11016	01200	10	100		BE	TWODIM‡		
10894	44	11108	00009	10	110	QUERY	BNF	GORE ,OUT&9‡		
10906	31	17510	17512	10	120		TR	CHI-1,CHI&1‡		
10918	15	00698	00000	10	130		TDM	SBSWCH‡		
10930	25	11004	11705	10	140		TD	ETAN&7,FXORFL‡		
10942	43	11484	00700	10	150		BD	PETA,FLAGSW‡		
10954	11	10972	000-9	10	160		AM	*&18,9,10‡		
10966	31	00000	10997	10	170	PUTETB	TR	,ETAN‡		
10978	26	10996	09581	10	180		TF	*&18,CSORN-1‡		
10990	49	98765	00000	10	190		B	98765‡		
10997				10	200	ETAN	DS	,*-4‡		
11005		4		10	210		DS	4‡		
11014		9		10	220	ETAC	DC	9,a‡		
11016	17	11192	J1028	10	230	TWODIM	BTM	COLECT,*&12‡		

LCCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	20
11028	31	00010	16245	10	240		TR	OUT&10	,SYMBSB-4‡		
11040	23	00004	11395	10	250		M	OUT&4	,NOMB‡		
11052	32	00096	00000	10	260		SF	96‡			
11064	22	11000	00099	10	270		S	ETAN&3,99‡			
11076	21	11000	00004	10	280		A	ETAN&3	,OUT&4‡		
11088	44	11108	00014	10	290		BNF	GORE	,OUT&14‡		
11100	49	10894	00000	10	300		B	QUERY‡			
11108				10	310		DORG	*-3‡			
11108	11	11495	000-1	10	320	GORE	AM	SUBN,1,10‡			
11120	26	11003	11495	10	330		TF	ETAN&6,SUBN‡			
11132	13	11495	000J5	10	340		MM	SUBN,15,10‡			
11144	16	11174	J7471	10	350		TFM	*&30,TOP&1‡			
11156	22	11174	00099	10	360		S	*&18,99‡			
11168	31	00000	00001	10	370		TR		,OUT&1‡		
11180	49	10906	00000	10	380		B	QUERY&12‡			
11192	15	11385	00003	10	390	COLECT	TDM	FAGR&1,3‡			
11204	16	16249	-000-	10	400		TFM	SYMBSB,0,711‡			
11216	16	11395	C-000	10	410		TFM	NOMB,,8‡			
11228	31	17510	17512	10	420		TR	CHI-1,CHI&1‡			
11240	14	17511	000C9	10	430		CM	CHI,69,10‡			
11252	46	11360	01100	10	440		BH	FAGR-24‡			
11264	17	09710	000-2	10	450		BTM	CS,2,10‡			
11276	26	16249	08535	10	460		TF	SYMBSB,SMCNT‡			
11288	14	17511	000J0	10	470		CM	CHI,10,10‡			
11300	46	11348	01200	10	480		BE	*&48‡			
11312	14	17511	000K0	10	490		CM	CHI,20,10‡			
11324	47	11396	01200	10	500		BNE	FAGR&12‡			
11336	15	11385	00002	10	510		TDM	FAGR&1,2‡			
11348	31	17510	17512	10	520		TR	CHI-1,CHI&1‡			
11360	17	09356	000-0	10	530		BTM	CFXN,,10‡			
11372	26	11395	17481	10	540		TF	NOMB,SYM‡			
11384	33	11395	00000	10	550	FAGR	CF	NOMB‡			
11396	26	11414	11191	10	560		TF	*&18,COLECT-1‡			
11408	49	00000	00000	10	570		B	‡			
11416				10	580		DORG	*-3‡			
11395				10	590	NOMB	DS	,FAGR&11‡			
11416	14	17511	000K4	10	600		CM	CHI,24,10‡			
11428	46	10682	01242	10	610		BE	SCRIPT,42‡			
11440	43	11438	00698	10	620		BD	*-2,SBSWCH‡			
11452	31	10997	11006	10	630	PUTETA	TR	ETAN,ETAC-8‡			
11464	26	11001	08535	10	640		TF	ETAN&4,SMCNT‡			
11476	49	10930	00000	10	650		B	QUERY&36‡			
11484				10	660		DORG	*-3‡			
11484	32	11004	00000	10	670	PETA	SF	ETAN&7‡			
11495		2		10	675	SUBN	DC	2	,0		,‡‡
11496	15	00700	00000	10	680		TDM	FLAGSW,0‡			
11508	49	10954	00000	10	690		B	PUTETB-12‡			
11516				10	700		DORG	*-3‡			
11516	17	11534	C-074	10	720	NOSPCE	BTM	ERROR,74,8‡			
11532		5		10	730		DS	5‡			
11534	26	11619	11533	10	740	ERROR	TF	ERRMSS&20,ERROR-1‡			
11546	39	11599	00100	10	750		WATY	ERRMSS‡			
11558	15	00459	0000J	10	760		TDM	SKPPCH,1,11‡			
11570	15	00839	00001	10	765		TDM	TYST&1	,1‡		
11582	49	03974	00000	10	770		B	CONFMT-20‡			

LOC TN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	21
11589				10 780		DORG	*-4#		
11597		9		10 785	ZERO9	DC	9 ,0#		
11599		12		10 790	ERRMSS	DAC	12,ERROR NO. @#		
11622	16	11631	000-0	10 830	ASCAN	TFM	OMM1,00,10#		
11631		2		10 835	OMM1	DC	2 , *-2#		
11634	16	15219	CC-CO	10 840		TFM	ACC,,9#		
11646	16	15128	J7240	10 850		TFM	PUTOMH&6,PHI&220#		
11658	16	10972	J7032	10 860		TFM	PUTETB&6,PHI&12#		
11670	45	11942	17513	10 870	S	BNR	SSA,CHI&2#		
11682	14	11631	CCOL3	10 880		CM	OMM1,33,10#		
11694	46	11766	01200	10 890		BE	SSB#		
11705		1		10 895	FXORFL	DS	1 ,**		
11706	14	11631	CCOKM	10 900		CM	OMM1,-24,10#		
11718	46	11754	01200	10 910		BE	*836#		
11730	14	11631	CCOK4	10 920		CM	OMM1,24,10#		
11742	47	12558	01200	10 930		BNE	SS#		
11754	17	11534	0-071	10 940	ER1	BTM	ERROR ,71 ,8#		
11766	17	13040	CCO-C	10 950	SSB	BTM	CCDE,,10#		
11778	44	15922	CC696	10 960		BNF	FCF ,EQSW#		
11790	43	11858	13016	10 970		BD	*868 ,INST1&14#		
11802	43	11838	13032	10 980		BD	*836 ,INST2&14#		
11814	44	11878	13014	10 990	EQ2	BNF	EQ3 ,INST1&12#		
11826	44	11910	13030	11 000		BNF	EQ4 ,INST2&12#		
11838	33	00696	CC000	11 010		CF	EQSW#		
11850	49	15922	CC000	11 020		B	FOF#		
11858				11 030		DORG	*-3#		
11858	43	11814	13032	11 040		BD	EQ2 ,INST2&14#		
11870	49	11838	CC000	11 050		B	*-32#		
11878				11 060		DORG	*-3#		
11878	31	13004	13009	11 070	EQ3	TR	INST1&2 ,INST1&7#		
11890	31	13009	13025	11 080		TR	INST1&7 ,INST2&7#		
11902	49	16150	CC000	11 090		B	ZOT&12#		
11910				11 100		DORG	*-3#		
11910	26	13008	13013	11 110	EQ4	TF	INST1&6 ,INST1&11#		
11922	26	13013	13029	11 120		TF	INST1&11 ,INST2&11#		
11934	49	16138	CC000	11 130		B	ZOT#		
11942				11 140		DORG	*-3#		
11942	14	17511	CCOM0	11 150	SSA	CM	CHI,40,10#		
11954	47	11990	C1100	11 160		BNH	*836#		
11966	15	00697	CC000	11 170		TDM	FSTSW#		
11978	17	09582	J1670	11 180		BTM	CSORN,S#		
11990	14	17511	CCOL3	11 190		CM	CHI ,33 ,10#		
12002	46	12026	01200	11 200		BE	*824#		
12014	33	00696	CC000	11 210		CF	EQSW#		
12026	14	17511	CCOJC	11 220		CM	CHI,10,10#		
12038	46	12250	C1200	11 230		BE	SS001#		
12050	14	17511	CCOK0	11 240		CM	CHI,20,10#		
12062	46	12238	01200	11 250		BE	SS4#		
12074	15	00697	CC000	11 260		TDM	FSTSW#		
12086	14	17511	CCO-4	11 270		CM	CHI,4,10#		
12098	46	12402	C1200	11 280		BE	SSCA1#		
12110	14	17511	CCOK1	11 290		CM	CHI,21,10#		
12122	46	12606	01200	11 300		BE	SS1#		
12134	14	17511	CCOJ4	11 310		CM	CHI,14,10#		
12146	46	12314	01200	11 320		BE	SS3#		
12158	14	17511	CCOK4	11 330		CM	CHI,24,10#		

LCCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	22
12170	46	12370	C1200	11 340		BE	SS5‡		
12182	14	17511	CCOL3	11 350		CM	CHI,33,10‡		
12194	46	12678	C1200	11 360		BE	SS6‡		
12206	14	17511	CCO-3	11 370		CM	CHI,3,10‡		
12218	46	11966	C1200	11 380		BE	SSA&24‡		
12230	49	11754	CC000	11 390		B	ER1‡		
12238				11 400		DORG	*-3‡		
12238	15	00700	CC005	11 410	SS4	TDM	FLAGSW,5‡		
12250	43	12282	CC697	11 420	SS001	BD	*&32,FSTSW‡		
12262	15	00700	CC000	11 430		TDM	FLAGSW,0‡		
12274	49	12558	CC000	11 440		B	SS‡		
12282				11 450		DORG	*-3‡		
12282	15	00697	CC000	11 460		TDM	FSTSW,0‡		
12294	31	17510	17512	11 470		TR	CHI-1,CHI&1‡		
12306	49	11670	CC000	11 480		B	S‡		
12314				11 490		DORG	*-3‡		
12314	14	17513	CC0J4	11 500	SS3	CM	CHI&2,14,10‡		
12326	47	12606	C1200	11 510		BNE	SS1‡		
12338	31	17508	17510	11 520		TR	CHI-3,CHI-1‡		
12350	15	00700	CC005	11 530		TDM	FLAGSW,5‡		
12362	49	12654	CC000	11 540		B	SS2‡		
12370				11 550		DORG	*-3‡		
12370	15	00697	CC001	11 560	SS5	TDM	FSTSW,1‡		
12382	11	15219	CCO-1	11 570		AM	ACC,1,10‡		
12394	49	15098	CC000	11 580		B	PUTOMG‡		
12402				11 590		DORG	*-3‡		
12402	14	11631	CCOL3	11 600	SSCA1	CM	OMM1,33,10‡		
12414	46	11754	C1200	11 610		BE	ER1‡		
12426	44	12462	CC072	11 620		BNF	SSC ,IFSWCH‡		
12438	14	17513	CC0K3	11 630		CM	CHI&2,23,10‡		
12450	46	04840	C1200	11 640		BE	ER7‡		
12462	14	11631	CC0K4	11 650	SSC	CM	OMM1,24,10‡		
12474	46	12942	C1200	11 660		BE	SSCA‡		
12486	14	11631	CC0KM	11 670		CM	OMM1,-24,10‡		
12498	46	12850	C1200	11 680		BE	SSCB‡		
12510	14	11631	CCOM6	11 690		CM	OMM1,46,10‡		
12522	46	15570	C1200	11 700		BE	CFCT‡		
12534	14	11631	CCOM9	11 710		CM	OMM1,49,10‡		
12546	46	04884	C1200	11 720		BE	TEN‡		
12558	14	11631	CC0J0	11 730	SS	CM	OMM1,10,10‡		
12570	46	13268	C1200	11 740		BE	CADD‡		
12582	14	11631	CC0K0	11 750		CM	OMM1,20,10‡		
12594	46	13552	C1200	11 760		BE	CSUB‡		
12606	14	11631	CC0K1	11 770	SS1	CM	OMM1,21,10‡		
12618	46	13548	C1200	11 780		BE	CDIV‡		
12630	14	11631	CC0J4	11 790		CM	OMM1,14,10‡		
12642	46	13628	C1200	11 800		BE	CMULT‡		
12654	14	11631	CC0JM	11 810	SS2	CM	OMM1,-14,10‡		
12666	46	15198	C1200	11 820		BE	CEXP‡		
12678	15	00697	CC001	11 830	SS6	TDM	FSTSW,1‡		
12690	15	13003	CC006	11 840	TFSAVE	TDM	INST1&1,6‡		
12702	26	12737	1C972	11 850		TF	*&35,PUTETB&6‡		
12714	12	12737	CCO-9	11 860		SM	*&23,9,10‡		
12726	31	13004	CC000	11 870		TR	INST1&2‡		
12738	15	13014	CC000	11 880		TDM	INST1&12,0‡		
12750	44	15098	13010	11 890		BNF	PUTOMG,INST1&8‡		

LCCTN	OP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS
12762	44	12782	13012	11	900		BNF	*&20,INST1&10‡
12774	49	15098	00000	11	910		B	PUTOMG‡
12782				11	920		DORG	*-3‡
12782	16	13013	-0060	11	930		TFM	INST1&11 ,FAC‡
12794	27	14084	14083	11	940		BT	PUT1,PUT1-1‡
12806	26	12836	12737	11	950		TF	*&30,TFSAVE&47‡
12818	11	12836	000-8	11	960		AM	*&18,8,10‡
12830	32	00000	00000	11	970		SF	‡
12842	49	12382	00000	11	980		B	SS5&12‡
12850				11	990		DORG	*-3‡
12850	26	12885	10972	12	000	SSCB	TF	*&35,PUTETB&6‡
12862	26	12936	10972	12	010		TF	*&74,PUTETB&6‡
12874	31	13009	00000	12	020		TR	INST1&7,‡
12886	44	12918	13016	12	030		BNF	*&32,INST1&14‡
12898	33	13016	00000	12	040		CF	INST1&14‡
12910	49	12930	00000	12	050		B	*&20‡
12918				12	060		DURG	*-3‡
12918	32	13016	00000	12	070		SF	INST1&14‡
12930	31	00000	13009	12	080		TR	,INST1&7‡
12942	31	17510	17512	12	090	SSCA	TR	CHI-1,CHI&1‡
12954	12	15128	000-2	12	100		SM	PUTOMH&6,2,10‡
12966	26	12989	15128	12	110		TF	*&23,PUTOMH&6‡
12978	26	11631	00000	12	120		TF	OMM1,‡
12990	49	11670	00000	12	130		B	S‡
13002	26	00060	00000	12	140	INST1	TF	FAC‡
13017		4		12	150		DC	4,‡‡
13018	27	00480	00000	12	170	INST2	BT	FAD‡
13033		4		12	180		DC	4,‡‡
13038		5		12	190		DS	5‡
13040	26	13008	16391	12	200	CODE	TF	INST1&6,TFFAC‡
13052	16	13019	000K7	12	210		TFM	INST2&1,27,10‡
13064	26	13123	10972	12	220		TF	CODA&11,PUTETB&6‡
13076	26	13099	10972	12	230		TF	*&23,PUTETB&6‡
13088	31	13025	00000	12	240		TR	INST2&7‡
13100	12	13123	000-9	12	250		SM	*&23,9,10‡
13112	31	13009	00000	12	260	CODA	TR	INST1&7‡
13124	43	13150	13032	12	270		BD	*&26,INST2&14‡
13136	43	13236	13016	12	280		BD	CODC,INST1&14‡
13148	42	00000	00000	12	290		BB	‡
13150				12	300		DORG	*-9‡
13150	43	13222	13016	12	310		BD	CODD,INST1&14‡
13162	14	11631	000JM	12	320		CM	OMM1,-14,10‡
13174	46	16198	01200	12	330		BE	FXEXP‡
13186	14	11631	000L3	12	340		CM	OMM1,33,10‡
13198	46	15886	01200	12	350		BE	FLOAT‡
13210	17	11534	0-075	12	360	CODF	BTM	ERROR,75,8‡
13222	11	13783	000M0	12	370	CODD	AM	OP,40,10‡
13234	42	00000	00000	12	380		BB	‡
13236				12	390		DORG	*-9‡
13236	14	11631	000L3	12	400	CODC	CM	OMM1,33,10‡
13248	46	15866	01200	12	410		BE	FIX‡
13260	49	13210	00000	12	420		B	CODF‡
13268				12	430		DORG	*-3‡
13268	16	13783	J6319	12	440	CADD	TFM	OP,AFAD‡
13280	17	13040	000-0	12	450		BTM	CODE,,10‡

LOC TN	OP	P/L	Q	PC LN	LABEL	MNEM	OPERANDS AND REMARKS
13292	44	13412	13016	12 460		BNF	CADDH, INST1&14#
13304	44	13500	13032	12 470		BNF	CADDK, INST2&14#
13316	15	00700	00003	12 480		TDM	FLAGSW, 3#
13328	44	13372	13031	12 490		BNF	CADD8, INST2&13#
13340	31	13025	13009	12 500	CADDI	TR	INST2&7, INST1&7#
13352	16	13785	000M	12 510	CADDK	TFM	COMMON&1, 41, 1011#
13364	49	13772	00000	12 520		B	C#
13372				12 530		DCRG	*-3#
13372	44	13392	13015	12 540	CADD8	BNF	CADD, INST1&13#
13384	49	13352	00000	12 550		B	CADDK#
13392				12 560		DORG	*-3#
13392	16	13785	000KP	12 570	CADDK	TFM	COMMON&1, 27, 1011#
13404	49	13772	00000	12 580		B	C#
13412				12 590		DORG	*-3#
13412	44	13480	13032	12 600	CADDH	BNF	CADDJ&12, INST2&14#
13424	44	13468	13031	12 610		BNF	CADDJ, INST2&13#
13436	15	00700	00004	12 620		TDM	FLAGSW, 4#
13448	11	13783	000-5	12 630		AM	OP, 5, 10#
13460	49	13340	00000	12 640		B	CADDI#
13468				12 650		DORG	*-3#
13468	11	13783	000-5	12 660	CADDJ	AM	OP, 5, 10#
13480	15	00700	00000	12 670		TDM	FLAGSW, #
13492	49	13328	00000	12 680		B	CADDI-12#
13500				12 690		DORG	*-3#
13500	44	13520	13031	12 700	CADDK	BNF	CADDL, INST2&13#
13512	49	13468	00000	12 710		B	CADDJ#
13520				12 720		DORG	*-3#
13520	15	00700	00004	12 730	CADDL	TDM	FLAGSW, 4#
13532	11	13783	000-5	12 740		AM	OP, 5, 10#
13544	49	13372	00000	12 750		B	CADD8#
13552				12 760		DORG	*-3#
13552	16	13783	J6319	12 770	CSUB	TFM	OP, AFAD#
13564	17	13040	000-0	12 780		BTM	CODE, , 10#
13576	44	13608	13032	12 790		BNF	CSUBA, INST2&14#
13588	33	13032	00000	12 800		CF	INST2&14#
13600	49	13292	00000	12 810		B	CADD&24#
13608				12 820		DORG	*-3#
13608	32	13032	00000	12 830	CSUBA	SF	INST2&14#
13620	49	13292	00000	12 840		B	CADD&24#
13628				12 850		DORG	*-3#
13628	16	13783	J6329	12 860	CMULT	TFM	OP, AFMP#
13640	49	13660	00000	12 870		B	CDIV&12#
13648				12 880		DORG	*-3#
13648	16	13783	J6339	12 890	CDIV	TFM	OP, AFDV#
13660	17	13040	-0000	12 900		BTM	CODE#
13672	44	13740	13016	12 910		BNF	CMDA, INST1&14#
13684	44	13752	13032	12 920		BNF	CMDA&12, INST2&14#
13696	15	00700	00000	12 930		TDM	FLAGSW#
13708	44	13372	13031	12 940	CMDB	BNF	CADD8, INST2&13#
13720	11	13783	000-5	12 950		AM	OP, 5, 10#
13732	49	13340	00000	12 960		B	CADDI#
13740				12 970		DORG	*-3#
13740	44	13696	13032	12 980	CMDA	BNF	CMDB-12, INST2&14#
13752	15	00700	00005	12 990		TDM	FLAGSW, 5#
13764	49	13708	00000	13 000		B	CMDB#

LOC TN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	25
13772				13 010		DORG	*-3#			
13772	26	13024	00000	13 020	C	TF	INST2&6#			
13784	41	14084	14083	13 030	COMMON	NOP	PUT1,PUT1-1#			
13796	44	13820	13785	13 040		BNF	*&24,COMMON&1#			
13808	27	14104	14103	13 050		BT	PUT2,PUT2-1#			
13820	12	10972	000J8	13 060		SM	PUTETB&6,18,10#			
13832	26	17481	15219	13 070		TF	SYM,ACC#			
13844	16	09581	J3864	13 080		TFM	CSORN-1,*&20#			
13856	49	08388	00000	13 090		B	SMTLU#			
13864				13 100		DORG	*-3#			
13864	26	13894	10972	13 110		TF	*&30,PUTETB&6#			
13876	11	13894	000-6	13 120		AM	*&18,6,10#			
13888	32	00000	00000	13 130		SF	#			
13900	12	15128	000-2	13 140		SM	PUTOMH&6,2,10#			
13912	26	13935	15128	13 150		TF	*&23,PUTCMH&6#			
13924	26	11631	00000	13 160		TF	OMM1#			
13936	14	17511	000-4	13 170		CM	CHI,4,10#			
13948	46	12462	01200	13 180		BE	SSC#			
13960	45	13980	17513	13 190		BNR	*&20,CHI&2#			
13972	49	11682	00000	13 200		B	S&12#			
13980				13 210		DORG	*-3#			
13980	14	17513	000J4	13 220		CM	CHI&2,14,10#			
13992	46	12338	01200	13 230		BE	SS3&24#			
14004	14	11631	000K4	13 240		CM	OMM1,24,10#			
14016	46	15098	01200	13 250		BE	PUTOMG#			
14028	14	11631	000KM	13 260		CM	OMM1,-24,10#			
14040	46	15098	01200	13 270		BE	PUTOMG#			
14052	14	11631	000L3	13 280		CM	OMM1,33,10#			
14064	46	15098	01200	13 290		BE	PUTOMG#			
14076	49	116P0	00000	13 300		B	S,,5#			
14084				13 310		DORG	*-3#			
				13 320			*OUTPUT ROUTINES#			
14084	16	14139	J3002	13 330	PUT1	TFM	PUT2&35,INST1#			
14096	49	141J6	00000	13 340		B	PUT2&12,,5#			
14104				13 350		DORG	*-3#			
14104	16	14139	J3018	13 360	PUT2	TFM	PUT2&35,INST2#			
14116	31	00000	14866	13 370		TR	OUT ,SUBI#			
14128	31	00060	00000	13 380		TR	OUT&60#			
14140	43	14196	00072	13 390		BD	*&56 ,OUT&72#			
14152	43	14196	00073	13 400		BD	*&44 ,OUT&73#			
14164	16	14629	000J2	13 410		TFM	PUTX-1,12,10#			
14176	31	00000	00060	13 420		TR	OUT ,OUT&60#			
14188	49	14630	00000	13 430		B	PUTX#			
14196				13 440		DORG	*-3#			
14196	44	14164	00072	13 450		BNF	*-32 ,OUT&72#			
14208	33	00073	00000	13 460		CF	OUT&73#			
14220	13	00073	000J5	13 470		MM	OUT&73 ,15 ,10#			
14232	16	14267	J7471	13 480		TFM	*&35,TOP&1#			
14244	22	14267	00099	13 490		S	*&23,99#			
14256	31	00081	00000	13 500		TR	OUT&81#			
14268	26	00047	00071	13 510		TF	OUT&47 ,OUT&71#			
14280	44	14304	14638	13 520		BNF	*&24 ,PUTX&8#			
14292	26	00047	00066	13 530		TF	OUT&47 ,OUT&66#			
14304	45	14432	00090	13 540		BNR	BL2 ,OUT&90#			
14316	26	00059	00089	13 550	BL1	TF	OUT&59 ,OUT&89#			

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	26
14328	31	00000	00036	13 560		TR	OUT ,OUT&36#		
14340	26	00006	16243	13 570		TF	OUT&6 ,L#		
14352	11	00006	-0035	13 580		AM	OUT&6 ,35#		
14364	44	14388	14638	13 590		BNF	*&24 ,PUTX&8#		
14376	12	00006	000-5	13 600		SM	OUT&6 ,5 ,10#		
14388	26	00018	00006	13 610		TF	OUT&18 ,OUT&6#		
14400	12	00018	000-1	13 620		SM	OUT&18 ,1 ,10#		
14412	16	14629	CC0L6	13 630		TFM	PUTX-1,36,10#		
14424	49	14630	CC000	13 640		B	PUTX#		
14432				13 650		DORG	*-3#		
14432	44	14452	CC094	13 660	BL2	BNF	*&20 ,OUT&94#		
14444	49	14316	CC000	13 670		B	BL1#		
14452				13 680		DORG	*-3#		
14452	16	14629	CC0P2	13 690		TFM	PUTX-1,72,10#		
14464	21	00042	16243	13 700		A	OUT&42 ,L#		
14476	21	00054	16243	13 710		A	OUT&54 ,L#		
14488	26	00006	CC094	13 720		TF	OUT&6 ,OUT&94#		
14500	26	00011	CC084	13 730		TF	OUT&11 ,OUT&84#		
14512	26	00035	CC089	13 740		TF	OUT&35 ,OUT&89#		
14524	44	14560	14638	13 750		BNF	*&36 ,PUTX&8#		
14536	12	00042	CC0-5	13 760		SM	OUT&42 ,5 ,10#		
14548	12	00054	CC0-5	13 770		SM	OUT&54 ,5 ,10#		
14560	44	14630	CC035	13 780		BNF	PUTX ,OUT&35#		
14572	12	00042	-0012	13 790		SM	OUT&42 ,12#		
14584	12	00054	-0012	13 800		SM	OUT&54 ,12#		
14596	31	00024	CC036	13 810		TR	OUT&24 ,OUT&36#		
14608	16	14629	CC000	13 820		TFM	PUTX-1,60,10#		
14620	49	14630	CC000	13 830		B	PUTX#		
14630				13 840		DORG	*-1#		
14630	33	14630	CC000	13 850	PUTX	CF	*#		
14642	26	14663	14629	13 860		TF	PUTPHI-1,PUTX-1#		
14654	49	14676	CC000	13 870		B	PUTPHI&12#		
14664				13 880		DORG	*-1#		
14664	32	14630	CC000	13 890	PUTPHI	SF	PUTX#		
14676	14	14742	J6937	13 900		CM	PUTTD&6,BUFBAS&75#		
14688	46	14810	01300	13 910		BNL	DUMP#		
14700	44	14736	14630	13 920		BNF	*&36,PUTX#		
14712	25	00000	17020	13 930		TD	OUT ,PHI#		
14724	31	17020	17021	13 940		TR	PHI,PHI&1#		
14736	25	J6862	CC000	13 950	PUTTD	TD	BUFBAS ,OUT ,2#		
14748	31	00000	CC001	13 960		TR	OUT ,OUT&1#		
14760	11	16243	-0001	13 970		AM	L,1#		
14772	11	14742	-0001	13 980		AM	PUTTD&6,1#		
14784	12	14663	CC0-1	13 990		SM	PUTPHI-1,1,10#		
14796	46	14676	01100	14 000		BP	PUTPHI&12#		
14808	42	00000	CC000	14 010		BB	#		
14810				14 020		DORG	*-9#		
14810	16	14742	J6862	14 030	DUMP	TFM	PUTTD&6,BUFBAS#		
14822	43	14846	CC459	14 040		BD	*&24,SKPPCH#		
14834	38	16857	CC400	14 050		WNCD	LCAD-4#		
14846	26	16861	16243	14 060		TF	LCAD,L#		
14858	49	14700	CC000	14 070		B	PUTPHI&36#		
14866				14 080		DORG	*-3#		
14866	13	-0000	-0000	14 090	SUBI	MM	,,27#		
14878	32	00096	CC000	14 100		SF	96#		

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS
14890	21	-0099	-0000	14	110		A	99,,27‡	
14902	16	-0071	-0000	14	120		TFM	71,,27‡	
14914	22	-0070	-0099	14	130		S	70,99,27‡	
14926		1		14	140		DC	1,‡‡	
14928	33	16394	000-0	14	150	BGO	CF	BRINST&2,,10‡	
14940	31	00089	16392	14	160		TR	89,BRINST‡	
14952	31	00096	16453	14	170		TR	96,CRAM-4‡	
14964	26	00088	16249	14	180		TF	88,LODER‡	
14976	33	00084	00000	14	190	COMGO	CF	84‡	
14988	14	15066	J7012	14	200		CM	GOER&6 ,IMAGE&75‡	
15000	47	15060	01300	14	210		BL	GOER‡	
15012	43	15036	00459	14	220		BD	*&24,SKPPCH‡	
15024	38	16937	00400	14	230		WNCD	IMAGE‡	
15036	16	15066	J6937	14	240		TFM	GOER&6,IMAGE‡	
15048	15	16937	00000	14	250		TDM	IMAGE‡	
15059		1		14	260		DC	1,‡,‡‡	
15060	31	J6937	00084	14	270	GOER	TR	IMAGE ,84 ,2‡	
15072	15	00079	00000	14	280		TDM	79‡	
15083		1		14	290		DC	1,‡,‡‡	
15084	11	15066	-0015	14	300		AM	*-18 ,15‡	
15096	42	00000	00000	14	310		BB	‡	
15098				14	320		DORG	*-9‡	
15098	43	15166	00700	14	330	PUTOMG	BD	*&68,FLAGSW‡	
15110	11	15128	-0002	14	340		AM	*&18,2‡	
15122	26	00000	17511	14	350	PUTOMH	TF	,CHI‡	
15134	26	11631	17511	14	360		TF	OMM1,CHI‡	
15146	31	17510	17512	14	370		TR	CHI-1,CHI&1‡	
15158	49	11670	00000	14	380		B	S‡	
15166				14	390		DORG	*-3‡	
15166	32	17511	00000	14	400		SF	CHI‡	
15178	15	00700	00000	14	410		TDM	FLAGSW‡	
15190	49	15110	00000	14	420		B	PUTOMG&12‡	
15197				14	430		DORG	*-4‡	
13783		5		14	440	OP	DS	5,C&11‡	
15198	16	13783	J6349	14	460	CEXP	TFM	OP,AFX‡‡	
15210	17	13040	000-0	14	470		BTM	CODE,,10‡	
15219		3		14	475	ACC	DS	3 ,*-2‡	
15222	15	16308	00001	14	480		TDM	USEDIFS&44 ,1‡	
15234	15	16306	00001	14	490		TDM	USEDIFS&42,1‡	
15246	44	15270	13032	14	500		BNF	*&24,INST2&14‡	
15258	11	13783	000-5	14	510		AM	OP,5,10‡	
15270	44	15398	13031	14	520		BNF	CEXPA,INST2&13‡	
15282	31	15554	13009	14	530		TR	TEMP,INST1&7‡	
15294	16	13016	0-000	14	540		TFM	INST1&14,,8‡	
15306	26	13008	13029	14	550		TF	INST1&6 ,INST2&11‡	
15318	16	13013	-0060	14	560		TFM	INST1&11 ,FAC‡	
15330	27	14084	14083	14	570		BT	PUT1,PUT1-1‡	
15342	31	13009	15554	14	580		TR	INST1&7,TEMP‡	
15354	26	13008	16391	14	590		TF	INST1&6,TFFAC‡	
15366	44	15474	13015	14	600		BNF	CEXPB,INST1&13‡	
15378	27	14084	14083	14	610		BT	PUT1,PUT1-1‡	
15390	49	15410	00000	14	620		B	CEXPA&12‡	
15398				14	630		DORG	*-3‡	
15398	44	15474	13015	14	640	CEXPA	BNF	CEXPB,INST1&13‡	
15410	44	15454	13016	14	650		BNF	CEXPC,INST1&14‡	
15422	26	13013	16443	14	660		TF	INST1&11,RVINST&11‡	

LCCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	28
15434	16	13785	CCOKP	14	670	CEXPD	TFM	COMMON&1,27,1011#		
15446	49	13772	0C000	14	680		B	C#		
15454				14	690		DORG	*-3#		
15454	16	13785	CCOMJ	14	700	CEXPC	TFM	COMMON&1,41,1011#		
15466	49	13772	0C000	14	710		B	C#		
15474				14	720		DORG	*-3#		
15474	44	15434	13016	14	730	CEXPB	BNF	CEXPD,INST1&14#		
15486	31	15554	13018	14	740		TR	TEMP,INST2#		
15498	26	13030	16444	14	750		TF	INST2&12,RVINST&12#		
15510	27	14084	14083	14	760		BT	PUT1,PUT1-1#		
15522	27	14104	14103	14	770		BT	PUT2,PUT2-1#		
15534	31	13018	15554	14	780		TR	INST2,TEMP#		
15546	49	15454	0C000	14	790		B	CEXPC#		
15554				14	800		DORG	*-3#		
15554		1		14	810	TEMP	DS	1#		
15569		15		14	820		DS	15#		
15570	17	13040	0C0-0	14	830	CFCT	BTM	CODE,,10#		
15582	26	13024	13013	14	840		TF	INST2&6,INST1&11#		
15594	31	17508	17510	14	850		TR	CHI-3,CHI-1#		
15606	44	15698	13032	14	860		BNF	CFCTA,INST2&14#		
15618	44	15754	13031	14	870		BNF	CFCTB,INST2&13#		
15630	44	15654	13016	14	880		BNF	*&24,INST1&14#		
15642	15	00700	00002	14	890		TDM	FLAGSW,2#		
15654	16	13785	000KP	14	900		TFM	COMMON&1,27,1011#		
15666	31	13002	16432	14	910		TR	INST1,RVINST#		
15678	16	13029	-0060	14	920		TFM	INST2&11,FAC#		
15690	49	13784	00000	14	930		B	COMMON#		
15698				14	940		DORG	*-3#		
15698	44	15822	13031	14	950	CFCTA	BNF	CFCTC,INST2&13#		
15710	16	13785	CCOMJ	14	960		TFM	COMMON&1,41,1011#		
15722	44	15678	13016	14	970		BNF	CFCTA-20,INST1&14#		
15734	15	00700	00002	14	980		TDM	FLAGSW,2#		
15746	49	15678	0C000	14	990		B	CFCTA-20#		
15754				15	000		DORG	*-3#		
15754	44	15778	13016	15	010	CFCTB	BNF	*&24,INST1&14#		
15766	15	00700	00002	15	020		TDM	FLAGSW,2#		
15778	26	13008	16391	15	030		TF	INST1&6,TFFAC#		
15790	31	13009	13025	15	040		TR	INST1&7,INST2&7#		
15802	27	14084	14083	15	050		BT	PUT1,PUT1-1#		
15814	49	15654	0C000	15	060		B	CFCT&84#		
15822				15	070		DORG	*-3#		
15822	16	13785	CCOMJ	15	080	CFCTC	TFM	COMMON&1,41,1011#		
15834	44	13784	13016	15	090		BNF	COMMON,INST1&14#		
15846	15	00700	00002	15	100		TDM	FLAGSW,2#		
15858	49	13784	0C000	15	110		B	COMMON#		
15865				15	120		DORG	*-4#		
15866	16	15957	J64C0	15	130	FIX	TFM	TWAGS&11,FIX2#		
15878	49	15898	0C000	15	140		B	*&20#		
15886				15	150		DORG	*-3#		
15886	16	15957	J6416	15	160	FLOAT	TFM	TWAGS&11,FLOAT2#		
15898	16	15991	000K7	15	170		TFM	SSBCD&13,27,10#		
15910	33	00696	0C000	15	180		CF	EQSW#		
15922	31	15554	13009	15	190	FOF	TR	TEMP,INST1&7#		
15934	31	13009	13025	15	200		TR	INST1&7,INST2&7#		
15946	31	13018	16400	15	210	TWAGS	TR	INST2,FIX2#		

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	29
15958	44	15978	13015	15 220		BNF	*&20,INST1&13#		
15970	49	15990	00000	15 230		B	*&20#		
15978				15 240		DORG	*-3#		
15978	27	14084	14083	15 250	SSBCD	BT	PUT1,PUT1-1#		
15990	41	14104	14103	15 260		NOP	PUT2,PUT2-1#		
16002	44	16038	13016	15 270		BNF	*&36,INST1&14#		
16014	31	13018	16432	15 280		TR	INST2,RVINST#		
16026	27	14104	14103	15 290		BT	PUT2,PUT2-1#		
16038	31	13009	15554	15 300		TR	INST1&7,TEMP#		
16050	31	16189	13009	15 305		TR	TRAREC&1 ,INST1&7#		
16062	26	13008	13013	15 310		TF	INST1&6 ,INST1&11#		
16074	16	13013	-0060	15 320		TFM	INST1&11 ,FAC#		
16086	16	15991	00001	15 330		TFM	SSBCD&13 ,41 ,10#		
16098	41	16118	00696	15 350	TRACE	NOP	*&20 ,EQSW#		
16110	49	16138	00000	15 360		B	ZOT#		
16118				15 370		DORG	*-3#		
16118	31	13002	16182	15 380		TR	INST1 ,TRAREC-6#		
16130	49	16150	00000	15 390		B	ZOT&12#		
16138				15 400		DORG	*-3#		
16138	32	14638	00000	15 410	ZOT	SF	PUTX&8#		
16150	27	14084	14083	15 420		BT	PUT1 ,PUT1-1#		
16162	33	14638	00000	15 430		CF	PUTX&8#		
16174	49	06724	00000	15 450		B	TESTDO#		
16182				15 460		DORG	*-3#		
16183		2		15 470		DC	2,17#		
16188		00005	-2586	15 480	TRAREC	DSA	TRACX#		
16193		5		15 490		DC	5,-90500#		
16197		4		15 500		DC	4,@#		
16198	16	13783	J6233	15 510	FXEXP	TFM	OP,*&35#		
16210	15	11705	00000	15 520		TDM	FXORFL#		
16222	49	15246	-2000	15 530		B	CEXP&48,FAXI,7#		
16238		00005	-1964	15 540		DSA	FAXIN#		
16243		5		15 550	L	DS	5#		
16244		1		15 560		DC	1,@#		
16249		5		15 570	LODER	DS	5#		
16250		1		15 580		DC	1,@#		
02452				15 590	STOPSR	DS	,2452#		
02562				15 600	ENDSR	DS	,2562#		
02586				15 610	TRACX	DS	,2586#		
02000				15 620	FAXI	DS	,2000#		
01964				15 630	FAXIN	DS	,1964#		
03914				15 640	COMPLT	DS	,3914 , ,LAST#		
02834				15 650	RATY	DS	,2834#		
02798				15 660	RACD	DS	,2798#		
02882				15 670	WACD	DS	,2882#		
02918				15 680	WATYSC	DS	,2918#		
02954				15 690	WATY	DS	,2954 , ,WATYE		
03938				15 700	SWC	DS	,3938 , ,NUMBE		
02726				15 710	LTPAR	DS	,2726#		
03574				15 720	RTPAR	DS	,3574#		
03690				15 730	HTYPE	DS	,3690#		
03654				15 740	XTYPE	DS	,3654#		
03298				15 750	SLASH	DS	,3298#		
00696				15 770	EQSW	DS	,BA&2#		
00697				15 780	FSTSW	DS	,BA&3#		
00698				15 790	SBSWCH	DS	,BA&4#		

00699				15	800	DMSWCH	DS			,BA&5#
00700				15	810	FLAGSW	DS			,BA&6#
00701				15	820	DOSWCH	DS			,BA&7#
00702				15	830	IFSWCH	DS			,BA&8#
16253		6		15	860	FRMSCT	DAC	6,FORMAT#		
16264		1		15	870	USEDFS	DC	1,0#		
16313		49		15	880		DC	49,0#		
16314		1		15	890		DC	1,a#		
02298				15	900	FIX1	DS			,2298#
02392				15	910	FLCAT1	DS			,2392#
00060				15	920	FAC	DS			,60#
00480				15	930	FAD	DS			,480#
16319		5		15	940	AFAD	DC	5		,480#
16324		5		15	950	AFSE	DC	5		,420#
16329		5		15	960	AFMP	DC	5		,1128#
16334		5		15	970		DC	5		,1128#
16339		5		15	980	AFDV	DC	5		,1382#
16344		5		15	990	AFCVR	DC	5		,1346#
16349		5		16	000	AFXP	DC	5		,2188#
16354		5		16	010	FAXBN	DC	5		,2152#
16359		5		16	020	FXA	DC	5		,1614#
16364		5		16	030	FXS	DC	5		,1590#
16369		5		16	040	FXM	DC	5		,1644#
16374		5		16	050		DC	5		,1644#
16379		5		16	060	FXD	DC	5		,1722#
16384		5		16	070	FXDR	DC	5		,1686#
01816				16	080	RVSGN	DS	0		,1816#
16391		7		16	090	TFFAC	DC	7		,2600060#
16392	M9	00000	C0000	16	110	BRINST	B			,,0#
16399		1		16	120		DC	1,a,*-4#		
16400				16	130		DORG	*-3#		
16400	K7	02298	02297	16	140	FIX2	BT	FIX1,FIX1-1,0#		
16415		4		16	150		DC	4,a#		
16416	K7	02392	02391	16	160	FLCAT2	BT	FLCAT1,FLOAT1-1,0#		
16431		4		16	170		DC	4,a#		
16432	K7	01816	01815	16	180	RVINST	BT	RVSGN,RVSGN-1,0#		
16447		4		16	190		DC	4,a#		
16456		9		16	200		DC	9,a#		
16457		1		16	210	CRAM	DC	1,a#		
16458	36	--KM0	00500	16	220	ZERCR1	RNCD	240		,2345#
16469		1		16	230		DC	1		,a,*#
16470	26	00047	00054	16	240		TF	47		,54#
16482	16	00054	-0001	16	250		TFM	54		,1#
16494	11	00054	-0000	16	260		AM	54#		
16506	31	-0139	-0010	16	270		TR	139	,10	,27#
16518	45	00012	00240	16	280		BNR	12	,240#	
16530	49	00242	00000	16	290		B	242#		
16540				16	300		DORG	*-1#		
16540	J0	-0035	-0100	16	310	ZERCR2	TFM	35	,100	,0127#
16552	26	00090	00299	16	320		TF	90	,299#	
16564	17	00060	00J40	16	330		BTM	60	,140	,9#
16617		42		16	340		DC	42,-3936000000050049000000123456789123		
16618	15	--240	00000	16	350	LR0UT	TDM	240		,23#
16629		1		16	360		DC	1,a,*#		
16630	36	00080	00500	16	370		RNCD	80#		

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	31
16642	49	00104	00000	16 380		B	104‡			
16650				16 390		DORG	*-3‡			
16650	44	00092	00161	16 400		BNF	92	,161‡		
16662	49	00104	00000	16 410		B	104‡			
16674	26	00074	00164	16 420		TF	74	,164‡		
16686	26	00000	00174	16 430		TF		,174‡		
16698	31	-0160	00175	16 440	LR0UT2	TR	160	,175	,2‡	
16710	45	00056	00160	16 450		BNR	56	,160‡		
16722	36	00160	00500	16 460		RNCD	160‡			
16734	44	00032	00160	16 470		BNF	32,160‡			
16746	26	00146	00164	16 480		TF	146,164‡			
16758	31	00000	00165	16 490		TR	,165‡			
16770	49	00104	00000	16 500		B	104,60000,7‡			
16778				16 510		DORG	*-3‡			
16779		20		16 520	EOC	DAC	20,PROCESSING COMPLETE‡			
16819		6		16 530	LSTM	DAC	6	,START‡		
16831		8		16 540	OVERL	DAC	8,OVERLAP‡			
00000				16 550	CUT	DS		,0‡		
16851		6		16 570	MEMCAP	DC	6,19999‡			
16856		5		16 580	FCTEND	DS	5‡			
16861		5		16 590	LOAD	DS	5‡			
16862		1		16 600	BUFBAS	DS	1‡			
16936		74		16 610		DS	74‡			
16937		1		16 620	IMAGE	DS	1‡			
17016		79		16 630		DS	79‡			
17020		4		16 640	PHI	DS	4‡			
17480		460		16 650		DS	460‡			
17481		1		16 660	SYM	DS	1‡			
17491		10		16 670	COMP	DS	10‡			
17493		1		16 672		DAS	1‡			
17509		16		16 680		DC	16	,50707070700000‡		
17511		80		16 690	CHI	DAS	80‡			
17670	26	17965	16856	16 700	PSTAB	TF	FIN&11	,FCTEND‡		
17682	11	08535	000-1	16 710		AM	SMCNT	,1	,10‡	
17694	16	17825	-8535	16 720		TFM	ADR&11	,SMCNT‡		
17706	46	07988	00200	16 725		BC2	EXIT‡			
17718	43	07988	00459	16 727		BD	EXIT	,SKPPCH‡		
17730	26	17748	08455	16 730		TF	ADR&6	,SMTLU1&11‡		
17742	26	00000	17995	16 740	ADR	TF		,BLKST‡		
17754	26	17917	17748	16 750		TF	CKF&11	,*-6‡		
17766	11	17917	000-2	16 760		AM	CKF&11	,2	,10‡	
17778	16	17774	000-6	16 770		TFM	ADR&32	,6	,10‡	
17790	26	17820	08455	16 780		TF	*&30	,SMTLU1&11‡		
17802	12	17820	000-4	16 790		SM	*&18	,4	,10‡	
17814	26	00000	08535	16 800	AD	TF		,SMCNT‡		
17826	12	17820	000-5	16 810		SM	*-6	,5	,10‡	
17838	26	17856	17820	16 820		TF	*&18	,*-18‡		
17850	38	00000	00400	16 830		WNCD	‡			
17862	49	17906	00000	16 840		B	*&44‡			
17870				16 850		DORG	*-3‡			
17870	11	17917	000J0	16 860		AM	CKF&11	,10	,10‡	
17882	12	17774	000-1	16 870		SM	ADR&32	,1	,10‡	
17894	47	17930	01100	16 880		BNH	*&36‡			
17906	44	17870	00000	16 890	CKF	BNF	*-36‡			
17918	16	17825	J7989	16 900		TFM	ADR&11	,BLKST-6‡		

17930	11	08455	000P0	16	910		AM	SMTLU1&11 ,70	,10‡
17942	11	08535	000P0	16	920		AM	SMCNT ,70	,10‡
17954	14	08455	-0000	16	930	FIN	CM	SMTLU1&11‡	
17966	47	17718	01300	16	940		BN	ADR-24‡	
17978	49	07988	-C000	16	950		B	EXIT ,	,7‡
17986				16	960		DORG	*-3‡	
17995		10		16	970	BLKST	DNB	10‡	
17996	11	18023	000K0	16	980	LAST	AM	*&27,20,10‡	
18008	15	00000	00000	16	990		TDM	‡	
18018		1		17	000		DC	1,@,*-1‡	
18020	31	J9999	18017	17	010		TR	19999,*-3,2‡	
18032	45	17996	00000	17	020		BNR	LAST‡	
18044	26	16850	18026	17	030		TF	MEMCAP-1,*-18‡	
18056	26	16856	16850	17	040		TF	FCTEND,MEMCAP-1‡	
18068	37	18453	00500	17	050		RACD	CCD‡	
18080	25	18432	18453	17	060		TD	NO-3,CCD‡	
18092	25	18433	18455	17	070		TD	NO-2,CCD&2‡	
18104	25	18434	18457	17	080		TD	NO-1,CCD&4‡	
18116	25	18435	18459	17	090		TD	NO,CCD&6‡	
18128	31	18452	18460	17	100	TRY	TR	CCD-1,CCD&7‡	
18140	14	18435	-0000	17	110		CM	NO‡	
18152	46	18364	01200	17	120		BE	CHIGO‡	
18164	45	18188	18461	17	130		BNR	*&24,CCD&8‡	
18176	37	18453	00500	17	140		RACD	CCD‡	
18188	16	18623	00-00	17	150		TFM	CCC&8,,9‡	
18200	26	18621	18459	17	160		TF	CCC&6,CCD&6‡	
18212	26	18230	16856	17	170		TF	*&18,FCTEND‡	
18224	26	00000	18623	17	180		TF	,CCC&8‡	
18236	12	16856	000J0	17	190		SM	FCTEND,10,10‡	
18248	16	18283	J8612	17	200		TFM	*&35,CCC-3‡	
18260	11	18283	000-2	17	210		AM	*&23,2,10‡	
18272	43	18260	18614	17	220		BD	*-12,CCC-1‡	
18284	26	18302	18283	17	230		TF	*&18,*-1‡	
18296	31	00000	18438	17	240		TR	,FRECK‡	
18308	26	18326	16856	17	250		TF	*&18,FCTEND‡	
18320	26	00000	18623	17	260		TF	,CCC&8‡	
18332	12	16856	000J0	17	270		SM	FCTEND,10,10‡	
18344	12	18435	CC0-1	17	280		SM	NO,1,10‡	
18356	49	18128	00000	17	290		B	TRY‡	
18364				17	300		DORG	*-3‡	
18364	16	J7511	000-0	17	310	CHIGO	TFM	CHI,,210‡	
18375		1		17	320		DC	1,@,*‡	
18376	11	18370	000-2	17	330		AM	*-6,2,10‡	
18388	14	18370	J7670	17	340		CM	*-18 ,PSTAB‡	
18400	47	18364	01300	17	350		BL	CHIGO‡	
18412	15	00079	00000	17	360		TDM	OUT&79‡	
18423		1		17	370		DC	1,@,*‡	
18424	49	08164	00000	17	380		B	MCON7‡	
18431				17	390		DORG	*-4‡	
18435		5		17	400	NO	DC	5,0‡	
18436		1		17	410		DS	1‡	
18438	46	00000	00000	17	420	FRECK	BI	‡	
18450		1		17	430		DC	1,@‡	
18453		4		17	440	CCD	DAC	4,AAAA‡	
18461		4		17	450		DAC	4,AAAA‡	

LGCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE
18469		4		17 460		DAC	4,AAAA#		33
18477		4		17 470		DAC	4,AAAA#		
18485		4		17 480		DAC	4,AAAA#		
18493		4		17 490		DAC	4,AAAA#		
18501		4		17 500		DAC	4,AAAA#		
18509		4		17 510		DAC	4,AAAA#		
18517		4		17 520		DAC	4,AAAA#		
18525		4		17 530		DAC	4,AAAA#		
18533		4		17 540		DAC	4,AAAA#		
18541		4		17 550		DAC	4,AAAA#		
18549		4		17 560		DAC	4,AAAA#		
18557		4		17 570		DAC	4,AAAA#		
18565		4		17 580		DAC	4,AAAA#		
18573		4		17 590		DAC	4,AAAA#		
18581		4		17 600		DAC	4,AAAA#		
18589		4		17 610		DAC	4,AAAA#		
18597		4		17 620		DAC	4,AAAA#		
18605		4		17 630		DAC	4,AAAA#		
16249				17 640	SYMBSB	DS	,LODER#		
18613		1		17 650		DAC	1,2#		
17470				17 660	TOP	DS	,PHI&450#		
18615		6		17 670	CCC	DAC	6,AAAAAA#		
18008				17 680		DEND	LAST&12#		

00000** PDC FORTRAN PROCESSOR C2 10/24/63

14475	ACC	10840	11570	13070																	
16800	AD	15720	16900																		
16740	ADR	16730	16770	16870	16940																
15940	AFAD	12440	12770																		
15980	AFDV	12890																			
15990	AFDVR																				
15960	AFMP	12860																			
15950	AFSE																				
16000	AFXP	14460																			
10830	ASCAN	01120	01150	03940																	
00854	AVOID	01050																			
00310	BA	00160	00290	00330	15770	15780	15790	15800	15810	15820	15830										
00060	BEGIN	00220	00230	00240	00250	00600	01340	01566	02064	02340	03220										
		04430	04900	05010	05190	05510	05620	05670	08560												
05860	BEREC	05360	05580																		
14150	BGU	00960	00960	02260	02260	05660	05660														
16970	BLKST	16740	16900																		
01200	BLNK1	00980	01010	01020	01040																
01030	BLNK2	01210																			
13550	BL1	13670																			
13660	BL2	13540																			
00390	BRC	00340	02060	02330	03210	03210															
13020	C	12520	12580	14440	14680	14710															
12440	CADD	11740	12810	12840																	
12540	CADCB	12490	12750	12940																	
12510	CADDC	12550																			
12570	CADDD	12540																			
12600	CADDEH	12460																			
12500	CADDI	12640	12680	12960																	
12660	CADDJ	12600	12610	12710																	
12700	CADDK	12470																			
12730	CADDL	12700																			
17670	CCC	17150	17160	17180	17200	17220	17260														
17440	CCD	17050	17060	17070	17080	17090	17100	17100	17130	17140	17160										
12890	CDIV	11780	12870																		
14460	CEXP	11820	15530																		
14640	CEXPA	14520	14620																		
14730	CEXPB	14600	14640																		
14700	CEXPC	14650	14790																		
14670	CEXPD	14730																			
14830	CFCT	11700	15060																		
14950	CFCTA	14860	14970	14990																	
15010	CFCTB	14870																			
15080	CFCTC	14950																			
08670	CFXN	00630	01920	02660	02780	03460	04600	04770	04980	05200	05780										
		06550	08410	08470	08780	08790	08810	08840	08870	10530											
03300	CHCHI	02500	02580	02640	02710	02710	02730	02750	02750	02770	03070										
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16690	CHI	00170	00180	00210	00320	00331	00332	00333	00334	00335	00336										
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		01350	01370	01420	01440	01460	01480	01510	01530	01550	01574										
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		01700	01740	01750	01750	01800	01800	01810	01830	01830	01890										
		01990	02020	02030	02030	02050	02120	02200	02310	02310	02320										
		02360	02380	02400	02490	02510	02530	02550	02570	02600	02630										
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		03270	03300	03480	03500	03550	03550	03700	03700	03720	03820										
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		05760	06450	06450	06510	06510	06580	08070	08270	08351	08400
		08400	08430	08430	08440	08500	08500	08540	08580	08590	08590
		08620	08700	08710	08710	08720	08750	08770	08890	08920	08940
		08980	09030	09040	09040	09060	09260	09280	09280	09310	09330
		09370	09380	09380	09490	09490	09500	09560	09600	09630	09670
		09670	09680	09690	09690	09700	09730	09740	09740	10090	10120
		10120	10420	10420	10430	10470	10490	10520	10520	10600	10870
		11150	11190	11220	11240	11270	11290	11310	11330	11350	11370
		11470	11470	11500	11520	11520	11630	12090	12090	13170	13190
		13220	14350	14360	14370	14370	14400	14850	14850	17310	
17310	CHIGO	17120	17350								
16890	CKF	16750	16760	16860							
12980	CMDA	12910	12920								
12940	CMDB	12980	13000								
09600	CMPAR	09520									
12860	CMULT	11800									
12260	CCDA	12220									
12400	CCDC	12280									
12370	CODD	12310									
12200	CODE	10950	12450	12780	12900	14470	14830				
12360	CODF	12420									
14190	COMGO	05470	05470	08040	08040						
03850	CCMM	01390									
16670	CCMP	07840	07850	07890	07900	07910	07940	07950	08100	08130	08150
01591	CONIO	02060									
16210	CRAM	05440	05460	06050	06080	06595	07600	14170			
09010	CS	03830	03870	08620	08960	08990	10450				
08890	CSORN	02090	02970	03300	04670	04760	05150	06790	08290	08870	10180
		11180	13080								
12770	CSUB	11760									
12830	CSUBA	12790									
03810	DIM	01320									
08420	DIMA	08370									
08520	DIMB	08356	08380	08660							
08650	DIMC	08354	08450								
08350	DMM	08050									
04590	DC	01180									
06870	DCI	07100	07150	07160	07170	07240	07320	07340	07350		
07400	DOIT	06920	06930	06940	06950	06980	07010	07020	07040	07070	07220
04920	DSADO	04700	04710	04720	04820	04860	04870				
14030	DUMP	06680	06690	06710	13910						
02820	EFIND	02540	02620	02700	03450						
04730	ELL	04810									
04870	EMM	04862	05970	05980	07660						
06660	END	01580									
15600	ENDSR	06630									
06630	ENDX	06420	06660								
16520	ECC	07580									
15770	EQSW	10960	11010	11210	15180	15350					
10990	EQ2	11040									
11070	EQ3	10990									
11110	EQ4	11000									
10740	ERROR	01260	01910	02470	02980	03310	04020	04120	04660	08090	08610
		09780	10720	10740	10940	12360					
10940	ER1	01540	01592	11390	11610						
04020	ER6	09880									
04120	ER7	11640									
10220	ETAC	08150	10000	10630							

10200	ETAN	10000	10010	10020	10080	10140	10170	10270	10280	10330	10630
		10640	10670								
07410	EXIT	16725	16727	16950							
05920	EXREC	05700									
15920	FAC	04450	04470	04500	11930	12140	14560	14920	15320		
15930	FAD	12170									
10550	FAGR	10390	10440	10500	10510	10590					
16010	FAXBN										
15620	FAXI	15530									
15630	FAXIN	15540									
16930	FIN	16700									
15130	FIX	12410									
15900	FIX1	16140	16140								
16140	FIX2	15130	15210								
15160	FLOAT	12350									
03800	FMTSP	02290									
15190	FOF	10960	11020								
17420	FRECK	17240									
02310	FSCAN	02370	02390	02430	02360	03020	03050	03280	03350	03400	03430
		03780									
15780	FSTSW	03920	08320	11170	11260	11420	11460	11560	11830		
16020	FXA										
16060	FXD										
16070	FXDR										
15510	FXEXP	12330									
16040	FXM										
16030	FXS										
07705	F1	09230									
05750	GETNO	05350	05570	05690	05830						
06360	GGG	04970									
14270	GOER	14200	14210	14240							
10320	GORE	10110	10290								
04940	GOTO	01300									
03460	HOLL	02520									
03670	HOLL1	03540	03610								
15730	HTYPE	03530									
03890	IF	01280	09890								
04050	IFSS	04010									
16620	IMAGE	06720	06760	14200	14230	14240	14250	14270			
01740	INCHK	01500									
00020	INITL	07760									
12140	INST1	04180	04190	04210	04250	04270	06390	06460	06520	06560	06570
		06590	06595	10970	10990	11070	11070	11080	11110	11110	11120
		11840	11870	11880	11890	11900	11930	12020	12030	12040	12070
		12080	12200	12260	12280	12310	12460	12500	12540	12910	13330
		14530	14540	14550	14560	14580	14590	14600	14640	14650	14660
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		15200	15220	15270	15300	15305	15310	15310	15320	15380	
12170	INST2	01670	01710	01770	01840	01870	01880	01940	01950	01980	02110
		02130	04200	10980	11000	11040	11080	11120	12210	12240	12270
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		12940	12980	13020	13360	14500	14520	14550	14740	14750	14780
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01990	IO2	01594	01990	02040	02160						
01240	ISITF	01090									
04800	KAY	04720									
05210	KK	04130	04330	04360	04380	04390	05030	05090	05290	05330	
15550	L	00040	00050	00090	00332	00333	00334	00335	00336	00700	00750
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		05720	06770	13570	13700	13710	13970	14060						
16980	LAST	07630	17020	17680										
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15570	LODER	00760	05630	05640	14180	17640								
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16350	LR0UT	07740												
16530	LSTM	07690												
02190	LSUBS	02180	07470	07550										
15710	LTPAR	02420												
08050	MCON3	07980												
07590	MCON7	07410	07660	17380										
17400	NO	17060	17070	17080	17090	17110	17280							
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09310	NUMB	09410												
09370	NUMB1	09140	09180	09250	09350	09360	09390	09430						
09560	NUMB2	09430	09460	09530	09540	09550	09570							
09480	NUMB3	09240	09580											
09400	NUMB5	09620												
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16550	OUT	04050	04080	04130	04280	04290	04320	04330	04360	04380	04680			
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16540	OVERL	00130												
06390	PAUSE	01620												
10670	PETA	10150												
16640	PHI	00400	00780	00790	00820	00840	00900	00900	00970	00990	01000			
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		05120	05130	05170	05180	10850	10860	13930	13940	13940	17660			
09750	PLUS	09610	09620	09660	09680	09710	09720	09720	09730					
01700	PRINT	01610												
16700	PSTAP	06890	07030	17340										
02990	PUNCT	02480	03380											
13950	PUTD	13900	13980	14030										
13850	PUTX	04410	04850	05000	05380	05500	05610	05730	06180	06670	13410			
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13330	PUT1	04240	04240	06600	06600	11940	11940	13030	13030	14570	14570			
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13360	PUT2	01970	01970	02140	02140	04260	04260	13050	13050	13330	13340			
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10110	QUERY	10300	10380	10650										
15660	RACD	01840												
15650	RATY	01870												
01840	RCCD	01760												
03320	RPFMT	02680	03370	03410	03510									
03390	RPT1	03320												
03370	RPT2	03390												

15720	RTPAR	03080												
16080	RVSGN	16180	16180											
10870	S	11180	11480	12130	13200	13300	14380							
09030	SALT	09010	09050	09860	09870									
04040	SENSE	04000												
15750	SLASH	03010												
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0008SIN COS EXP LOG SQRTABS DRH ATAN

LOC TN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	1
				00 000	*	PDQ FORTRAN SUBROUTINE RELOCATOR	11/63		
00500				00 010		DORG	500‡		
00500	25	00400	00467	00 020	START	TD	400,467‡		
00512	46	00524	00900	00 030		BLC	*‡12‡		
00524	15	00401	00000	00 040		TDM	401‡		
00535		1		00 050		DC	1,‡,‡‡		
00536	26	02481	00406	00 060		TF	INCR,406‡		
00548	12	02481	-5000	00 070		SM	INCR,5000‡		
00560	43	00604	00450	00 080		BD	*‡44,450‡		
00572	38	02031	00400	00 090		WNC	CHGLD1-5‡		
00584	38	02113	00400	00 100		WNC	CHGLD2-5‡		
00596	49	00628	00000	00 110		B	*‡32‡		
00604				00 120		DORG	*-3‡		
00604	31	05106	02036	00 130		TR	I,CHGLD1‡		
00616	31	05190	02130	00 140		TR	I‡84,CHGLD2‡12‡		
00628	36	02380	00500	00 150	ENDSUB	RNC	BIN‡		
00640	43	01540	02444	00 160		BD	ARITH,LODER2-4‡		
00652	32	02380	00000	00 170		SF	BIN‡		
00664	26	02483	02381	00 180		TF	BOX‡1,BIN‡1‡		
00676	21	02483	02381	00 190		A	BOX‡1,BIN‡1‡		
00688	14	02381	000-1	00 200		CM	BIN‡1,1,10‡		
00700	46	00884	01200	00 210		BE	SINE‡		
00712	16	00747	-0465	00 220		TFM	*‡35,465‡		
00724	22	00747	02483	00 230		S	*‡23,BOX‡1‡		
00736	43	00780	00000	00 240		BD	FUNCT‡		
00748	36	02380	00500	00 250	HO	RNC	BIN‡		
00760	45	00748	02445	00 260		BNR	HO,LODER2-3‡		
00772	49	00628	00000	00 270		B	ENDSUB‡		
00780				00 280		DORG	*-3‡		
00780	32	00996	00000	00 290	FUNCT	SF	RELO‡		
00792	26	02447	00470	00 300		TF	LODER2-1,470‡		
00804	15	02448	00000	00 310		TDM	LODER2‡		
00816	22	02447	02483	00 320		S	LODER2-1,BOX‡1‡		
00828	26	02453	02448	00 330		TF	LODER,LODER2‡		
00840	15	02453	00009	00 340		TDM	LODER,9‡		
00852	31	02380	02460	00 350		TR	BIN,BARF‡		
00864	21	02380	02481	00 360		A	BIN‡6,INCR‡		
00876	49	01240	00000	00 370		B	CON2‡		
00884				00 380		DORG	*-3‡		
00884	43	00916	00465	00 390	SINE	BD	*‡32,465‡		
00896	43	00916	00463	00 400		BD	*‡20,463‡		
00908	49	00748	00000	00 410		B	HO‡		
00916				00 420		DORG	*-3‡		
00916	26	02453	00471	00 430		TF	LODER,471‡		
00928	26	02448	02453	00 440		TF	LODER2,LODER‡		
00940	15	02448	00000	00 450		TDM	LODER2‡		
00952	31	02380	02468	00 460		TR	BIN,BARF2‡		
00964	21	02380	02481	00 470		A	BIN‡6,INCR‡		
00976	33	00996	00000	00 480		CF	RELO‡		
00988	49	01240	00000	00 490		B	CON2‡		
00996				00 500		DORG	*-3‡		
00996	M4	00780	00996	00 510	RELO	BNF	FUNCT,*,0‡		
01008	36	02380	00500	00 520		RNC	BIN‡		
01020	45	01076	02449	00 530		BNR	XX,LODER2‡1‡		
01032	26	02453	02448	00 540		TF	LODER,LODER2‡		

LOCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	2
01044	11	02453	-0001	00 550		AM	LODER,1#		
01056	31	02380	00400	00 560		TR	BIN,400#		
01068	49	01180	00000	00 570		B	CONST#		
01076				00 580		DORG	*-3#		
01076	45	01132	02445	00 590	XX	BNR	YYM,LODER2-3#		
01088	32	02380	00000	00 600		SF	BIN#		
01100	21	00406	02384	00 610		A	406,BIN&4#		
01112	21	02481	02384	00 620		A	INCRE,BIN&4#		
01124	49	00628	00000	00 630		B	ENDSUB#		
01132				00 640		DORG	*-3#		
01132	43	01180	02441	00 650	YYM	BD	CONST,MARK#		
01144	16	01167	-2380	00 660		TFM	*&23,BIN#		
01156	31	02482	00000	00 670	LOOP	TR	BOX#		
01168	45	01272	02482	00 680		BNR	MOD,BOX#		
01180	21	02448	02481	00 690	CONST	A	LODER2,INCRE#		
01192	21	02453	02481	00 700		A	LODER,INCRE#		
01204	24	02453	00411	00 710		C	LODER,411#		
01216	47	01240	01100	00 720		BNH	*&24#		
01228	15	00450	00001	00 730		TDM	450,1#		
01240	43	01448	00450	00 740	CON2	BD	SUBR,450#		
01252	38	02380	00400	00 750		WNCD	BIN#		
01264	49	00996	00000	00 760		B	RELO#		
01272				00 770		DORG	*-3#		
01272	44	01332	02482	00 780	MOD	BNF	*&60 ,BOX#		
01284	15	01321	00001	00 790		TDM	*&37 ,1#		
01296	44	01320	02488	00 800		BNF	*&24 ,BOX&6#		
01308	15	01321	00002	00 810		TDM	*&13 ,2#		
01320	21	02488	02481	00 820		A	BOX&6 ,INCRE#		
01332	44	01392	02483	00 830		BNF	*&60 ,BOX&1#		
01344	15	01381	00001	00 840		TDM	*&37 ,1#		
01356	44	01380	02493	00 850		BNF	*&24 ,BOX&11#		
01368	15	01381	00002	00 860		TDM	*&13 ,2#		
01380	21	02493	02481	00 870		A	BOX&11 ,INCRE#		
01392	26	01410	01167	00 880		TF	*&18,LOOP&11#		
01404	31	00000	02482	00 890		TR	,BOX#		
01416	33	02381	00000	00 895		CF	BIN&1#		
01428	11	01167	-0012	00 900		AM	LOOP&11,12#		
01440	49	01156	00000	00 910		B	LOOP#		
01448				00 920		DORG	*-3#		
01448	44	00996	00450	00 930	SUBR	BNF	RELO,450#		
01460	26	01526	02453	00 940		TF	*&66,LODER#		
01472	26	01514	02448	00 950		TF	*&42,LODER2#		
01484	26	01507	02453	00 960		TF	*&23,LODER#		
01496	25	01531	00000	00 970		TD	*&35#		
01508	31	00000	02380	00 980		TR	,BIN#		
01520	15	00000	00000	00 990		TDM	#		
01532	49	00996	00000	01 000		B	RELO#		
01540				01 010		DORG	*-3#		
01540	31	00000	02194	01 020	ARITH	TR	,ZERO#		
01552	15	00999	00000	01 030		TDM	99#		
01564	43	01396	00450	01 040		BD	HERE,450#		
01576	31	00402	02167	01 050		TR	402,DNB&10#		
01588	16	02441	00-01	01 060		TFM	IMAGE&61,1,9#		
01598		1		01 070		DC	1,a,*-1#		
01600	16	02448	-0000	01 080		TFM	IMAGE&68,0#		

LOCIN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	3
01612	16	02453	-0060	01 090		TFM	IMAGE&73,60‡		
01624	16	01659	-0000	01 100		TFM	TD&11,0‡		
01636	13	01654	-2380	01 110		TFM	TD&6,IMAGE‡		
01648	25	00000	00000	01 120	TD	TD	‡		
01660	11	01654	-0001	01 130		AM	TD&6,1‡		
01672	11	01659	-0001	01 140		AM	TD&11,1‡		
01684	14	01654	-2440	01 150		CM	TD&6,IMAGE&60‡		
01696	47	01648	01300	01 160		BL	TD‡		
01708	11	01731	00-01	01 170		AM	*&23,1,9‡		
01720	16	02459	-0499	01 180		TFM	IMAGE&79,499‡		
01732	33	02455	00000	01 190		CF	IMAGE&75‡		
01744	38	02380	00400	01 200		WNCD	IMAGE‡		
01756	11	02448	-0060	01 210		AM	IMAGE&68,60‡		
01768	11	02453	-0060	01 220		AM	IMAGE&73,60‡		
01780	14	01659	-0401	01 230		CM	TD&11,401‡		
01792	47	01636	01300	01 240		BL	TD-12‡		
01804	36	02380	00500	01 250		RNCD	IMAGE‡		
01816	38	02380	00400	01 260		WNCD	IMAGE‡		
01828	47	01804	00900	01 270		BNLC	*-24‡		
01840	34	00000	00102	01 280	Q	RCTY	‡		
01852	39	02295	00100	01 290		WATY	M1‡		
01864	48	00000	00000	01 300		H	‡		
01876	36	00000	00500	01 310		RNCD	0‡		
01888	49	00000	00000	01 320		B	0‡		
01896				01 330		DORG	*-3‡		
01896	44	01916	00450	01 340	HERE	BNF	OVER,450‡		
01908	49	05106	00000	01 350		B	I‡		
01916				01 360		DORG	*-3‡		
01916	36	02380	00500	01 370	OVER	RNCD	IMAGE‡		
01928	47	01916	00900	01 380		BNLC	*-12‡		
01940	22	00406	00411	01 390		S	406,411‡		
01952	15	00407	00000	01 400		TDM	407‡		
01963		1		01 410		DC	1,0,‡‡		
01964	33	00400	00000	01 420		CF	402‡		
01976	34	00000	00102	01 430		RCTY	‡		
01988	39	02335	00100	01 440		WATY	M2‡		
02000	38	00402	00100	01 450		WNTY	402‡		
02012	39	02359	00100	01 460		WATY	M3‡		
02024	49	01840	-5106	01 470		B	Q,1,7‡		
02036	36	05198	00500	01 480	CHGLD1	RNCD	I&92‡		
02048	26	05172	05266	01 490		TF	I&66,I&160‡		
02060	26	05165	05271	01 500		TF	I&59,I&165‡		
02072	26	05184	05271	01 510		TF	I&78,I&165‡		
02084	25	05189	00000	01 520		TD	I&83‡		
02096	31	00000	05198	01 530		TR	,I&92‡		
02108	15	00000	00000	01 540		TDM	‡		
02112				01 550		DORG	*-7‡		
02112		1		01 560		DC	1,0‡		
02117		00005	-0152	01 570		DSA	152‡		
02118	31	05190	00164	01 580	CHGLD2	TR	I&84,164‡		
02130	49	05106	00000	01 590		B	I‡		
02137				01 600		DORG	*-4‡		
02137		1		01 610		DC	1,0‡		
02157		20		01 620	DNB	DNB	20‡		
02192		35		01 630	DNB	DNB	35‡		

LOCTN	OP	P/L	U	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	4
02193		1		01 640		DC	1,@#		
02194	26	-5105	05103	01 650	ZERO	TF	I-1,I-3,2#		
02206	11	00006	-0002	01 660		AM	6,2#		
02218	14	00006	-5317	01 670		CM	6 ,I&211#		
02230	47	00000	C1300	01 680		BL	0#		
02242	41	00000	C0000	01 690		NDP	#		
02254	34	00000	00102	01 700		RCTY	#		
02266	36	00000	C0500	01 710		RNCD	0#		
02278	49	00008	C0000	01 720		B	8#		
02291		2		01 730		DC	2,0#		
02293		2		01 740		DC	2,@#		
02295		20		01 750	M1	DAC	20,PROCESSING COMPLETE#		
02335		12		01 760	M2	DAC	12,OVERLAP OF @#		
02359		11		01 770	M3	DAC	11, POSITIONS@#		
02380		1		01 780	BIN	DS	1#		
02380				01 790	IMAGE	DS	,BIN#		
02440		60		01 800		DS	60#		
02441		1		01 810	MARK	DS	1#		
02443		2		01 820		DS	2#		
02448		5		01 830	LODER2	DS	5#		
02453		5		01 840	LODER	DS	5#		
02459		6		01 850		DS	6#		
02460	M9	05000	00000	01 860	BARF	B	5000,,0#		
02467				01 870		DORG	*-4#		
02467		1		01 880		DC	1,@#		
02468	M9	05032	00000	01 890	BARF2	B	5032,,0#		
02476				01 900		DORG	*-3#		
02476		1		01 910		DC	1,@#		
02481		5		01 920	INCRE	DS	5#		
02482		1		01 930	BOX	DS	1#		
02542		60		01 940		DS	60#		
05106				01 950	I	DS	,5106 ,,INOUT&3#		
00500				01 960		DEND	START#		
				01 970	*		#		
				01 980	*		#		
				01 990	*		SINE AND COSINE#		
				02 000	*		#		
05000				02 010		DORG	5000#		
05000	25	00060	19969	02 020	COS	TF	FAC,CTAB-1#		
05012	J5	05200	0000M	02 030		TDM	SIN1,4,011#		
05024	M9	05056	00000	02 040		B	SIN&24,,0#		
05032				02 050		DORG	*-3#		
05032	26	00060	19989	02 060	SIN	TF	FAC,STAB-1#		
05044	J5	05200	00002	02 070		TDM	SIN1,2,0#		
05056	33	00099	00000	02 080		CF	99#		
05068	14	00052	000M7	02 090		CM	FAC-8,47,10#		
05080	M7	05556	01300	02 100		BL	SIN2,,0, BRANCH FOR SMALL ARG.#		
05092	J6	05175	00-42	02 110		TFM	*&83,42,09#		
05104	K1	05175	00052	02 120		A	*&71,FAC-8,0#		
05116	4L	01062	05173	02 130		SD	ER 9 ,*&57 ,1#		
05128	32	00053	00000	02 140		SF	FAC-7#		
05140	16	00079	-0000	02 150		TFM	79,0#		
05152	K3	05602	00060	02 160		M	SIN2P,FAC,0#		
05164	26	00060	C0000	02 170		TF	FAC,,, X IN FIXED-POINT REVS#		
05176	M4	05200	00099	02 180		BNF	*&24,99,0#		

LCCTN	OP	P/L	Q	PG	LN	LABEL	MNEF	OPERANDS AND REMARKS	PAGE	5
05188	32	00060	00000	02	190		SF	FAC‡		
05200	4J	00060	05615	02	200	SIN1	NGP	FAC,SIN25,1, BECOMES ADD FOR SINE‡		
05212	33	00060	00000	02	210		CF	FAC‡		
05224	15	00047	0000-	02	220		TDM	FAC-13,0,11‡		
05236	21	00060	00060	02	230		A	FAC,FAC,, X IN HALF REVOLUTIONS‡		
05248	22	00060	01907	02	240		S	FAC,ONE‡		
05260	33	00060	00000	02	250		CF	FAC‡		
05272	21	00060	00060	02	260		A	FAC,FAC‡		
05284	22	00060	01907	02	270		S	FAC,ONE,, X IN RIGHT ANGLES‡		
05296	25	00099	00060	02	280		TD	99,FAC‡		
05308	M3	05568	00047	02	290		BD	SIN2&12,FAC-13,0‡		
05320	37	00048	00000	02	300		SF	FAC-12‡		
05332	23	00057	00057	02	310		M	FAC-3,FAC-3‡		
05344	26	00040	00088	02	320		TF	FAC-20,88,, X SQUARED‡		
05356	J0	05403	-5648	02	330		TFM	*&47,SINC7,017‡		
05368	15	00070	J5149	02	340		TFM	FAC&10,15149‡		
05380	23	00040	00070	02	350		M	FAC-20,FAC&10‡		
05392	26	00070	00000	02	360		TF	FAC&10,,, LOOP TO EVALUATE‡		
05404	22	00070	00090	02	370		S	FAC&10,90,, HASTINGS APPROX.‡		
05416	J2	05403	-0008	02	380		SM	*-13,8,07‡		
05428	M4	05380	00083	02	390		BNF	*-48,83,0‡		
05440	23	00060	00070	02	400		M	FAC,FAC&10‡		
05452	M3	05568	00078	02	410		BD	SIN2&12,78,0, RESULT # 1‡		
05464	46	00948	01200	02	420		BZ	ZERFAC , , RESULT # 0‡		
05476	26	00073	00099	02	430		TF	FAC&13,99‡		
05488	25	00074	01882	02	440		TD	FAC&14,FZEREC‡		
05500	16	00052	000N0	02	450		TFM	FAC-8,50,10‡		
05512	43	01028	00053	02	460		BD	ENDD-24,FAC-7‡		
05524	12	00052	000-1	02	470		SM	FAC-8,1,10, LOOP TO NORMALIZE‡		
05536	31	00053	00054	02	480		TR	FAC-7,FAC-6‡		
05548	M9	05512	00000	02	490		B	*-36,,0‡		
05556				02	500		DORG	*-3‡		
05556	4M	01052	05200	02	510	SIN2	BNF	ENDD,SIN1,1‡		
05568	26	00060	01851	02	520		TF	FAC,FLTONE‡		
05580	49	01028	00000	02	530		B	ENDD-24‡		
05587				02	540		DORG	*-4‡		
05602		16		02	550	SIN2P	DC	16,159154943092,, CONSTANTS‡		
05615		13		02	560	SIN25	DC	13,-250000000000‡		
05624		9		02	570		DC	9,157079632‡		
05632		8		02	580		DC	8,64596371‡		
05633		1		02	590		DC	1,0‡		
05640		7		02	600		DC	7,7968968‡		
05642		2		02	610		DC	2,0‡		
05648		5		02	620	SINC7	DC	6,467377‡		
19990				02	630	STAB	DS	,19990‡		
19970				02	640	CTAB	DS	,19970‡		
00060				02	650	FAC	DS	,00060‡		
00948				02	660	ZERFAC	DS	,00948‡		
01052				02	670	ENDD	DS	,01052‡		
01062				02	680	ER9	DS	,01062‡		
01851				02	690	FLTONE	DS	,01851‡		
01882				02	700	FZEREC	DS	,01882‡		
01907				02	710	ONE	DS	,01907‡		
05650				02	720		DEND	*&2‡		
				02	730	*		‡		

LOCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	6
				02 740	*		#			
				02 750	*		EXPONENTIAL TO BASE E#			
				02 760	*		#			
05000				02 770		DORG	5000#			
05000	28	00060	19949	02 780	EXP	LD	FAC ,ETAB-1 ,,	GET ARGUMENT#		
05012	14	00055	N3112	02 790		CM	FAC-5,53112#			
05024	M6	05480	01300	02 800		BNL	EXP2,,0, EXPONENT TOO LARGE#			
05036	14	00052	000M2	02 810		CM	FAC-8,42,10#			
05048	47	02284	01100	02 820		BNH	SETONE,,, SMALL EXPONENT#			
05060	32	00053	00000	02 830		SF	FAC-7#			
05072	26	00098	01882	02 840		TF	98,FZERE#			
05084	J6	05114	00J40	02 850		TFM	*E30,140,09#			
05096	K2	05114	00052	02 860		S	*E18,FAC-8,0#			
05108	21	00000	00060	02 870		A	,FAC,, FIX ARGUMENT#			
05120	16	00052	00-50	02 880		TFM	FAC-8,50,9#			
05132	11	00052	000-1	02 890		AM	FAC-8,1,10, LOOP TO SET EXPONENT#			
05144	22	00091	01893	02 900		S	91,LOG10#			
05156	M6	05132	01300	02 910		BNN	*-24,,0#			
05168	M4	05224	00099	02 920		BNF	*E56 ,99 ,0#			
05180	32	00052	00000	02 930		SF	FAC-8 ,,, COMPLEMENT N#			
05192	11	00052	00J01	02 940		AM	FAC-8 ,101 ,9, ARGUMENT#			
05204	33	00091	00000	02 950		CF	91#			
05216	M9	05236	00000	02 960		B	*E20 , ,0#			
05224				02 970		DORG	*-3#			
05224	21	00091	01893	02 980		A	91,LOG10,, CORRECT OVERDRAFT#			
05236	32	00051	00000	02 990		SF	FAC-9#			
05248	26	00063	01904	03 000		TF	FAC&3 ,ONE-3#			
05260	J6	05327	00003	03 010		TFM	EXP1-1 ,FAC&3,010,INITIALIZE LOOP#			
05272	J6	05315	-1948	03 020		TFM	EXP1-13,LOG2,07#			
05284	J6	05310	000R1	03 030		TFM	EXP1-18,91,010#			
05296	M9	05388	00000	03 040		B	EXP1&60 , ,0#			
05304				03 050		DORG	*-3#			
05304	22	00091	01948	03 060		S	91 ,LOG2#			
05316	21	00063	00063	03 070		A	FAC&3 ,FAC&3#			
05328	M3	05304	00082	03 080	EXP1	BD	*-24,82,0, LOOP TO ELIMINATE DIGIT#			
05340	J2	05327	000-1	03 090		SM	EXP1-1,1,010#			
05352	J2	05315	000-9	03 100		SM	EXP1-13,9,010#			
05364	J2	05310	000-1	03 110		SM	EXP1-18,1,010#			
05376	31	00082	00083	03 120		TR	82,83,, STEP FOR NEXT DIGIT#			
05388	32	00082	00000	03 130		SF	82#			
05400	M5	05328	00093	03 140		BNR	EXP1,93,0#			
05412	26	00048	00086	03 150		TF	48 ,86#			
05424	23	00062	00048	03 160		M	FAC&2 ,48#			
05436	21	00062	00090	03 170		A	FAC&2 ,90 ,, MULTIPLY BY 1			
05448	11	00061	000-5	03 180		AM	FAC&1,5,10#			
05460	33	00053	00000	03 190		CF	FAC-7#			
05472	49	01052	00000	03 200		B	ENDD#			
05480				03 210		DORG	*-3#			
05480	44	01062	00099	03 220	EXP2	BNF	ER9,99 ,, LARGE ARGUMENT#			
05492	49	00912	00000	03 230		B	ER0#			
19950				03 240	ETAB	DS	,19950#			
00060				03 250	FAC	DS	,00060#			
00912				03 260	ER0	DS	,00912#			
01052				03 270	ENDD	DS	,01052#			
01062				03 280	ER9	DS	,01062#			

LOC TN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	7
01882				03 290	FZERE	DS	,01882#		
01893				03 300	LOG10	DS	,01893#		
01907				03 310	ONE	DS	,01907#		
01948				03 320	LOG2	DS	,01948#		
02284				03 330	SETONE	DS	,02284#		
05500				03 340		DEND	*-3#		
				03 350	*		#		
				03 360	*		#		
				03 370	*		NATURAL LOGARITHM#		
				03 380	*		#		
05000				03 390		DORG	5000#		
05000	26	C0050	19929	03 400	LOG	TF	FAC-10,LTAB-1#		
05012	14	C0050	-C00-	03 410		CM	FAC-10,0,711#		
05024	M7	05500	01100	03 420		BNP	ELOG,,0#		
05036	12	C0042	00C0	03 430		SM	FAC-18,50,10#		
05048	23	C1893	00042	03 440		M	LOG10,FAC-18#		
05060	26	00065	00099	03 450		TF	FAC&5,99,, LOG OF CHARACTERISTIC#		
05072	32	00043	00000	03 460		SF	FAC-17#		
05084	28	00097	00050	03 470		LD	97,FAC-10#		
05096	14	00091	00000	03 480		CM	91,50,10, LOOP TILL OVER 0.5#		
05108	M6	05152	01300	03 490		BNL	*&44,,0, ANSWER BUILDS UP IN#		
05120	21	00097	00097	03 500		A	97,97,, FAC&5.#		
05132	22	00065	01948	03 510		S	FAC&5,LOG2#		
05144	M9	05096	00000	03 520		B	*-48,,0#		
05152				03 530		DORG	*-3#		
05152	J6	05194	000R1	03 540		TFM	LOG1&6,91,010, INITIALIZE LOOP#		
05164	J6	05223	000R8	03 550		TFM	LOG1&35,98,010#		
05176	J6	05235	-1939	03 560		TFM	LOG1&47,LOG11,07#		
05188	14	00000	R9990	03 570	LOG1	CM	99990,7, LOOP TILL OVER 0.9999#		
05200	M6	05244	01300	03 580		BNL	*&44,,0, FIRST 1.1, THEN 1.01,#		
05212	21	00099	00000	03 590		A	99,,, AND SO ON.#		
05224	22	00065	00000	03 600		S	FAC&5#		
05236	M9	05188	000C0	03 610		B	LOG1,,0#		
05244				03 620		DORG	*-3#		
05244	J1	05194	000-1	03 630		AM	LOG1&6,1,010,STEP 1.1 TO 1.01, ETC.#		
05256	J2	05223	000-1	03 640		SM	LOG1&35,1,010#		
05268	J2	05235	-0009	03 650		SM	LOG1&47,9,07#		
05280	M6	05188	01400	03 660		BV	LOG1,,0, NO OVERFLOW AT END#		
05292	21	00065	00098	03 670		A	FAC&5,98#		
05304	22	00065	01903	03 680		S	FAC&5,ONE-4,, LOGX # X-1#		
05316	16	00052	000N4	03 690		TFM	FAC-8,54,10#		
05328	25	00099	00065	03 700		TD	99,FAC&5,, SAVE SIGN#		
05340	33	00065	00000	03 710		CF	FAC&5#		
05352	46	00948	01200	03 720		BZ	ZERFAC , , TEST FOR ZERO		
05364	25	00066	01882	03 730		TD	FAC&6,FZERE#		
05376	M3	05432	00054	03 740		BD	LOGR,FAC-6,0#		
05388	31	00054	00055	03 750		TR	FAC-6,FAC-5,,NORMALIZING LOOP#		
05400	25	00065	00910	03 760		TD	FAC&5,FILL#		
05412	12	00052	000-1	03 770		SM	FAC-8,1,10#		
05424	M9	05376	00000	03 780		E	*-48,,0#		
05432				03 790		DORG	*-3#		
05432	11	00062	000-5	03 800	LOGR	AM	FAC&2,5,10, ROUND RESULT#		
05444	33	00053	00000	03 810		CF	FAC-7#		
05456	43	01028	00053	03 820		BD	ENDD-24,FAC-7,,TEST FOR CARRY#		
05468	12	00052	000-1	03 830		SM	FAC-8,1,10#		

LOCN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE
05480	31	00053	00054	03	840		TR	FAC-7,FAC-6‡		
05492	49	01028	00000	03	850		B	ENDD-24‡		
05500				03	860		DORG	*-3‡		
05500	46	01062	01200	03	870	ELOG	BE	ER9‡		
05512	34	00000	00102	03	880		RCTY	‡		
05524	L9	05539	00100	03	890		WATY	ERLNM	,,0‡	
05536	41	00000	00000	03	900		NDP	‡		
05538				03	910		DORG	*-9‡		
05539		5		03	920	ERLNM	DAC	5	,ERLNa‡	
05548	33	00050	00000	03	930		CF	FAC-10‡		
05560	M9	05036	00000	03	940		B	LOG&36	,,0‡	
19930				03	950	LTAB	DS		,19930‡	
00060				03	960	FAC	DS		,00060‡	
00910				03	970	FILL	DS		,00910‡	
00948				03	980	ZERFAC	DS		,00948‡	
01052				03	990	ENDD	DS		,01052‡	
01062				04	000	ER9	DS		,01062‡	
01882				04	010	FZEREC	DS		,01882‡	
01893				04	020	LOG10	DS		,01893‡	
01907				04	030	ONE	DS		,01907‡	
01939				04	040	LOG11	DS		,01939‡	
01948				04	050	LOG2	DS		,01948‡	
05568				04	060		DEND	*-3‡		
				04	070	*		‡		
				04	080	*		‡		
				04	090	*		SQUARE ROOT‡		
				04	100	*		‡		
05000				04	110		DORG	5000‡		
05000	31	00044	01846	04	120	SQRT	TR	FAC-16,FLTONE-5‡		
05012	21	00071	19909	04	130		A	FAC&11,QTAB-1‡		
05024	46	00948	01200	04	140		BE	ZERFAC‡		
05036	M7	05304	01300	04	150		BN	NSQR	,,0‡	
05048	13	00063	00000	04	160		MM	FAC&3,50,10‡		
05060	11	00098	00055	04	170		AM	98,255,9‡		
05072	25	00080	01832	04	180		TD	FAC&20	,FZEREC‡	
05084	15	00072	00005	04	190		TDM	FAC&12	,5‡	
05096	16	00063	00-00	04	200		TFM	FAC&3,0,9‡		
05108	M3	05144	00098	04	210		BD	*&36,98,0‡		
05120	26	00073	00072	04	220		TF	FAC&13	,FAC&12‡	
05132	15	00062	00000	04	230		TDM	FAC&2‡		
05144	J6	05162	00005	04	240		TFM	*&18,FAC&5,010‡		
05156	21	00000	00053	04	250	SQRT1	A	,FAC-7‡		
05168	M3	05200	00062	04	260		BD	SQRT2,FAC&2,0‡		
05180	12	00053	000-2	04	270		SM	FAC-7,2,10‡		
05192	M9	05156	00000	04	280		B	SQRT1,,0‡		
05200				04	290		DORG	*-3‡		
05200	K0	05218	05162	04	300	SQRT2	TF	*&18,SQRT1&6,01‡		
05212	22	00000	00053	04	310		S	,FAC-7‡		
05224	J1	05162	000-1	04	320		AM	SQRT1&6,1,010‡		
05236	31	00043	00044	04	330		TR	FAC-17,FAC-16‡		
05248	33	00060	00000	04	340		CF	FAC‡		
05260	32	00061	00000	04	350		SF	FAC&1‡		
05272	M5	05156	00072	04	360		BNR	SQRT1,FAC&12,0‡		
05284	26	00052	00097	04	370		TF	FAC-8,97‡		
05296	49	01052	00000	04	380		B	ENDD‡		

LOC TN	CP	P/L	C	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	9
05304				04 390		DORG	*-3#			
05304	34	00000	00102	04 400	NSQR	RCTY	+			
05316	L9	05343	00100	04 410		WATY	SQERM	,,0#		
05328	33	00071	00000	04 420		CF	FAC&11#			
05340	41	00000	00000	04 430		NOP	+			
05342				04 440		DORG	*-9#			
05343		5		04 450	SQERM	DAC	5	,NSQR#		
05352	M9	05048	00000	04 460		B	SRTR&4#	,,0#		
19910				04 470	QTAB	DS		,19910#		
00060				04 480	FAC	DS		,00060#		
00948				04 490	ZERFAC	DS		,00948#		
01052				04 500	ENDD	DS		,01052#		
01951				04 510	FLTUNE	DS		,01851#		
01882				04 520	FZEREC	DS		,01882#		
05360				04 530		DEND	*-3#			
				04 540	*		+			
				04 550	*		+			
				04 560	*		ABSOLUTE VALUE#			
				04 570	*		+			
05000				04 580		DORG	5000#			
05000	28	00060	19889	04 590	ABS	LD	FAC,ATAB-1#			
05012	49	01052	00000	04 600		B	ENDD#			
19890				04 610	ATAR	DS		,19890#		
00060				04 620	FAC	DS		,00060#		
01052				04 630	ENDD	DS		,01052#		
05020				04 640		DEND	*-3#			
				04 650	*		+			
				04 660	*		+			
				04 670	*		DROP RIGHT HALF %TRUNCATION#			
				04 680	*		+			
05000				04 690		DORG	5000#			
05000	28	00070	19869	04 700	DRH	LD	TFAC	,DTAB-1#		
05012	26	00060	01873	04 710		TF	FAC	,FZEREC-9#		
05024	14	00062	000N0	04 720		CM	TFAC-8	,50	,10#	
05036	M7	05084	01100	04 730		BNH	OUT	,	,0#	
05048	14	00062	000N7	04 740		CM	TFAC-8	,57	,10#	
05060	M7	05092	01100	04 750		BNH	OUT&8	,	,0#	
05072	26	00060	00070	04 760		TF	FAC	,TFAC#		
05084	49	01028	00000	04 770	OUT	B	ENDD-24#			
05092				04 780		DORG	*-3#			
05092	J6	05146	-0002	04 790		TFM	TR&6	,2	,07#	
05104	K1	05140	00062	04 800		A	TR&6	,TFAC-3	,0#	
05116	K0	05151	05146	04 810		TF	TR&11	,TR&6	,01#	
05128	J1	05151	-0010	04 820		AM	TR&11	,TFAC-60	,07#	
05140	26	00000	00000	04 830	TR	TF	+			
05152	49	01028	00000	04 840		B	ENDD-24#			
19870				04 850	DTAB	DS		,19870#		
00060				04 860	FAC	DS		,00060#		
00070				04 870	TFAC	DS		,FAC&10#		
01052				04 880	ENDD	DS		,01052#		
01882				04 890	FZEREC	DS		,01882#		
05160				04 900		DEND	*-3#			
				04 910	*		+			
				04 920	*		+			
				04 930	*		ARCTANGENT SUBROUTINE#			

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS
				04	940	*	‡		
05000				04	950		DORG	5000‡	
05000	28	00060	19849	04	960	ATAN	LD	FAC,TTAB-1,,	GET ARGUMENT AND‡
05012	K5	05607	00099	04	970		TD	ATAN4&11,99,0,	SAVE SIGN‡
05024	14	00052	000M3	04	980		CM	FAC-8,43,10‡	
05036	47	01028	01300	04	990		BL	ENDD-24‡	
05048	14	00052	000N1	05	000		CM	FAC-8,51,10‡	
05060	M7	05104	01300	05	010		BL	ATAN1,,0‡	
05072	26	01345	01851	05	020		TF	FDVR-1,FLTONE‡	
05084	20	01059	05668	05	030		TF	ENDD&7,ATAN1B&1,1,	SET RETURN ADDR‡
05096	49	01346	00000	05	040		B	FDVR,,,	GET RECIPROCAL‡
05104				05	050		DORG	*-3‡	
05104	18	00084	000-0	05	060	ATAN1	LDM	84,0,10‡	
05116	J6	05170	00J42	05	070		TFM	*&54,142,09‡	
05128	K2	05170	00J52	05	080		S	*&42,FAC-8,0‡	
05140	ML	05176	05168	05	090		BD	*&36,*&28,01‡	
05152	32	00053	00000	05	100		SF	FAC-7‡	
05164	21	00000	00060	05	110		A	,FAC,,	FIX ARGUMENT‡
05176	26	00068	00099	05	120		TF	FAC&8,99‡	
05188	14	00057	-0000	05	130		CM	FAC-3‡	
05200	M6	05524	01200	05	140		BZ	ATAN3&24,,0‡	
05212	J6	05271	000J1	05	150		TFM	ATAN2&11,11,010‡	
05224	J0	05511	-5695	05	160		TFM	ATAN3&11,ATAN-11,017‡	
05236	J2	05271	000-1	05	170		SM	ATAN2&11,1,010‡	
05248	J1	05511	000J1	05	180		AM	ATAN3&11,11,010‡	
05260	14	00085	-0000	05	190	ATAN2	CM	85‡	
05272	M7	05236	01300	05	200		BL	*-36,,0,	LOOP TO BRACKET ARG.‡
05284	2L	00065	05271	05	210		M	FAC&5,*-13,1‡	
05296	32	00086	00000	05	220		SF	86‡	
05308	11	00087	000J0	05	230		AM	87,10,10,	1 & AX‡
05320	26	00050	00094	05	240		TF	FAC-10,94‡	
05332	28	00091	00064	05	250		LD	91,FAC&4‡	
05344	2K	00081	05271	05	260		S	81,ATAN2&11,1,	X-A‡
05356	29	00090	00050	05	270		D	90,FAC-10,,	Y # %X-A□/‡1&AX□‡
05368	26	00079	00090	05	280		TF	79,90,,	ARGUMENT LESS THAN 0.1‡
05380	23	00076	00076	05	290		M	76,76‡	
05392	26	00050	00092	05	300		TF	FAC-10,92,,	Y SQUARED‡
05404	13	00048	JJ786	05	310		MM	FAC-12,19786‡	
05416	20	00064	05695	05	320		TF	FAC&4,ATANC2,1‡	
05428	22	00064	00094	05	330		S	FAC&4,94,,	EVALUATE POLYNOMIAL‡
05440	23	00064	00050	05	340		M	FAC&4,FAC-10‡	
05452	20	00064	05688	05	350		TF	FAC&4,ATANC1,1‡	
05464	22	00064	00092	05	360		S	FAC&4,92‡	
05476	23	00064	00079	05	370		M	FAC&4,79‡	
05488	26	00064	01876	05	380		TF	FAC&4,FZEREC-6‡	
05500	21	00064	00000	05	390	ATAN3	A	FAC&4,,,	ATAN%□‡
05512	21	00065	00091	05	400		A	FAC&5,91,,	ATAN%X□‡
05524	25	00069	01882	05	410		TD	FAC&9,FZEREC‡	
05536	M4	05596	01059	05	420		BNF	ATAN4,ENDD&7,0‡	
05548	16	01058	-1060	05	430		TFM	ENDD&6,BB‡	
05560	33	01059	00000	05	440		CF	ENDD&7‡	
05572	2K	00064	05679	05	450		S	FAC&4,ATANP2,1,	COMPLEMENT RESULT‡
05584	33	00064	00000	05	460		CF	FAC&4‡	
05596	15	00099	00000	05	470	ATAN4	TDM	99‡	
05608	16	00052	000N1	05	480		TFM	FAC-8,51,10‡	

LOCIN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	11
05620	43	01028	00053	05 490		BD	ENDD-24,FAC-7‡		
05632	31	00053	00054	05 500		TR	FAC-7,FAC-6,,NORMALIZE‡		
05644	12	00052	000-1	05 510		SM	FAC-8,1,10‡		
05656	MR	05620	-5104	05 520		B	*-36 ,ATAN1,017‡		
05667				05 530	ATAN1B	DS	,*‡		
05679		12		05 540	ATANP2	DC	12,157079632679‡		
05688		9		05 550	ATANC1	DC	9,999999996‡		
05695		7		05 560	ATANC2	DC	7,333253‡		
05706		11		05 570	ATANT	DC	11,78539816340‡		
05717		11		05 580		DC	11,73281510179‡		
05728		11		05 590		DC	11,67474094222‡		
05739		11		05 600		DC	11,61072596439‡		
05750		11		05 610		DC	11,54041950027‡		
05761		11		05 620		DC	11,46364760900‡		
05772		11		05 630		DC	11,38050637711‡		
05783		11		05 640		DC	11,29145679448‡		
05794		11		05 650		DC	11,19739555985‡		
05805		11		05 660		DC	11,9966865249‡		
05816		11		05 670		DC	11,0‡		
19850				05 680	TTAB	DS	,19850‡		
00060				05 690	FAC	DS	,00060‡		
01052				05 700	ENDD	DS	,01052‡		
01060				05 710	BB	DS	,01060‡		
01346				05 720	FDVR	DS	,01346‡		
01851				05 730	FLTONE	DS	,01851‡		
01882				05 740	FZEREC	DS	,01882‡		
05818				05 750		DEND	*82‡		

02560	SIN25	02200
02630	STAB	02060
02690	FLTONE	02520
02700	FZERIC	02440
02660	ZERFAC	02420

02750* EXPCNENTIAL TO BASE E

03270	ENDD	03200
03260	ERO	03230
03280	ER9	03220
03240	ETAB	02780
02780	EXP	
03080	EXP1	03010 03020 03030 03040 03090 03100 03110 03140
03220	EXP2	02800
03250	FAC	02780 02790 02810 02830 02860 02870 02880 02890 02930 02940 02990 03000 03010 03070 03070 03160 03170 03180 03190
03300	LOG10	02900 02980
03320	LOG2	03020 03060
03310	ONE	03000
03290	FZERIC	02840
03330	SETONE	02820

03370* NATURAL LOGARITHM

03870	ELOG	03420
03990	ENDD	03820 03850
03920	ERLNM	03890
04000	ER9	03870
03960	FAC	03400 03410 03430 03440 03450 03460 03470 03510 03600 03670 03680 03690 03700 03710 03730 03740 03750 03750 03760 03770 03800 03810 03820 03830 03840 03840 03930
03970	FILL	03760
03400	LDG	03940
03800	LCGR	03740
03570	LOG1	03540 03550 03560 03610 03630 03640 03650 03660
04020	LOG10	03440
04040	LOG11	03560
04050	LOG2	03510
03950	LTAB	03400
04030	ONE	03680
04010	FZERIC	03730
03980	ZERFAC	03720

04090* SQUARE ROOT

04500	ENDD	04380
04480	FAC	04120 04130 04160 04180 04190 04200 04220 04220 04230 04240 04250 04260 04270 04310 04330 04330 04340 04350 04360 04370 04420
04400	NSQR	04150
04470	QTAB	04130
04450	SQERM	04410
04120	SQRT	04460
04250	SQRT1	04280 04300 04320 04360
04300	SQRT2	04260
04510	FLTONE	04120

04520 FZREC 04180
04490 ZERFAC 04140

04560* ABSOLUTE VALUE

04590 ABS
04610 ATAB 04590
04630 ENDD 04600
04620 FAC 04590

04670* DROP RIGHT HALF %TRUNCATION

04700 DRH
04850 DTAB 04700
04880 ENDD 04770 04840
04860 FAC 04710 04760 04870
04770 OUT 04730 04750
04870 TFAC 04700 04720 04740 04760 04800 04820
04830 TR 04790 04800 04810 04810 04820
04890 FZREC 04710

04930* ARCTANGENT SUBROUTINE

04960 ATAN
05570 ATANT 05160
05060 ATAN1 05010 05520
05190 ATAN2 05150 05170 05260
05390 ATAN3 05140 05160 05180
05470 ATAN4 04970 05420
05710 BB 05430
05700 ENDD 04990 05030 05420 05430 05440 05490
05690 FAC 04960 04980 05000 05080 05100 05110 05120 05130 05210 05240
05250 05270 05300 05310 05320 05330 05340 05340 05350 05360
05370 05380 05390 05400 05410 05450 05460 05480 05490 05500
05500 05510
05720 FDVR 05020 05040
05680 TTAB 04960
05550 ATANC1 05350
05560 ATANC2 05320
05540 ATANP2 05450
05530 ATAN1B 05030
05730 FLTONE 05020
05740 FZREC 05380 05410

LOC	CTN	OP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND	REMARKS	PAGE	1
					00	000	*	PDQ	FORTRAN	SUBROUTINES	11/63	FREE	FORM AD
					00	010	*			‡			
					00	020	*		J. W. HOLMES,	THE COOPER-BESSEMER	CORP.		
					00	030	*		D. A. JARDINE,	DU PONT OF CANADA	LTD.‡		
					00	040	*		F. H. MASKIELL,	PENNSYLVANIA	TRANSFORME		
					00	050	*			MCGRAW EDISON	CORP.‡		
					00	060	*			‡			
					00	070	*			‡			
					00	080	*		FLOATING	ADD	AND	SUBTRACT‡	
					00	090	*			‡			
00	401				00	100		DORG	401‡				
00	409		9		00	110	DIVDIG	DC	9		,011223344‡		
00	419		10		00	120		DS	10‡				
00	420	26	00479	00419	00	130	FSB	TF	FAD-1	,*-1		,,	SUBTRACT‡
00	432	32	00479	00000	00	140		SF	FAD-1‡				
00	444	44	00400	00419	00	150		BNF	FAD	,FSB-1		,,	REVERSE SIGN
00	456	33	00479	00000	00	160		CF	FAD-1‡				
00	468	41	00000	00000	00	170		NOP	‡				
00	480	15	00695	00005	00	175	FAD	TDM	ADCT2-36	,5		,,	ROUNDING DIG
00	492	24	00052	00471	00	180		C	FAC-8	,FAD-9‡			
00	504	46	00732	01200	00	190		BE	FAD1-36‡				
00	516	46	00564	01300	00	200		BNL	*‡48‡				
00	528	26	00419	00060	00	210		TF	FSB-1	,FAC		,,	LARGER OPERA
00	540	26	00060	00479	00	220		TF	FAC	,FAD-1‡			
00	552	26	00479	00419	00	230		TF	FAD-1	,FSB-1‡			
00	564	22	00471	00052	00	240		S	FAD-9	,FAC-8		,,	COMPUTE RIGH
00	576	14	00471	000-0	00	250		CM	FAD-9	,8		,,	1011‡
00	588	47	01052	01300	00	260		BL	ENDD	,		,,	EXIT ON SHIF
00	600	26	00779	00731	00	270		TF	FAD1‡11	,ADCT2‡			
00	612	32	00775	00000	00	280		SF	FAD1‡7‡				
00	624	21	00779	00471	00	290		A	FAD1‡11	,FAD-9‡			
00	636	28	00479	00479	00	300		LD	FAD-1	,FAD-1‡			
00	648	44	00684	00099	00	310		BNF	*‡36	,99‡			
00	660	26	00678	00779	00	320		TF	*‡18	,FAD1‡11‡			
00	672	32	00000	00000	00	330		SF	‡				
00	684	15	00061	00005	00	340		TDM	FAC‡1	,5‡			
00	696	28	00060	00060	00	350		LD	FAC	,FAC‡			
00	708	44	00732	00099	00	360		BNF	*‡24	,99‡			
00	720	32	00001	00480	00	370		SF	FAC‡1	,FAD		,5‡	
00	731				00	380	ADCT2	DS		,‡‡			
00	732	26	00419	00052	00	390		TF	FSB-1	,FAC-8		,,	SAVE EXPONEN
00	744	16	00052	000-0	00	400		TFM	FAC-8	,0		,10,	EXPAND FIE
00	756	15	00471	0000-	00	410		TDM	FAD-9	,0		,11‡	
00	768	21	-0060	-0479	00	420	FAD1	A	FAC	,FAD-1		,27,	ADD WITH S
00	780	26	00803	00774	00	430		TF	*‡23	,FAD1‡6‡			
00	792	25	00099	00000	00	440		TD	99	,‡			
00	804	26	00779	00839	00	450		TF	FAD1‡11	,ADCT1‡			
00	816	46	00948	01200	00	460		BE	ZERFAC‡				
00	828	33	00000	00479	00	470		CF	FAC	,FAD-1		,5‡	
00	839				00	480	ADCT1	DS		,‡‡			
00	840	43	00968	00052	00	490		BD	FAD2	,FAC-8		,,	BRANCH FOR C
00	852	43	01004	00053	00	500		BD	ENDD-48	,FAC-7		,,	NORMALIZING
00	864	31	00061	00910	00	510		TR	FAC‡1	,FILL‡			
00	876	31	00053	00054	00	520		TR	FAC-7	,FAC-6‡			
00	888	12	00419	000-1	00	530		SM	FSB-1	,1		,10,	CORRECT EX
00	900	46	00852	01300	00	540		BNN	*-48	,		,,	TEST FOR UND

LCCTN	OP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	2
00911		1		00	550		DC	1	,@		,*#
00910				00	560	FILL	DS		,*-1		,FILL DIGIT MAY B
00912	34	POPOP	00102	00	570	ERO	RCTY	70707	,		,246#
00919		1		00	580		DC	1	,@,*-4#		
00924	39	00939	00100	00	590		WATY	UNFLM#			
00936	41	00000	00000	00	600		NOP	#			
00938				00	610		DORG	*-9#			
00939		5		00	620	UNFLM	DAC	5	,UFLO@#		
00948	26	00060	01873	00	630	ZERFAC	TF	FAC	,FZEREC-9	,,	ZERO RESULT#
00960	49	01052	00000	00	640		B	ENDD#			
00968				00	650		DORG	*-3#			
00968	11	00060	000-5	00	660	FAD2	AM	FAC	,5	,10,	ROUND#
00980	26	00060	00059	00	670		TF	FAC	,FAC-1	,,	SHIFT FOR CA
00992	11	00419	000-1	00	680		AM	FSB-1	,1	,10#	
01004	26	00052	00419	00	690		TF	FAC-8	,FSB-1#		
01016	46	01062	01400	00	700		BV	ER9#			
01028	44	01052	00099	00	710		BNF	*&24	,99#		
01040	32	00060	00000	00	720		SF	FAC#			
01052	49	01060	00000	00	730	ENDD	B	*&8#			
01060				00	740		DCRG	*-3#			
01060	42	00000	00000	00	750	BB	BB	#			
01062				00	760		DORG	*-9#			
01062	26	00060	01861	00	770	ER9	TF	FAC	,FNINES-2#		
01074	34	00000	00102	00	780		RCTY	#			
01086	39	01101	00100	00	790		WATY	OVFLM#			
01098	41	00000	00000	00	800		NOP	#			
01100				00	810		DORG	*-9#			
01101		5		00	820	OVFLM	DAC	5	,OFLO@#		
01110	49	01028	00000	00	830		B	ENDD-24#			
				00	840	*		#			
				00	850	*		#			
				00	860	*		FLOATING MULTIPLY#			
				00	870	*		#			
01126		5		00	880		DS	5#			
01128	32	00053	00000	00	890	FMP	SF	FAC-7#			
01140	32	01120	00000	00	900		SF	FMP-8#			
01152	23	00060	01127	00	910		M	FAC,FMP-1,,	MULTIPLY#		
01164	46	00948	01200	00	920		BE	ZERFAC#			
01176	43	01256	00084	00	930		BD	FMP1,84,,	TEST LEADING DIGIT#		
01188	11	00093	-0005	00	940		AM	93,5,,	ROUND PRODUCT#		
01200	43	01268	00084	00	950		BD	FMP1&12,84,,	BRANCH IF CARRY#		
01212	32	00085	00000	00	960		SF	85#			
01224	12	00052	000N1	00	970		SM	FAC-8,51,10,	ADJUST EXPONENT#		
01236	26	00060	00092	00	980		TF	FAC,92#			
01248	49	01292	00000	00	990		B	FMP2#			
01256				01	000		DORG	*-3#			
01256	11	00092	-0005	01	010	FMP1	AM	92,5,,	ROUND PRODUCT#		
01268	12	00052	000N0	01	020		SM	FAC-8,50,10,	ADJUST EXPONENT#		
01280	26	00060	00091	01	030		TF	FAC,91#			
01292	21	00052	01119	01	040	FMP2	A	FAC-8,FMP-9,,	COMBINE EXPONENTS#		
01304	33	00053	00000	01	050		CF	FAC-7#			
01316	46	01016	01300	01	060		BNN	ENDD-36#			
01328	49	00912	00000	01	070		B	ERO#			
				01	080	*		#			
				01	090	*		#			

LOC TN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	3
				01 100	*		FLCATING DIVIDE AND REVERSE DIVIDE#		
				01 110	*		#		
01344		5		01 120		DS	5#		
01346	26	01381	00060	01 130	FDVR	TF	FDV-1,FAC,, INTERCHANGE OPERANDS#		
01358	26	00060	01345	01 140		TF	FAC,FDVR-1#		
01370	41	00000	00000	01 150		NOP	#		
01382	32	00053	00000	01 160	FDV	SF	FAC-7#		
01394	25	01461	01374	01 170		TD	DVRND&11 ,FDV-8,,ROUNDING#		
01406	28	00091	00060	01 180		LD	91,FAC#		
01418	43	01438	01374	01 190		BC	*&20,FDV-8#		
01430	49	01062	00000	01 200		B	ER9#		
01438				01 210		DCRG	*-3#		
01438	32	01374	00000	01 220		SF	FDV-9#		
01450	25	00092	00400	01 230	DVRND	TD	92 ,400#		
01462	29	00091	01381	01 240		D	91,FDV-1,, DIVIDE#		
01474	46	00948	01200	01 250		BE	ZERFAC#		
01486	25	00099	00091	01 260		TD	99,91,, SAVE SIGN#		
01498	22	00052	01373	01 270		S	FAC-8,FDV-9,,SUBTRACT EXPONENTS#		
01510	43	01554	00083	01 280		BD	FDV1,83#		
01522	32	00084	00000	01 290		SF	84,,, LEADING ZERO#		
01534	16	01119	00000	01 300		TFM	FMP-9,50,10,SET EXP ADJUST#		
01546	49	01280	00000	01 310		B	FMP2-12#		
01554				01 320		DCRG	*-3#		
01554	26	00060	00090	01 330	FDV1	TF	FAC,90,, NON-ZERO LEADING DIGIT#		
01566	16	01119	00001	01 340		TFM	FMP-9,51,10, SET EXP ADJUST#		
01578	49	01292	00000	01 350		B	FMP2,,, GO TO TEST AND END#		
				01 360	*		#		
				01 370	*		#		
				01 380	*		FIXED POINT ARITHMETIC#		
				01 390	*		#		
01590	22	00060	01589	01 400	FXS	S	FAC,*-1#		
01602	49	01626	00000	01 410		B	*&24#		
01614	21	00060	01613	01 420	FXA	A	FAC,*-1#		
01626	46	01638	01400	01 430		BV	*&12#		
01638	42	00000	00000	01 440		BB	#		
01644				01 450		DCRG	*-5#		
01644	23	00060	01643	01 460	FXM	M	FAC,*-1#		
01656	32	00096	00000	01 470		SF	96#		
01668	26	00060	00099	01 480		TF	FAC,99#		
01680	42	00000	00000	01 490		BB	#		
01686				01 500		DCRG	*-5#		
01686	26	01721	00060	01 510	FXDR	TF	FXD-1,FAC#		
01698	26	00060	01685	01 520		TF	FAC,*-13#		
01710	41	00000	00000	01 530		NCP	#		
01722	14	01721	0-00-	01 540	FXD	CM	*-1,,811#		
01734	46	01784	01200	01 550		BE	FXD1#		
01746	28	00099	00060	01 560		LD	99,FAC#		
01758	29	00096	01721	01 570		D	96,FXD-1#		
01770	26	00060	00095	01 580		TF	FAC,95#		
01782	42	00000	00000	01 590		BB	#		
01784				01 600		DCRG	*-9#		
01784	25	00099	00060	01 610	FXD1	TD	99,FAC#		
01796	16	00060	00999	01 620		TFM	FAC,9999,8#		
01808	49	010P4	00000	01 630		B	ER9&12 , ,5#		
01816				01 640		DCRG	*-3#		
				01 650	*		#		

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	4
				01 660	*			‡		
				01 670	*			NEGATION ROUTINE‡		
				01 680	*			‡		
01816	44	01040	00060	01 690	RVSGN	BNF	ENDD-12,	FAC‡		
01828	33	00060	00000	01 700		CF		FAC‡		
01840	42	00000	00000	01 710		BB		‡		
01842				01 720		DORG		*-9‡		
				01 730	*			‡		
				01 740	*			‡		
				01 750	*			SYMBOLS AND CONSTANTS‡		
				01 760	*			‡		
00060				01 770	FAC	DS		,60‡		
19930				01 780	LTAB	DS		,19930‡		
19950				01 790	ETAB	DS		,19950‡		
01851		10		01 800	FLTONE	DC		10,5110000000‡		
01863		12		01 810	FNINES	DC		12,999999999999‡		
01882		19		01 820	FZERIC	DC		19,0‡		
01893		11		01 830	LOG10	DC		11,2302585093‡		
01907		14		01 840	ONE	DC		14,10000000000000‡		
01912		5		01 850		DC		5,99995‡		
01915		3		01 860		DC		3,0‡		
01921		6		01 870		DC		6,999500‡		
01923		2		01 880		DC		2,0‡		
01930		7		01 890		DC		7,9950331‡		
01931		1		01 900		DC		1,0‡		
01939		8		01 910	LOG11	DC		8,95310180‡		
01948		9		01 920	LOG2	DC		9,693147181‡		
01958		10		01 930	FIXER	DC		10,5810000000‡		
				01 940	*			‡		
				01 950	*			‡		
				01 960	*			EXPONENTIATION ROUTINES‡		
				01 970	*			‡		
01962		4		01 980		DS		4‡		
01964	16	01999	0-000	01 990	FAXIN	TFM	FAXI-1,0,8,	A**Z-N0‡		
01976	22	01999	01963	02 000		S		FAXI-1,*-13‡		
01988	41	00000	00000	02 010		NOP		‡		
02000	14	01999	0-00-	02 020	FAXI	CM	*-1,0,811,	A**N‡		
02012	46	02284	01200	02 030		BE		SETONE‡		
02024	46	02080	01100	02 040		BP		*856‡		
02036	33	01999	00000	02 050		CF		FAXI-1‡		
02048	16	01058	-2080	02 060		TFM	ENDD&6,*832,,	SET RETURN ADDRESS‡		
02060	26	01345	01851	02 070		TF	FDVR-1,FLTONE‡			
02072	49	01346	00000	02 080		B		FDVR‡		
02080				02 090		DORG		*-3‡		
02080	26	01127	00060	02 100		TF	FMP-1,FAC‡			
02092	16	01058	-2104	02 110		TFM	ENDD&6,*812,,	SET RETURN ADDRESS‡		
02104	12	01999	000-1	02 120		SM		FAXI-1,1,10‡		
02116	46	01128	01100	02 130		BP		FMP‡		
02128	16	01058	-1060	02 140		TFM	ENDD&6, BB,,	RESTORE COMMON EXIT‡		
02140	42	00000	00000	02 150		BB		‡		
02152	26	02187	01873	02 160	FAXBN	TF	FAXB-1,FZERIC-9‡			
02164	22	02187	02151	02 170		S		*823,*-13‡		
02176	41	00000	00000	02 180		NOP		‡		
02188	26	19929	00060	02 190	FAXB	TF	LTAB-1,FAC‡			
02200	16	01058	-2220	02 200		TFM	ENDD&6,*820,,	SET RETURN ADDRESS‡		

LOCTN	OP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	5
02188	26	19929	00060	02	190	FAXB	TF	LTAB-1,FAC‡			
02200	16	01058	-2220	02	200		TFM	ENDD&6,*&20,,SET RETURN ADDRESS‡			
02212	49	19930	00000	02	210		B	LTAB‡			
02220				02	220		DORG	*-3‡			
02220	26	01127	02187	02	230		TF	FMP-1,FAXB-1‡			
02232	16	01058	-2252	02	240		TFM	ENDD&6,*&20,,SET RETURN ADDRESS‡			
02244	49	01128	00000	02	250		B	FMP‡			
02252				02	260		DORG	*-3‡			
02252	16	01058	-1060	02	270		TFM	ENDD&6, BB,, RESTORE COMMON EXIT‡			
02264	26	19949	00060	02	280		TF	ETAB-1,FAC‡			
02276	49	199N0	00000	02	290		B	ETAB,,5‡			
02284				02	300		DORG	*-3‡			
02284	26	00060	01851	02	310	SETONE	TF	FAC,FLTONE‡			
02296	M2	00000	00000	02	320		BB	, , ,0‡			
02298				02	330		DORG	*-9‡			
				02	340	*	‡				
				02	350	*	‡				
				02	360	*		FIX A FLOATING POINT NUMBER‡			
				02	370	*	‡				
02298	26	00479	01958	02	380	FIX	TF	FAD-1,FIXER‡			
02310	15	00695	00000	02	385		TDM	ADCT2-36 ,0‡			
02322	16	01058	-2366	02	390		TFM	ENDD&6,*&44,,SET RETURN ADDRESS‡			
02334	44	00492	00060	02	400		BNF	FAD&12 ,FAC‡			
02346	32	-0479	R050-	02	410		SF	FAD-1 ,90500 ,2711‡			
02357				02	420	TRFXC	DS	,*‡			
02358	M9	00M92	00000	02	430		B	FAD&12 , ,04‡			
02366				02	440		DORG	*-3‡			
02366	16	01058	-1060	02	450		TFM	ENDD&6, BB,, RESTORE COMMON EXIT‡			
02378	32	-0057	N140Q	02	460		SF	FAC-3 ,51408 ,2711‡			
02389				02	470	TRFLC	DS	,*‡			
02390	M2	00000	00000	02	480		BB	, , ,0‡			
02392				02	490		DORG	*-9‡			
				02	500	*	‡				
				02	510	*	‡				
				02	520	*		FLOAT A FIXED POINT NUMBER‡			
				02	530	*	‡				
02392	16	-0419	000N8	02	540	FLOAT	TFM	FSB-1,58,210‡			
02404	16	00056	-0000	02	550		TFM	FAC-4‡			
02416	14	00060	0-00-	02	560		CM	FAC,0,811‡			
02428	33	00057	00000	02	570		CF	FAC-3‡			
02440	49	00780	00000	02	580		B	FAD1&12‡			
02452	16	02482	0K539	02	590	STOP	TFM	WATY&6 ,SMM ,8‡			
02464	34	00000	00102	02	600		RCTY	‡			
02471		1		02	610		DC	1 , ,2,*-4‡			
02476	39	00000	00100	02	620	WATY	WATY	‡			
02488	44	02524	02479	02	630		BNF	*&36 ,WATY&3‡			
02500	26	02470	02451	02	640		TF	WATY-6 ,STOP-1‡			
02512	38	02467	00100	02	650		WNTY	WATY-9‡			
02524	48	00000	00000	02	660		H	‡			
02529		4		02	670	EMM	DAC	4 ,ENDA, *-6‡			
02536	42	00000	00000	02	680		BB	‡			
02538				02	690		DORG	*-9‡			
02539		6		02	700	SMM	DAC	6 ,STOP 2‡			
02550	27	02464	02463	02	710		BT	WATY-12 ,WATY-13‡			
02562	16	02482	-2529	02	720	END	TFM	WATY&6 ,EMM ,7‡			

LOCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	6
02586	26	02604	02585	02 750	TRACE	TF	*818	,*-1#		
02598	26	00000	00060	02 760		TF		,FAC#		
02610	47	02620	00442	02 770		BNC4	*810	,42#		
02622	15	02585	00000	02 780		TDM	TRACE-1	,#		
02633		1		02 790		DC	1	,#		0,##
02634	34	00000	00102	02 800		RCTY	#			
02646	38	02581	00100	02 810		WNTY	TRACE-5#			
02658	16	03061	-2384	02 820		TFM	PINFMT	,TRFLC-5#		
02670	44	02694	00057	02 830		BNF	*824	,FAC-3#		
02682	16	03061	-2352	02 840		TFM	PINFMT	,TRFXC-5#		
02694	15	03913	-0060	02 850		TFM	LAST-1	,FAC#		
02706	31	03165	03618	02 860		TR	MARK-2	,RTPAR&44#		
02718	49	02978	00000	02 870		B	WATYE&24#			
02726				02 880		DDRG	*-3#			
				02 890						* INPUT/OUTPUT ROUTINES#
02726	26	02761	03061	02 900	LTPAR	TF	BOX,PINFMT#			
02738	44	03026	03376	02 910		BNF	LOOK	,LTPARX#		
02750	33	03376	00000	02 920		CF	LTPARX#			
02761				02 930	BOX	DS	,##			
02762	25	03168	03165	02 940		TD	MARK&1	,MARK-2#		
02774	44	03506	03159	02 950		BNF	READCK	,MARK1#		
02786	49	03026	00000	02 960		B	LOOK#			
02798	16	03167	000-5	02 970	RACD	TFM	MARK,5,10#			
02810	26	03061	02797	02 980		TF	PINFMT,-13#			
02822	49	02858	00000	02 990		B	*836#			
02834	31	03165	03226	03 000	RATY	TR	MARK-2	,POST&32#		
02846	26	03061	02833	03 010		TF	PINFMT,-13#			
02858	15	03159	00007	03 020		TDM	MARK1,7#			
02870	49	03002	00000	03 030		B	LOOK-24#			
02882	16	03167	000-4	03 040	wACD	TFM	MARK,4,10#			
02894	26	03061	02881	03 050		TF	PINFMT,-13#			
02906	49	02978	00000	03 060		B	*872#			
02918	31	03165	03594	03 070	WATYSC	TR	MARK-2	,RTPAR&20#		
02930	26	03061	02917	03 080		TF	PINFMT	,*-13#		
02942	49	02978	00000	03 090		B	*836#			
02954	31	03165	03226	03 100	WATYE	TR	MARK-2	,POST&32#		
02966	26	03061	02953	03 110		TF	PINFMT,-13#			
02978	15	03159	00008	03 120		TDM	MARK1,9,11#			
02990	16	03128	-5103	03 130		TFM	NEXT,INOUT#			
03002	16	03376	0119M	03 140		TFM	LTPARX,POST,811#			
03014	31	00061	01880	03 150		TR	FAC&1	,FZEREC-2#		
				03 160						*
				03 170						* ROUTINE THAT DECIPHERS FORMAT SPECIFICATIONS#
03026	16	03359	000LM	03 180	LOCK	TFM	STCWX,34,1011#			
03038	11	03061	-0005	03 190		AM	*823,5#			
03050	26	03250	00000	03 200		TF	BRNCH&6#			
03061				03 210	PINFMT	DS	,##			
03062	44	03244	03250	03 220		BNF	BRNCH,BRNCH&6#			
				03 230						* IF NO FLAG,NUMERIC SPEC. OTHER WISE % / □ X H#
03074	44	03108	03159	03 240		BNF	*834,MARK1#			
03086	44	03252	03374	03 250		BNF	TRAC,LASTX#			
03098	32	03375	00042	03 260		SF	RTPARX,42#			
03110	44	03378	03167	03 270	WRITE	BNF	CARD,MARK#			
03122	16	05103	000-0	03 280		TFM	INOUT,,10#			
03133		1		03 290		DC	1,0,##			

LOC TN	CP	P/L	G	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	7
03128				03 300	NEXT	DS	,WRITE&18#		
03134	44	03158	03168	03 310	READ	BNF	*&24 ,MARK&1#		
03146	34	-CO-N	C-JC2	03 320		RCTY	00005 ,	,25689,	P IS 10
03156		1		03 330		DC	1,2,*-1#		
03147				03 340	FIXFLG	DS	,*-10#		
03158	39	05103	00000	03 350		WA	INOUT#		
03167				03 360	MARK	DS	,*-2,INPUT/OUTPUT DEVICE#		
03159				03 370	MARK1	DS	,*-10,INPUT OR OUTPUT#		
03170	15	03168	00000	03 380	CRCD	TDM	MARK&1 ,#		
03182	44	03266	03159	03 390		BNF	ACCEPT,MARK1#		
03194	16	03128	-5103	03 400	POST	TFM	NEXT,INOUT#		
03206	44	03026	03375	03 410		BNF	LOOK,RTPARX#		
03218	33	03375	0--JO	03 420		CF	RTPARX ,10	,8910#	
03229		1		03 430		DC	1,2,*#		
03230	44	02774	03374	03 440		BNF	LTPAR&48 ,LASTX#		
03242	42	00000	00000	03 450		BB	#		
03244				03 460		DORG	*-9#		
03244	4R	00000	00000	03 470	BRNCH	B	,,1#		
03251				03 480		DORG	*-4#		
03251		1		03 490		DC	1,2#		
03252	44	03914	03166	03 500	TRAC	BNF	LAST,MARK-1#		
03264	42	00000	00000	03 510		BB	#		
03266				03 520		DORG	*-9#		
03266	44	03026	03167	03 530	ACCEPT	BNF	LOOK,MARK#		
03278	47	03026	00400	03 540		BNC4	LOOK#		
03290	49	03134	00000	03 550		B	READ#		
03298				03 560		DORG	*-3#		
03298	44	03506	03159	03 570	SLASH	BNF	READCK,MARK1#		
03310	15	03181	0000-	03 580		TDM	CRCD&11 ,	,11#	
03322	14	03128	-5103	03 590		CM	NEXT,INOUT#		
03334	47	03110	01200	03 600		BNE	WRITE#		
03346	44	03378	03167	03 610		BNF	*&32,MARK#		
03358	34	00000	00102	03 620	FLAGS	RCTY	#		
03370	49	03194	00000	03 630		B	POST#		
03378				03 640		DORG	*-3#		
03378	26	03396	03128	03 650	CARD	TF	*&18,NEXT#		
03390	16	00000	000-0	03 660		TFM	,,10#		
03402	11	03396	000-2	03 670		AM	*-6,2,10#		
03414	14	03396	-5263	03 680		CM	*-18 ,INOUT&160#		
03426	47	03390	01300	03 690		BL	*-36#		
03438	11	03473	000-1	03 700		AM	*&35,1,10#		
03450	31	05256	00914	03 710		TR	INOUT&153 ,ERO&2#		
03462	15	05261	-0000	03 720		TDM	INOUT&158,,7#		
03474	25	05259	03472	03 730		TD	INOUT&156,*-2#		
03486	25	05257	03471	03 740		TD	INOUT&154,*-15#		
03498	49	03158	00000	03 750		B	READ&24#		
03506				03 760		DORG	*-3#		
03506	44	03158	03167	03 770	READCK	BNF	READ&24 ,MARK#		
03518	26	03548	03061	03 780		TF	*&30,PINFMT#		
03530	11	03548	-0005	03 790		AM	*&18,5#		
03542	14	00000	-3298	03 800		CM	,SLASH#		
03554	47	03134	01200	03 810		BNE	READ#		
03566	49	03358	00000	03 820		B	SLASH&60#		
03574				03 830		DORG	*-3#		
03574	26	03061	02761	03 840	RTPAR	TF	PINFMT,BOX#		

LOC TN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	8
03586	32	03375	00-J0	03 850		SF	RTPARX ,10 ,910#		
03597		1		03 860		DC	1,a,#		
03598	44	03622	03373	03 870		BNF	*&24,NUMBX#		
03610	32	03374	000J0	03 880		SF	LASTX ,10 ,10#		
03621		1		03 890		DC	1,a,#		
03622	44	03194	03159	03 900		BNF	POST,MARK1#		
03634	25	03181	03165	03 910		TD	CRCD&11 ,MARK-2#		
03646	49	03322	00000	03 920		B	SLASH&24#		
03654				03 930		DORG	*-3#		
				03 940			* COMBINED HTYPE AND XTYPE#		
03654	16	03821	-3677	03 950	XTYPE	TFM	TF&11,*&23#		
03666	33	03358	000-0	03 960		CF	HTYPEX,,10#		
03678	44	03774	03359	03 970		BNF	SKIP,STOWX#		
03690	11	03061	000-2	03 980	HTYPE	AM	PINFMT,2,10#		
03702	26	03725	03061	03 990		TF	*&23,PINFMT#		
03714	26	03889	00000	04 000		TF	COUNT#		
03726	44	03774	03358	04 010	LOOP	BNF	SKIP,HTYPEX#		
03738	11	03061	000-2	04 020		AM	PINFMT,2,10#		
03750	44	03830	03159	04 030		BNF	HR,MARK1#		
03762	26	03821	03061	04 040		TF	TF&11,PINFMT#		
03774	44	03854	03159	04 050	SKIP	BNF	XR,MARK1#		
03786	26	03816	03128	04 060		TF	*&30,NEXT#		
03798	11	03128	000-2	04 070		AM	NEXT,2,10#		
03810	26	00000	00000	04 080	TF	TF	#		
03822	49	03866	00000	04 090		B	TIEH#		
03830				04 100		DORG	*-3#		
03830	26	03848	03061	04 110	HR	TF	*&18,PINFMT#		
03842	26	00000	05103	04 120		TF	,INOUT#		
03854	31	05102	05104	04 130	XR	TR	INOUT-1,INOUT&1#		
03866	12	03889	000-1	04 140	TIEH	SM	COUNT,1,10#		
03878	46	03726	01100	04 150		BP	LOOP#		
03889				04 160	COUNT	DS	,#		
03890	44	04262	03359	04 170		BNF	STOW,STOWX#		
03902	49	03026	00000	04 180		B	LOOK#		
				04 190			*ALL LIST INSTRUCTIONS BTM TO NUMBER#		
				04 200			*UNLESS LAST IN LIST,#		
				04 210			* THEN BTM TO LAST#		
03914	26	03937	03913	04 220	LAST	TF	NUMBER-1 ,*-1#		
03926	32	03374	00000	04 230		SF	LASTX#		
03938	33	03373	00042	04 240	NUMBER	CF	NUMBX,42#		
03950	44	03948	03250	04 250		BNF	*-2,BRNCH&6#		
03962	33	03250	00000	04 260		CF	BRNCH&6#		
03974	32	03247	00000	04 270		SF	BRNCH&3#		
03985				04 280	EXP	DS	,#		
03986	32	03249	00000	04 290		SF	BRNCH&5#		
03997		1		04 300		DC	1,a,#		
03996				04 310	SAVE	DS	,*-1#		
03998	31	03359	03147	04 320		TR	SIGN-2,FIXFLG#		
04010	44	05216	03159	04 330		BNF	INPUT,MARK1#		
				04 340			*THE FOLLOWING ROUTINES PREPARE#		
				04 350			*NUMERIC DATA FOR OUTPUT#		
04022	26	04045	03937	04 360		TF	*&23,NUMBER-1#		
04034	26	00060	00009	04 370		TF	FAC,9#		
				04 380			* OUTPUT D,E,F, OR I TYPE NUMERIC#		
04046	16	04853	-0056	04 390	DEFI	TFM	A&11 ,FAC-4#		
04058	14	03246	000RR	04 400		CM	BRNCH&2,99,1011#		

04070	46	04746	01200	04	410	BE	ITYPE#		
04082	14	03246	00ORM	04	420	CM	BRNCH&2	,94	,1011#
04094	46	04898	01200	04	430	BE	DTYPE#		
04106	46	04570	01100	04	440	BH	ADUT#		
				04	450		* STORE SIGN FOR E OR F,SAVE EXPONENT#		
04118	26	03996	00052	04	460	TF	SAVE	,FAC-8#	
04130	12	03996	000N0	04	470	SM	SAVE	,50	,10#
04142	44	04166	00060	04	480	BNF	*&24	,FAC#	
04154	16	03361	000K0	04	490	TFM	SIGN,20,10#		
04166	14	03246	00ORN	04	500	CM	BRNCH&2,95,1011#		
04178	47	04966	01300	04	510	BL	FTYPE#		
04190	32	03362	00000	04	520	ETYPE	SF	ETYPEX#	
04202	16	03985	000-0	04	530	TFM	EXP,,10#		
04214	26	03889	03248	04	540	TF	COUNT,BRNCH&4#		
04226	22	03889	03250	04	550	S	COUNT,BRNCH&6#		
04238	12	03889	000-6	04	560	SM	COUNT,6,10#		
04250	46	03654	01100	04	570	TIE	BP	XTYPE#	
				04	580		* ROUTINE TO STORE DIGITS IN OUTPUT BAND#		
04262	44	04310	03364	04	590	STOW	BNF	*&48,DTYPEX#	
04274	26	04304	03128	04	600	TF	*&30,NEXT#		
04286	11	03128	000-2	04	610	AM	NEXT,2,10#		
04298	26	00000	03361	04	620	TF	,SIGN#		
04310	12	03985	000-1	04	630	SM	EXP,1,10#		
04322	47	04514	01300	04	640	BN	HOHO#		
04334	15	00052	0000P	04	650	TDM	FAC-8	,7	,11#
04346	44	04426	03364	04	660	BNF	N50,DTYPEX#		
04358	33	00053	00000	04	670	N50X	CF	FAC-7#	
04370	44	04458	03363	04	680	BNF	B	,ITYPEX#	
04382	26	03361	00053	04	690	TF	SIGN	,FAC-7#	
04394	31	00053	00054	04	700	TR	FAC-7	,FAC-6#	
04406	15	00062	00000	04	710	TDM	FAC&2#		
04418	49	04274	00000	04	720	B	STOW&12#		
04426				04	730	DORG	*-3#		
04426	44	04370	00053	04	740	N50	BNF	N50X&12	,FAC-7#
04438	15	00052	0000N	04	750	TDM	FAC-8	,5	,11#
04450	49	04358	00000	04	780	B	N50X#		
04458				04	790	DORG	*-3#		
04458	44	04382	03365	04	800	B	BNF	N50X&24,FTYPEX#	
				04	810		* INSERT ZEROS AFTER DEC. IF EXP SMALL#		
04470	11	03996	000-1	04	820	AM	SAVE,1,10#		
04482	46	04382	01100	04	830	BP	N50X&24#		
04494	16	03361	000P0	04	840	TFM	SIGN,70,10#		
04506	49	04274	00000	04	850	B	STOW&12#		
04514				04	860	DORG	*-3#		
04514	44	04662	03363	04	870	HOHO	BNF	ISETYP,ITYPEX#	
04526	33	03363	00000	04	880	CF	ITYPEX#		
04538	16	03361	000-3	04	890	TFM	SIGN,3,10#		
04550	26	03985	03250	04	900	TF	EXP,BRNCH&6#		
04562	49	04262	00000	04	910	B	STOW#		
04570				04	920	DORG	*-3#		
04570	32	00051	00000	04	930	ADUT	SF	FAC-9#	
04582	26	04612	03128	04	940	TF	*&30	,NEXT#	
04594	11	03128	000-2	04	950	AM	NEXT	,2	,10#
04606	26	00000	00052	04	960	TF		,FAC-8#	
04618	31	00051	00053	04	970	TR	FAC-9	,FAC-7#	

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	10
04630	12	03248	000-1	04	980		SM	BRNCH&4 ,1 ,10‡		
04642	47	04570	C1200	04	990		BNE	ACUT‡		
04654	49	03026	00000	05	000		B	LOOK‡		
04662				05	010		DORG	*-3‡		
				05	020			*EXIT TO ISETYP AFTER PASS1 OF I TYPE,‡		
				05	030			*AND 2ND PASS E,F,D TYPE‡		
04662	44	03026	C3362	05	040	ISETYP	BNF	LOOK,ETYPEX‡		
				05	050			* TACK ON EXPONENT‡		
04674	31	00057	03993	05	060		TR	FAC-3,SAVE-3‡		
04686	16	04853	-0055	05	070		TFM	A&11 ,FAC-5‡		
04698	16	03248	000-3	05	080		TFM	BRNCH&4,3,10‡		
04710	26	04740	C3128	05	090		TF	*&30,NEXT‡		
04722	11	03128	000-2	05	100		AM	NEXT,2,10‡		
04734	16	00000	000M5	05	110		TFM	,45,10‡		
				05	120			* NOW ENTER I TYPE TO FILE AWAY EXPONENT‡		
04746	16	03363	0-000	05	130	ITYPE	TFM	SIGN&2 ,0000 ,8, Q IS 1000 T		
04758	44	04782	00060	05	140		BNF	*&24,FAC‡		
04770	16	03361	000K0	05	150		TFM	SIGN,20,10‡		
04782	31	00053	00057	05	160		TR	FAC-7 ,FAC-3‡		
04794	16	03985	000-4	05	170		TFM	EXP,4,10‡		
04806	43	04854	00053	05	180		BD	*&48 ,FAC-7‡		
04818	31	00053	00054	05	190		TR	FAC-7 ,FAC-6‡		
04830	12	03985	000-1	05	200		SM	EXP,1,10‡		
04842	45	04806	00054	05	210	A	BNR	*-36 ,FAC-6‡		
04854	26	03889	C3248	05	220		TF	COUNT,BRNCH&4‡		
04866	12	03889	000-1	05	230		SM	COUNT,1,10‡		
04878	22	03889	03985	05	240		S	COUNT,EXP‡		
04890	49	04250	00000	05	250		B	TIE‡		
04898				05	260		DORG	*-3‡		
04898	33	03364	00000	05	270	DTYPE	CF	DTYPEX‡		
04910	26	03985	03248	05	280		TF	EXP,BRNCH&4‡		
04922	26	00062	00060	05	290		TF	FAC&2 ,FAC‡		
04934	43	04262	C3247	05	300		BD	STOW,BRNCH&3‡		
04946	31	00053	00059	05	310		TR	FAC-7 ,FAC-1‡		
04958	49	04262	00000	05	320		B	STOW‡		
04966				05	330		DORG	*-3‡		
04966	26	03985	03996	05	340	FTYPE	TF	EXP,SAVE‡		
04978	44	05002	03996	05	350		BNF	*&24,SAVE‡		
04990	16	03985	000-0	05	360		TFM	EXP,,10‡		
05002	26	03889	C3248	05	370		TF	COUNT,BRNCH&4‡		
05014	12	03889	000-2	05	380		SM	COUNT,2,10‡		
05026	22	03889	C3250	05	390		S	COUNT,BRNCH&6‡		
05038	22	03889	03985	05	400		S	COUNT,EXP‡		
05050	47	05082	01300	05	410		BN	ERROR‡		
05062	32	03365	00000	05	420		SF	FTYPEX‡		
05074	49	04250	00000	05	430		B	TIE‡		
05082				05	440		DORG	*-3‡		
				05	450			* CHANGE TO E TYPE‡		
05082	16	03250	000-8	05	460	ERROR	TFM	BRNCH&6,8,10‡		
05094	49	04190	00000	05	470		B	ETYPE‡		
05102				05	480		DORG	*-3‡		
05103		1		05	490	INOUT	DAC	1,a‡		
05315		212		05	500		DS	212‡		
				05	515			* ROUTINES FOR INPUT OF NUMERICAL DATA‡		
05316	26	00078	01875	05	525	INPUT	TF	TFAC ,FZEREC-7‡		
05328	16	06354	-0070	05	535		TFM	DIGIT&6 ,TFAC-8‡		

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	11
05340	16	05925	0COM1	05	545	EXPLK	TFM	SETFLG&1,41,10‡		
05352	16	0-060	00000	05	555		TFM	FAC,,3‡		
05364	14	03246	0CORM	05	565		CM	BRNCH&2,94,1011‡		
05376	47	05704	01300	05	575		BL	NUM‡		
05388	47	05564	01200	05	585		BNE	AIN‡		
05400	16	05502	-5412	05	595		TFM	COM-18 ,‡E12‡		
				05	605			* CONVERT D TYPE NUMBER‡		
05412	31	00051	00052	05	615		TR	FAC-9 ,FAC-8‡		
05424	25	00060	05103	05	625		TD	FAC,INCUT‡		
05436	14	05103	0COP0	05	635		CM	INCUT,70,10‡		
05448	31	05102	05104	05	645		TR	INCUT-1,INCUT&1‡		
05460	46	05484	01300	05	655		BNL	*E24‡		
05472	32	00060	0C000	05	665		SF	FAC‡		
05484	12	03248	000-1	05	675		SM	BRNCH&4,1,10‡		
05496	47	05412	01200	05	685		BNE	*-84‡		
05508	32	00051	00000	05	695		SF	FAC-9‡		
05520	26	05537	03936	05	705	COM	TF	*E17,NUMBER-2‡		
05532	26	00009	00060	05	715		TF	9,FAC‡		
05544	49	03014	00000	05	725		B	LCOK-12‡		
05552				05	735		DORG	*-3‡		
05552	31	05102	05104	05	745		TR	INCUT-1 ,INCUT&1‡		
05564	14	05103	000-0	05	755	AIN	CM	INCUT , ,10‡		
05576	46	05552	01200	05	765		BE	*-24‡		
05588	15	05502	-5612	05	775		TFM	COM-18 ,AIN&48‡		
05600	16	03248	000-5	05	785		TFM	BRNCH&4 ,5 ,10‡		
05612	31	00051	00053	05	795		TR	FAC-9 ,FAC-7‡		
05624	26	00060	05103	05	805		TF	FAC ,INCUT‡		
05636	33	00059	00000	05	815		CF	FAC-1‡		
05648	31	05102	05104	05	825		TR	INCUT-1 ,INCUT&1‡		
05660	49	05484	00000	05	835		B	COM-36‡		
05668				05	845		DORG	*-3‡		
				05	855			* ROUTINE FOR E,F, AND I TYPE‡		
05668	14	05103	000-3	05	865		CM	INCUT,3,10‡		
05680	46	05764	01200	05	875		BE	TMBMWC‡		
05692	31	05102	05104	05	885		TR	INCUT-1,INCUT&1‡		
05704	14	05103	000K0	05	895	NUM	CM	INCUT,20,10‡		
05716	47	05668	01300	05	905		BL	*-48‡		
05728	46	05764	01100	05	915		BH	*E36‡		
05740	31	05102	05104	05	925		TR	INCUT-1,INCUT&1‡		
05752	16	05925	000L2	05	935		TFM	SETFLG&1,32,10‡		
05764	14	03246	000RR	05	945	TMBMWC	CM	BRNCH&2,99,1011‡		
05776	16	03246	000RR	05	955		TFM	BRNCH&2,99,1011‡		
05788	47	05980	01200	05	965		BNE	EFTYPE‡		
05800	24	05823	05103	05	975	ITYPER	C	*E23,INCUT‡		
05812	46	05912	011P0	05	985		BH	SETFLG-12,70,10‡		
05824	31	00056	00057	05	995		TR	FAC-4,FAC-3‡		
05836	25	00060	05103	05	005		TD	FAC,INCUT‡		
05848	31	05102	05104	06	015		TR	INCUT-1,INCUT&1‡		
05860	43	05860	00056	06	025		BD	FIL,FAC-4‡		
05872	49	05800	00000	06	035		B	ITYPER‡		
05880				06	045		DORG	*-3‡		
05880	39	06449	00100	06	055	FIL	WATY	INERM‡		
05892	16	00060	0R999	06	065		TFM	FAC,9999,8‡		
05904	49	05800	00000	06	075		B	ITYPER‡		
05912				06	085		DORG	*-3‡		

LCCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	12	
05912	32	00057	00000	06 095		SF	FAC-3#				
05924	32	00060	00000	06 105	SETFLG	SF	FAC#				
05936	44	06084	03363	06 115		BNF	EXPF,ITYPEX#				
05948	49	05520	00000	06 125		B	COM#				
05956				06 135		DORG	*-3#				
				06 145	* E AND F TYPE ROUTINES#						
05956	44	06372	03367	06 155	DT	BNF	SE,SEY#				
05968	31	05102	05104	06 165	M	TR	INOUT-1,INOUT&1#				
05980	45	06252	05103	06 175	EFTYPE	BNR	C,INOUT#				
05992	26	06221	05925	06 185	DONE	TF	SET&1,SETFLG&1#				
06004	44	06028	03367	06 195		BNF	*&24,SEY#				
06016	22	03365	03250	06 205		S	EX,BRNCH&6#				
06028	24	06051	05103	06 215		C	*&23,INOUT#				
06040	47	06108	012M5	06 225		BNE	EXPF&24,45,10#				
06052	33	03363	00000	06 235		CF	ITYPEX#				
06064	31	05102	05104	06 245		TR	INOUT-1,INOUT&1#				
06076	49	05340	00000	06 255		B	EXPLK#				
06084				06 265		DORG	*-3#				
06084	32	00059	00000	06 275	EXPF	SF	FAC-1#				
06096	21	03365	00060	06 285		A	EX,FAC#				
06108	26	00070	03365	06 295		TF	TFAC-8 ,EX#				
06120	46	06196	01400	06 305		BV	FLOV#				
06132	43	06164	00071	06 315		BD	*&32 ,TFAC-7#				
06144	26	00078	01873	06 325		TF	TFAC ,FZEREC-9#				
06156	49	06220	00000	06 335		B	SET#				
06164				06 345		DORG	*-3#				
06164	44	06220	00070	06 355		BNF	SET ,TFAC-8#				
06176	26	00078	01873	06 365		TF	TFAC ,FZEREC-9#				
06188	49	06208	00000	06 375		B	*&20#				
06196				06 385		DORG	*-3#				
06196	26	00078	01861	06 395	FLOV	TF	TFAC ,FNINES-2#				
06208	39	06449	00100	06 405		WATY	INERM#				
06220	32	00078	00000	06 415	SET	SF	TFAC#				
06232	26	00060	00078	06 425		TF	FAC ,TFAC#				
06244	49	05520	00000	06 435		B	COM#				
06252				06 445		DORG	*-3#				
06252	14	05103	000P0	06 455	C	CM	INOUT,70,10#				
06264	47	06392	01300	06 465		BL	DE#				
06276	46	06300	01200	06 475		BE	*&24#				
06288	32	03362	00000	06 485		SF	DTBX#				
06300	44	05956	03362	06 495	DTB	BNF	DT,DTBX#				
06312	14	06354	000P8	06 505		CM	DIGIT&6 ,TFAC ,10#				
06324	46	06360	01200	06 515		BE	*&36#				
06336	11	06354	000-1	06 525		AM	DIGIT&6,1,10#				
06348	25	00000	05103	06 535	DIGIT	TD	,INOUT#				
06360	44	05968	03367	06 545		BNF	M,SEY#				
06372	22	03365	03367	06 555	SE	S	EX,SEY#				
06384	49	05968	00000	06 565		B	M#				
06392				06 575		DORG	*-3#				
06392	14	05103	000-3	06 585	DE	CM	INOUT,3,10#				
06404	47	05992	01200	06 595		BNE	DONE#				
06416	44	05992	03367	06 605		BNF	DONE,SEY#				
06428	15	03367	00001	06 615		TDM	SEY,1#				
06440	49	05968	00000	06 625		B	M#				
06447				06 635		DORG	*-4#				

				06 645	* VARIOUS	FLAGS AND BINS‡	
03358				06 655	HYPEX DS	,FLAGS‡	
03359				06 665	STOWX DS	,FLAGS&1‡	
03361				06 675	SIGN DS	,FLAGS&3‡	
03362				06 685	ETYPEX DS	,FLAGS&4‡	
03362				06 695	DTBX DS	,FLAGS&4‡	
03363				06 705	ITYPEX DS	,FLAGS&5‡	
03364				06 715	DTYPEX DS	,FLAGS&6‡	
03365				06 725	FTYPEX DS	,FLAGS&7‡	
03365				06 735	EX DS	,FLAGS&7‡	
03367				06 745	SEY DS	,FLAGS&9‡	
03373				06 755	NUMBX DS	,FLAGS&15‡	
03374				06 765	LASTX DS	,FLAGS&16‡	
03375				06 775	RTPARX DS	,FLAGS&17‡	
03376				06 785	LTPARX DS	,FLAGS&18‡	
06449		5		06 795	INERM DAC	5 ,ERIN‡‡	
00078				06 805	TFAC DS	,78‡	
05190				06 815	DGRG	INOUT&87‡	
05190	25	02190	00400	06 825	TD	FAXB&2 ,400‡	
05202	25	02214	00400	06 835	TD	FAXB&26 ,400‡	
05214	25	02266	00400	06 845	TD	FAXB&78 ,400‡	
05226	25	02278	00400	06 855	TD	FAXB&90 ,400‡	
05238	49	00000	00000	06 865	B	‡	
00000				06 875	DEND	‡	

00000* PDQ FORTRAN SUBROUTINES 11/63 FREE FORM AD											
05210	A	04390	05070								
00480	ADCT1	00450									
00380	ADCT2	00175	00270	02385							
05755	AIN	05585	05775								
04930	ACUT	04440	04990								
04800	B	04680									
00750	BB	02140	02270	02450							
02930	BOX	02900	03840								
03470	BRNCH	03200	03220	03220	04250	04260	04270	04290	04400	04420	04500
		04540	04550	04900	04980	05080	05220	05280	05300	05370	05390
		05460	05565	05675	05785	05945	05955	06205			
06455	C	06175									
03650	CARD	03270									
05705	COM	05595	05775	05835	06125	06435					
04160	COUNT	04000	04140	04540	04550	04560	05220	05230	05240	05370	05380
		05390	05400								
03380	CRCD	03580	03910								
06585	DE	06465									
04390	DEFI										
06535	DIGIT	05535	06505	06525							
06185	DONE	06595	06605								
06155	DT	06495									
06495	DTB										
06695	DTBX	06485	06495								
05270	DIYPE	04430									
01230	DVRND	01170									
02670	EMM	02720									
02720	END	02730									
00730	ENDD	00260	00500	00640	00830	01060	01690	02060	02110	02140	02200
		02240	02270	02390	02450						
00570	ERO	01070	03710								
05460	ERROR	05410									
00770	ER9	00700	01200	01630							
01790	ETAB	02280	02290								
04520	ETYPE	05470									
06735	EX	06205	06285	06295	06555						
04280	EXP	04530	04630	04900	05170	05200	05240	05280	05340	05360	05400
06275	EXPFD	06115	06225								
05545	EXPLK	06255									
01770	FAC	00180	00210	00220	00240	00340	00350	00350	00370	00390	00400
		00420	00470	00490	00500	00510	00520	00520	00630	00660	00670
		00670	00690	00720	00770	00890	00910	00970	00980	01020	01030
		01040	01050	01130	01140	01160	01180	01270	01330	01400	01420
		01460	01480	01510	01520	01560	01580	01610	01620	01690	01700
		02100	02190	02280	02310	02400	02460	02550	02560	02570	02760
		02830	02850	03150	04370	04390	04460	04480	04650	04670	04690
		04700	04700	04710	04740	04750	04930	04960	04970	04970	05060
		05070	05140	05160	05160	05180	05190	05190	05210	05290	05290
		05310	05310	05555	05615	05615	05625	05665	05695	05715	05795
		05795	05805	05815	05995	05995	06005	06025	06065	06095	06105
		06275	06285	06425							
00175	FAD	00130	00140	00150	00160	00180	00220	00230	00240	00250	00290
		00300	00300	00370	00410	00420	00470	02380	02400	02410	02430
00420	FAD1	00190	00270	00280	00290	00320	00430	00450	02580		
00660	FAD2	00490									
02190	FAXB	02160	02230	06825	06835	06845	06855				
02160	FAXBN										
02020	FAXI	01990	02000	02050	02120						
01990	FAXIN										

01160	FDV	01130	01170	01190	01220	01240	01270																	
01130	FDVR	01140	02070	02080																				
01330	FDVI	01280																						
06055	FIL	06025																						
00560	FILL	00510																						
02380	FIX																							
01930	FIXER	02380																						
03620	FLAGS	06655	06665	06675	06685	06695	06705	06715	06725	06735	06745													
		06755	06765	06775	06785																			
02540	FLOAT																							
06395	FLOV	06305																						
00890	FMP	00900	00910	01040	01300	01340	02100	02130	02230	02250														
01010	FMP1	00930	00950																					
01040	FMP2	00990	01310	01350																				
00130	FSB	00150	00210	00230	00390	00530	00580	00690	02540															
05340	FTYPE	04510																						
01420	FXA																							
01540	FXD	01510	01570																					
01510	FXDR																							
01610	FXD1	01550																						
01460	FXM																							
01400	FXS																							
04870	HCHC	04640																						
04110	HR	04030																						
03980	HTYPE																							
06795	INERM	06055	06405																					
05490	INDUT	03130	03280	03350	03400	03590	03680	03710	03720	03730	03740													
		04120	04130	04130	05625	05635	05645	05645	05745	05745	05755													
		05805	05825	05825	05865	05885	05885	05895	05925	05925	05975													
		06005	06015	06015	06165	06165	06175	06215	06245	06245	06455													
		06535	06585	06815																				
05525	INPUT	04330																						
05130	ITYPE	04410																						
04220	LAST	02850	03500																					
06765	LASTX	03250	03440	03880	04230																			
01830	LOG10																							
01910	LOG11																							
01920	LOG2																							
03180	LOOK	02910	02960	03030	03410	03530	03540	04180	05000	05040	05725													
04010	LCCP	04150																						
01780	LTAB	02190	02210																					
02900	LTPAR	03440																						
06165	M	06545	06565	06625																				
03360	MARK	02860	02940	02940	02970	03000	03040	03070	03100	03270	03310													
		03380	03500	03530	03610	03770	03910																	
03370	MARK1	02950	03020	03120	03240	03390	03570	03900	04030	04050	04330													
03300	NEXT	03130	03400	03590	03650	04060	04070	04600	04610	04940	04950													
		05090	05100																					
05895	NUM	05575																						
06755	NUMBX	03870	04240																					
04740	N50	04660																						
04670	N50X	04740	04780	04800	04830																			
01840	ONE																							
00820	CVFLM	00790																						
03400	POST	03000	03100	03140	03630	03900																		
02970	RACD																							
03000	RATY																							
03310	READ	03550	03750	03770	03810																			
03840	RTPAR	02860	03070																					
01690	RVSGN																							

0431C	SAVE	04460	04470	04820	05060	05340	05350
06555	SE	06155					
06415	SET	06185	06335	06355			
06745	SEY	06155	06195	06545	06555	06605	06615
06675	SIGN	04320	04490	04620	04690	04840	04890 05130 05150
04050	SKIP	03970	04010				
03570	SLASH	03800	03820	03920			
02700	SMM	02590					
0259C	STOP	02640					
0459C	STOW	04170	04720	04850	04910	05300	05320
06665	STOWX	03180	03970	04170			
04080	TF	03950	04040				
06805	TFAC	05525	05535	06295	06315	06325	06355 06365 06395 06415 06425
		06505					
04570	TIE	05250	05430				
04140	TIEH	04090					
03500	TRAC	03250					
02750	TRACE	02780	02810				
0247C	TRFLC	02820					
0242C	TRFXC	02840					
00620	UNFLM	00590					
0304C	WACD						
0262C	WATY	02590	02630	02640	02650	02710	02710 02720
03100	WATYE	02870					
0327C	WRITE	03300	03600				
04130	XR	04050					
0395C	XTYPE	04570					
0353C	ACCEPT	03390					
00110	DIVDIG						
06715	DTYPEX	04590	04660	05270			
06175	EFTYPE	05965					
06685	ETYPEX	04520	05040				
03340	FIXFLG	04320					
0180C	FLTONE	02070	02310				
01810	FNINES	00770	06395				
06725	FTYPEX	04800	05420				
0182C	FZERIC	00630	02160	03150	05525	06325	06365
06655	HTYPEX	03960	04010				
05040	ISETYP	04870					
05975	ITYPER	06035	06075				
06705	ITYPEX	04680	04870	04880	06115	06235	
06785	LTPARX	02910	02920	03140			
04240	NUMBER	04220	04360	05705			
03210	PINFMT	02820	02840	02900	02980	03010	03050 03080 03110 03780 03840
		03980	03990	04020	04040	04110	
03770	READCK	02950	03570				
06775	RTPARX	03260	03410	03420	03850		
06105	SETFLG	05545	05935	05985	06185		
02310	SETONE	02030					
05945	TMBMWC	05875					
03070	WATYSC						
00630	ZERFAC	00460	00920	01250			

***** LISTING OF THE FREE FORM SUBROUTINES

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				00 030	*		D. A. JARDINE,	DU PONT OF CANADA LTD.‡			
				00 040	*		F. H. MASKIELL,	PENNSYLVANIA TRANSFORME			
				00 050	*			MCGRAW EDISON CORP.‡			
				00 060	*		‡				
				00 070	*		‡				
				00 080	*		FLCATING	ADD AND SUBTRACT‡			
				00 090	*		‡				
00401				00 100		DORG	401‡				
00409			9	00 110	DIVDIG	DC	9		,011223344‡		
00419			10	00 120		DS	10‡				
00420	26	00479	00419	00 130	FSB	TF	FAD-1	,*-1	,,	SUBTRACT‡	
00432	32	00479	00000	00 140		SF	FAD-1‡				
00444	44	00480	00419	00 150		BNF	FAD	,FSB-1	,,	REVERSE SIGN	
00456	33	00479	00000	00 160		CF	FAD-1‡				
00468	41	00000	00000	00 170		NOP	‡				
00480	15	00695	00005	00 175	FAD	TDM	ADCT2-36	,5	,,	ROUNDING DIG	
00492	24	00052	00471	00 180		C	FAC-8	,FAD-9‡			
00504	46	00732	01200	00 190		BE	FAD1-36‡				
00516	46	00564	01300	00 200		BNL	*848‡				
00528	26	00419	00060	00 210		TF	FSB-1	,FAC	,,	LARGER OPERA	
00540	26	00060	00479	00 220		TF	FAC	,FAD-1‡			
00552	26	00479	00419	00 230		TF	FAD-1	,FSB-1‡			
00564	22	00471	00052	00 240		S	FAD-9	,FAC-8	,,	COMPUTE RIGH	
00576	14	00471	000-0	00 250		CM	FAD-9	,8	,1011‡		
00588	47	01052	01300	00 260		BL	ENDD	,	,,	EXIT ON CHIF	
00600	26	00779	00731	00 270		TF	FAD1&11	,ADCT2‡			
00612	32	00775	00000	00 280		SF	FAD1&7‡				
00624	21	00779	00471	00 290		A	FAD1&11	,FAD-9‡			
00636	28	00479	00479	00 300		LD	FAD-1	,FAD-1‡			
00648	44	00684	00099	00 310		BNF	*836	,99‡			
00660	26	00678	00779	00 320		TF	*818	,FAD1&11‡			
00672	32	00000	00000	00 330		SF	‡				
00684	15	00061	00005	00 340		TDM	FAC&1	,5‡			
00696	28	00060	00060	00 350		LD	FAC	,FAC‡			
00708	44	00732	00099	00 360		BNF	*824	,99‡			
00720	32	00001	00480	00 370		SF	FAC&1	,FAD	,5‡		
00731				00 380	ADCT2	DS		,‡‡			
00732	26	00419	00052	00 390		TF	FSB-1	,FAC-8	,,	SAVE EXPONEN	
00744	16	00052	000-0	00 400		TFM	FAC-8	,0	,10,	EXPAND FIE	
00756	15	00471	0000-	00 410		TDM	FAD-9	,0	,11‡		
00768	21	-0060	-0479	00 420	FAD1	A	FAC	,FAD-1	,27,	ADD WITH S	
00780	26	00803	00774	00 430		TF	*823	,FAD1&6‡			
00792	25	00099	00000	00 440		TD	99	,‡			
00804	26	00779	00839	00 450		TF	FAD1&11	,ADCT1‡			
00816	46	00948	01200	00 460		BE	ZERFAC‡				
00828	33	00000	00479	00 470		CF	FAC	,FAD-1	,5‡		
00839				00 480	ADCT1	DS		,‡‡			
00840	43	00968	00052	00 490		BD	FAD2	,FAC-8	,,	BRANCH FOR C	
00852	43	01004	00053	00 500		BD	ENDD-48	,FAC-7	,,	NORMALIZING	
00864	31	00061	00910	00 510		TR	FAC&1	,FILL‡			
00876	31	00053	00054	00 520		TR	FAC-7	,FAC-6‡			
00888	12	00419	000-1	00 530		SM	FSB-1	,1	,10,	CORRECT EX	

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND	REMARKS	PAGE	2
00900	46	00852	01300	00 540		BNN	*-48	,	,, TEST FOR UND		
00911		1		00 550		DC	1	,@	,*#		
00910				00 560	FILL	DS		,*-1	,FILL DIGIT MAY B		
00912	34	POPOP	00102	00 570	ERC	RCTY	70707	,	,246#		
00919		1		00 580		DC	1	,@,*-4#			
00924	39	00939	00100	00 590		WATY	UNFLM#				
00936	41	00000	00000	00 600		NOP	#				
00938				00 610		DORG	*-9#				
00939		5		00 620	UNFLM	DAC	5	,UFLO@#			
00948	26	00060	01873	00 630	ZERFAC	TF	FAC	,FZEREC-9	,, ZERO RESULT#		
00960	49	01052	00000	00 640		B	ENDD#				
00968				00 650		DORG	*-3#				
00968	11	00060	000-5	00 660	FAD2	AM	FAC	,5	,10, ROUND#		
00980	26	00060	00059	00 670		TF	FAC	,FAC-1	,, SHIFT FOR CA		
00992	11	00419	000-1	00 680		AM	FSB-1	,1	,10#		
01004	26	00052	00419	00 690		TF	FAC-#	,FSB-1#			
01016	46	01062	01400	00 700		BV	ER9#				
01028	44	01052	00099	00 710		RNF	*824	,99#			
01040	32	00060	00000	00 720		SF	FAC#				
01052	49	01060	00000	00 730	ENDD	B	*88#				
01060				00 740		DORG	*-3#				
01060	42	00000	00000	00 750	BB	BE	#				
01062				00 760		DORG	*-9#				
01062	26	00060	01861	00 770	ER9	TF	FAC	,FNINES-2#			
01074	34	00000	00102	00 780		RCTY	#				
01086	39	01101	00100	00 790		WATY	OVFLM#				
01098	41	00000	00000	00 800		NCP	#				
01100				00 810		DORG	*-9#				
01101		5		00 820	OVFLM	DAC	5	,OFLO@#			
01110	49	01028	00000	00 830		B	ENDD-24#				
				00 840	*		#				
				00 850	*		#				
				00 860	*		FLOATING MULTIPLY#				
				00 870	*		#				
01126		5		00 880		DS	5#				
01128	32	00053	00000	00 890	FMP	SF	FAC-7#				
01140	32	01120	00000	00 900		SF	FMP-8#				
01152	23	00060	01127	00 910		M	FAC,FMP-1,,	MULTIPLY#			
01164	46	00948	01200	00 920		BE	ZERFAC#				
01176	43	01256	00084	00 930		BD	FMP1,84,,	TEST LEADING DIGIT#			
01188	11	00093	-0005	00 940		AM	93,5,,	ROUND PRODUCT#			
01200	43	01268	00084	00 950		BD	FMP1&12,84,,	BRANCH IF CARRY#			
01212	32	00085	00000	00 960		SF	85#				
01224	12	00052	000N1	00 970		SM	FAC-8,51,10,	ADJUST EXPONENT#			
01236	26	00060	00092	00 980		TF	FAC,92#				
01248	49	01292	00000	00 990		B	FMP2#				
01256				01 000		DORG	*-3#				
01256	11	00092	-0005	01 010	FMP1	AM	92,5,,	ROUND PRODUCT#			
01268	12	00052	000N0	01 020		SM	FAC-8,50,10,	ADJUST EXPONENT#			
01280	26	00060	00091	01 030		TF	FAC,91#				
01292	21	00052	01119	01 040	FMP2	A	FAC-8,FMP-9,,	COMBINE EXPONENTS#			
01304	33	00053	00000	01 050		CF	FAC-7#				
01316	46	01016	01300	01 060		BNN	ENDD-36#				
01328	49	00912	00000	01 070		B	ER0#				
				01 080	*		#				
				01 090	*		#				

LCCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	3
					01 100	*			FLOATING DIVIDE AND REVERSE DIVIDE‡		
					01 110	*			‡		
01344		5			01 120		DS	5‡			
01346	26	01381	00060		01 130	FDVR	TF	FDV-1,FAC,,	INTERCHANGE OPERANDS‡		
01358	26	00060	01345		01 140		TF	FAC,FDVR-1‡			
01370	41	00000	00000		01 150		NOP	‡			
01382	32	00053	00000		01 160	FDV	SF	FAC-7‡			
01394	25	01461	01374		01 170		TD	DVRND&11 ,FDV-8,,	ROUNDING‡		
01406	28	00091	00060		01 180		LD	91,FAC‡			
01418	43	01438	01374		01 190		BD	*&20,FDV-8‡			
01430	49	01062	00000		01 200		B	ER9‡			
01438					01 210		DORG	*-3‡			
01438	32	01374	00000		01 220		SF	FDV-8‡			
01450	25	00092	00400		01 230	DVRND	TD	92 ,400‡			
01462	29	00091	01381		01 240		D	91,FDV-1,,	DIVIDE‡		
01474	46	00948	01200		01 250		BE	ZERFAC‡			
01486	25	00099	00091		01 260		TD	99,91,,	SAVE SIGN‡		
01498	22	00052	01373		01 270		S	FAC-8,FDV-9,,	SUBTRACT EXPONENTS‡		
01510	43	01554	00083		01 280		BD	FDV1,83‡			
01522	32	00084	00000		01 290		SF	84,,,	LEADING ZERO‡		
01534	16	01119	000N0		01 300		TFM	FMP-9,50,10,	SET EXP ADJUST‡		
01546	49	01280	00000		01 310		B	FMP2-12‡			
01554					01 320		DORG	*-3‡			
01554	26	00060	00090		01 330	FDV1	TF	FAC,90,,	NON-ZERO LEADING DIGIT‡		
01566	16	01119	000N1		01 340		TFM	FMP-9,51,10,	SET EXP ADJUST‡		
01578	49	01292	00000		01 350		B	FMP2,,,	GO TO TEST AND END‡		
					01 360	*		‡			
					01 370	*		‡			
					01 380	*			FIXED POINT ARITHMETIC‡		
					01 390	*		‡			
01590	22	00060	01589		01 400	FXS	S	FAC,*-1‡			
01602	49	01626	00000		01 410		B	*&24‡			
01614	21	00060	01613		01 420	FXA	A	FAC,*-1‡			
01626	46	01638	01400		01 430		BV	*&12‡			
01638	42	00000	00000		01 440		BB	‡			
01644					01 450		DORG	*-5‡			
01644	23	00060	01643		01 460	FXM	M	FAC,*-1‡			
01656	32	00096	00000		01 470		SF	96‡			
01668	26	00060	00099		01 480		TF	FAC,99‡			
01680	42	00000	00000		01 490		BB	‡			
01686					01 500		DORG	*-5‡			
01686	26	01721	00060		01 510	FXDR	TF	FXD-1,FAC‡			
01698	26	00060	01685		01 520		TF	FAC,*-13‡			
01710	41	00000	00000		01 530		NOP	‡			
01722	14	01721	0-00-		01 540	FXD	CM	*-1,,&11‡			
01734	46	01784	01200		01 550		BE	FXD1‡			
01746	28	00099	00060		01 560		LD	99,FAC‡			
01758	29	00096	01721		01 570		D	96,FXD-1‡			
01770	26	00060	00095		01 580		TF	FAC,95‡			
01782	42	00000	00000		01 590		BB	‡			
01784					01 600		DORG	*-9‡			
01784	25	00099	00060		01 610	FXD1	TD	99,FAC‡			
01796	16	00060	00999		01 620		TFM	FAC,9999,8‡			
01808	49	010P4	00000		01 630		B	ER9&12 ,	,5‡		
01816					01 640		DORG	*-3‡			

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	4
				01 650	*		‡		
				01 660	*		‡		
				01 670	*		NEGATION ROUTINE‡		
				01 680	*		‡		
01816	44	01040	00060	01 690	RVSGN	BNF	ENDD-12,FAC‡		
01828	33	00060	00000	01 700		CF	FAC‡		
01840	42	00000	00000	01 710		BB	‡		
01842				01 720		DORG	*-9‡		
				01 730	*		‡		
				01 740	*		‡		
				01 750	*		SYMBOLS AND CONSTANTS‡		
				01 760	*		‡		
00060				01 770	FAC	DS	,60‡		
19930				01 780	LTAB	DS	,19930‡		
19950				01 790	ETAB	DS	,19950‡		
01851		10		01 800	FLTONE	DC	10,5110000000‡		
01863		12		01 810	FNINES	DC	12,999999999999‡		
01882		19		01 820	FZERIC	DC	19,0‡		
01893		11		01 830	LOG10	DC	11,2302585093‡		
01907		14		01 840	ONE	DC	14,10000000000000‡		
01912		5		01 850		DC	5,99995‡		
01915		3		01 860		DC	3,0‡		
01921		6		01 870		DC	6,999500‡		
01923		2		01 880		DC	2,0‡		
01930		7		01 890		DC	7,9950331‡		
01931		1		01 900		DC	1,0‡		
01939		8		01 910	LOG11	DC	8,95310180‡		
01948		9		01 920	LOG2	DC	9,693147181‡		
01958		10		01 930	FIXER	DC	10,5810000000‡		
				01 940	*		‡		
				01 950	*		‡		
				01 960	*		EXPONENTIATION ROUTINES‡		
				01 970	*		‡		
01962		4		01 980		DS	4‡		
01964	16	01999	0-000	01 990	FAXIN	TFM	FAXI-1,0,8, A**Z-N0‡		
01976	22	01999	01963	02 000		S	FAXI-1,*-13‡		
01988	41	00000	00000	02 010		NOP	‡		
02000	14	01999	0-00-	02 020	FAXI	CM	*-1,0,811, A**N‡		
02012	46	02284	01200	02 030		BE	SETONE‡		
02024	46	02080	01100	02 040		BP	*856‡		
02036	33	01999	00000	02 050		CF	FAXI-1‡		
02048	16	01058	-2080	02 060		TFM	ENDD&6,*832,,SET RETURN ADDRESS‡		
02060	26	01345	01851	02 070		TF	FDVR-1,FLTONE‡		
02072	49	01346	00000	02 080		B	FDVR‡		
02080				02 090		DORG	*-3‡		
02080	26	01127	00060	02 100		TF	FMP-1,FAC‡		
02092	16	01058	-2104	02 110		TFM	ENDD&6,*812,,SET RETURN ADDRESS‡		
02104	12	01999	000-1	02 120		SM	FAXI-1,1,10‡		
02116	46	01128	01100	02 130		BP	FMP‡		
02128	16	01058	-1060	02 140		TFM	ENDD&6, BB,, RESTORE COMMON EXIT‡		
02140	42	00000	00000	02 150		BB	‡		
02152	26	02187	01873	02 160	FAXBN	TF	FAXB-1,FZERIC-9‡		
02164	22	02187	02151	02 170		S	*823,*-13‡		
02176	41	00000	00000	02 180		NOP	‡		
02188	26	19929	00060	02 190	FAXB	TF	LTAB-1,FAC‡		
02200	16	01058	-2220	02 200		TFM	ENDD&6,*820,,SET RETURN ADDRESS‡		

LOCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	5
02188	26	19929	00060	02 190	FAXB	TF	LTAB-1,FAC‡		
02200	16	01058	-2220	02 200		TFM	ENDD&6,*&20,,SET RETURN ADDRESS‡		
02212	49	19930	00000	02 210		B	LTAB‡		
02220				02 220		DORG	*-3‡		
02220	26	01127	02187	02 230		TF	FMP-1,FAXB-1‡		
02232	16	01058	-2252	02 240		TFM	ENDD&6,*&20,,SET RETURN ADDRESS‡		
02244	49	01128	00000	02 250		B	FMP‡		
02252				02 260		DORG	*-3‡		
02252	16	01058	-1060	02 270		TFM	ENDD&6, BB,, RESTORE COMMON EXIT‡		
02264	26	19949	00060	02 280		TF	ETAB-1,FAC‡		
02276	49	199N0	00000	02 290		B	ETAB,,5‡		
02284				02 300		DORG	*-3‡		
02284	26	00060	01851	02 310	SETONE	TF	FAC,FLTONE‡		
02296	M2	00000	00000	02 320		BB	, ,0‡		
02298				02 330		DORG	*-9‡		
				02 340	*		‡		
				02 350	*		‡		
				02 360	*		FIX A FLOATING POINT NUMBER‡		
				02 370	*		‡		
02298	26	00479	01958	02 380	FIX	TF	FAD-1,FIXER‡		
02310	15	00695	00000	02 385		TDM	ADCT2-36 ,0‡		
02322	16	01058	-2366	02 390		TFM	ENDD&6,*&44,,SET RETURN ADDRESS‡		
02334	44	00492	00060	02 400		BNF	FAD&12 ,FAC‡		
02346	32	-0479	R050-	02 410		SF	FAD-1 ,90500 ,2711‡		
02357				02 420	TRFXC	DS	,**		
02358	M9	00M92	00000	02 430		B	FAD&12 , ,04‡		
02366				02 440		DORG	*-3‡		
02366	16	01058	-1060	02 450		TFM	ENDD&6, BB,, RESTORE COMMON EXIT‡		
02378	32	-0057	N140Q	02 460		SF	FAC-3 ,51408 ,2711‡		
02389				02 470	TRFLC	DS	,**		
02390	M2	00000	00000	02 480		BB	, ,0‡		
02392				02 490		DORG	*-9‡		
				02 500	*		‡		
				02 510	*		‡		
				02 520	*		FLOAT A FIXED POINT NUMBER‡		
				02 530	*		‡		
02392	16	-0419	000N8	02 540	FLOAT	TFM	FSB-1,58,210‡		
02404	16	00056	-0000	02 550		TFM	FAC-4‡		
02416	14	00060	0-00-	02 560		CM	FAC,0,811‡		
02428	33	00057	00000	02 570		CF	FAC-3‡		
02440	49	00780	00000	02 580		B	FAD1&12‡		
02452	16	02482	0K539	02 590	STOP	TFM	WATY&6 ,SMM ,8‡		
02464	34	00000	00102	02 600		RCTY	‡		
02471		1		02 610		DC	1 , ,2,*-4‡		
02476	39	00000	00100	02 620	WATY	WATY	‡		
02488	44	02524	02479	02 630		BNF	*&36 ,WATY&3‡		
02500	26	02470	02451	02 640		TF	WATY-6 ,STOP-1‡		
02512	38	02467	00100	02 650		WNTY	WATY-9‡		
02524	48	00000	00000	02 660		H	‡		
02529		4		02 670	EMM	DAC	4 ,END2, *-6‡		
02536	42	00000	00000	02 680		BB	‡		
02538				02 690		DORG	*-9‡		
02539		6		02 700	SMM	DAC	6 ,STOP 2‡		
02550	27	02464	02463	02 710		BT	WATY-12 ,WATY-13‡		
02562	16	02482	-2529	02 720	END	TFM	WATY&6 ,EMM ,7‡		

LCCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	6
02586	26	02604	02585	02	750	TRACE	TF	*818	,*-1#		
02598	26	00000	00060	02	760		TF		,FAC#		
02610	47	02620	00442	02	770		BNC4	*810	,42#		
02622	15	02585	00000	02	780		TDM	TRACE-1	,#		
02633		1		02	790		DC	1	, @,##		
02634	34	00000	00102	02	800		RCTY	#			
02646	38	02581	00100	02	810		WNTY	TRACE-5#			
02658	16	03061	-2384	02	820		TFM	PINFMT	,TRFLC-5#		
02670	44	02694	00057	02	830		BNF	*824	,FAC-3#		
02682	16	03061	-2352	02	840		TFM	PINFMT	,TRFXC-5#		
02694	16	03913	-0060	02	850		TFM	LAST-1,FAC#			
02706	31	03165	03618	02	860		TR	MARK-2	,RTPAR&44#		
02718	49	02978	00000	02	870		B	WATYE&24#			
02726				02	880		DCRG	*-3#			
				02	890			* INPUT/OUTPUT ROUTINES#			
02726	26	02761	03061	02	900	LTPAR	TF	BOX,PINFMT#			
02738	44	03026	03376	02	910		BNF	LOOK ,LTPARX#			
02750	33	03376	00000	02	920		CF	LTPARX#			
02761				02	930	BOX	DS	,##			
02762	25	03168	03165	02	940		TD	MARK&1	,MARK-2#		
02774	44	03506	03159	02	950		BNF	READCK,MARK1#			
02786	49	03026	00000	02	960		B	LOOK#			
02798	16	03167	000-5	02	970	RACD	TFM	MARK,5,10#			
02810	26	03061	02797	02	980		TF	PINFMT,*-13#			
02822	49	02858	00000	02	990		B	*836#			
02834	31	03165	03226	03	000	RATY	TR	MARK-2	,POST&32#		
02846	26	03061	02833	03	010		TF	PINFMT,*-13#			
02858	15	03159	00007	03	020		TDM	MARK1,7#			
02870	49	03002	00000	03	030		B	LOOK-24#			
02882	16	03167	000-4	03	040	WACD	TFM	MARK,4,10#			
02894	26	03061	02881	03	050		TF	PINFMT,*-13#			
02906	49	02978	00000	03	060		B	*872#			
02918	31	03165	03594	03	070	WATYSC	TR	MARK-2	,RTPAR&20#		
02930	26	03061	02917	03	080		TF	PINFMT	,*-13#		
02942	49	02978	00000	03	090		B	*836#			
02954	31	03165	03226	03	100	WATYE	TR	MARK-2	,POST&32#		
02966	26	03061	02953	03	110		TF	PINFMT,*-13#			
02978	15	03159	0000R	03	120		TDM	MARK1,9,11#			
02990	16	03128	-5103	03	130		TFM	NEXT,INOUT#			
03002	16	03376	0015M	03	140		TFM	LTPARX,POST,811#			
03014	31	00061	01880	03	150		TR	FAC&1	,FZEREC-2#		
				03	160			* ROUTINE THAT DECIPHERS FORMAT SPECIFICATIONS#			
03026	16	03359	000LM	03	180	LGCK	TFM	STOWX,34,1011#			
03038	11	03061	-0005	03	190		AM	*823,5#			
03050	26	03250	00000	03	200		TF	BRNCH&6#			
03061				03	210	PINFMT	DS	,##			
03062	44	03244	03250	03	220		BNF	BRNCH,BRNCH&6#			
				03	230			* IF NO FLAG,NUMERIC SPEC. OTHER WISE % / □ X H#			
03074	44	03108	03159	03	240		BNF	*834,MARK1#			
03086	44	03252	03374	03	250		BNF	TRAC,LASTX#			
03098	32	03375	00042	03	260		SF	RTPARX,42#			
03110	44	03378	03167	03	270	WRITE	BNF	CARD,MARK#			
03122	16	05103	000-0	03	280		TFM	INOUT,10#			
03133		1		03	290		DC	1,@,##			
03128				03	300	NEXT	DS	,WRITE&18#			

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND	REMARKS	PAGE	7
03134	44	03158	03168	03	310	READ	BNF	*&24		,MARK&1#		
03146	34	-00-N	0-J02	03	320		RCTY	00005		,25689,		P IS 10
03156		1		03	330		DC	1,@,*-1#				
03147				03	340	FIXFLG	DS	,*-10#				
03158	39	05103	00000	03	350		WA	INOUT#				
03167				03	360	MARK	DS	,*-2,INPUT/OUTPUT DEVICE#				
03159				03	370	MARK1	DS	,*-10,INPUT OR OUTPUT#				
03170	15	03168	00000	03	380	CRCD	TDM	MARK&1		,#		
03182	44	03266	03159	03	390		BNF	ACCEPT,MARK1#				
03194	16	03128	-5103	03	400	POST	TFM	NEXT,INOUT#				
03206	44	03026	03375	03	410		BNF	LOOK,RTPARX#				
03218	33	03375	0--J0	03	420		CF	RTPARX		,10		,8910#
03229		1		03	430		DC	1,@,*#				
03230	44	02774	03374	03	440		BNF	LTPAR&48		,LASTX#		
03242	42	00000	00000	03	450		BB	#				
03244				03	460		DORG	*-9#				
03244	4R	00000	00000	03	470	BRNCH	B	,,1#				
03251				03	480		DORG	*-4#				
03251		1		03	490		DC	1,@#				
03252	44	03914	03166	03	500	TRAC	BNF	LAST,MARK-1#				
03264	42	00000	00000	03	510		BB	#				
03266				03	520		DORG	*-9#				
03266	44	03026	03167	03	530	ACCEPT	BNF	LOOK,MARK#				
03278	47	03026	00400	03	540		BNC4	LOOK#				
03290	49	03134	00000	03	550		B	READ#				
03298				03	560		DORG	*-3#				
03298	44	03506	03159	03	570	SLASH	BNF	READCK,MARK1#				
03310	15	03181	0000-	03	580		TDM	CRCD&11		,11#		
03322	14	03128	-5103	03	590		CM	NEXT,INOUT#				
03334	47	03110	01200	03	600		BNE	WRITE#				
03346	44	03378	03167	03	610		BNF	*&32,MARK#				
03358	34	00000	00102	03	620	FLAGS	RCTY	#				
03370	49	03194	00000	03	630		B	POST#				
03378				03	640		DORG	*-3#				
03378	26	03396	03128	03	650	CARD	TF	*&18,NEXT#				
03390	16	00000	000-0	03	660		TFM	,,10#				
03402	11	03396	000-2	03	670		AM	*-6,2,10#				
03414	14	03396	-5263	03	680		CM	*-18		,INOUT&160#		
03426	47	03390	01300	03	690		BL	*-36#				
03438	11	03473	000-1	03	700		AM	*&35,1,10#				
03450	31	05256	00914	03	710		TR	INOUT&153		,ERO&2#		
03462	15	05261	-0000	03	720		TDM	INOUT&158,,7#				
03474	25	05259	03472	03	730		TD	INOUT&156,*-2#				
03486	25	05257	03471	03	740		TD	INOUT&154,*-15#				
03498	49	03158	00000	03	750		B	READ&24#				
03506				03	760		DORG	*-3#				
03506	44	03158	03167	03	770	READCK	BNF	READ&24		,MARK#		
03518	26	03548	03061	03	780		TF	*&30,PINFMT#				
03530	11	03548	-0005	03	790		AM	*&18,5#				
03542	14	00000	-3298	03	800		CM	,SLASH#				
03554	47	03134	01200	03	810		BNE	READ#				
03566	49	03358	00000	03	820		B	SLASH&60#				
03574				03	830		DORG	*-3#				
03574	26	03061	02761	03	840	RTPAR	TF	PINFMT,BOX#				
03586	32	03375	00-J0	03	850		SF	RTPARX		,10		,910#

LGCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	8
03597		1		03 860		DC	1,2,##		
03598	44	03622	03373	03 870		BNF	*624,NUMB##		
03610	32	03374	000J0	03 880		SF	LASTX ,10 ,10#		
03621		1		03 890		DC	1,2,##		
03622	44	03194	03159	03 900		BNF	POST,MARK1#		
03634	25	03181	03165	03 910		TD	CRCD&11 ,MARK-2#		
03646	49	03322	00000	03 920		B	SLASH&24#		
03654				03 930		DORG	*-3#		
				03 940			* COMBINED HTYPE AND XTYPE#		
03654	16	03821	-3677	03 950	XTYPE	TFM	TF&11,*623#		
03666	33	03358	000-0	03 960		CF	HYPEX,,10#		
03678	44	03774	03359	03 970		BNF	SKIP,STOWX#		
03690	11	03061	000-2	03 980	HTYPE	AM	PINFMT,2,10#		
03702	26	03725	03061	03 990		TF	*623,PINFMT#		
03714	26	03889	00000	04 000		TF	COUNT#		
03726	44	03774	03358	04 010	LOOP	BNF	SKIP,HTYPEX#		
03738	11	03061	000-2	04 020		AM	PINFMT,2,10#		
03750	44	03830	03159	04 030		BNF	HR,MARK1#		
03762	26	03821	03061	04 040		TF	TF&11,PINFMT#		
03774	44	03854	03159	04 050	SKIP	BNF	XR,MARK1#		
03786	26	03816	03128	04 060		TF	*630,NEXT#		
03798	11	03128	000-2	04 070		AM	NEXT,2,10#		
03810	26	00000	00000	04 080	TF	TF	#		
03822	49	03866	00000	04 090		B	TIEH#		
03830				04 100		DORG	*-3#		
03830	26	03848	03061	04 110	HR	TF	*618,PINFMT#		
03842	26	00000	05103	04 120		TF	,INOUT#		
03854	31	05102	05104	04 130	XR	TR	INOUT-1,INOUT&1#		
03866	12	03889	000-1	04 140	TIEH	SM	COUNT,1,10#		
03878	46	03726	01100	04 150		BP	LOOP#		
03889				04 160	COUNT	DS	,##		
03890	44	04262	03359	04 170		BNF	STOW,STOWX#		
03902	49	03026	00000	04 180		B	LOOK#		
				04 190			*ALL LIST INSTRUCTIONS BTM TO NUMBER#		
				04 200			*UNLESS LAST IN LIST,#		
				04 210			* THEN BTM TO LAST#		
03914	26	03937	03913	04 220	LAST	TF	NUMBER-1 ,*-1#		
03926	32	03374	00000	04 230		SF	LASTX#		
03938	33	03373	00042	04 240	NUMBER	CF	NUMB,42#		
03950	44	03948	03250	04 250		BNF	*-2,BRNCH&6#		
03962	33	03250	00000	04 260		CF	BRNCH&6#		
03974	32	03247	00000	04 270		SF	BRNCH&3#		
03985				04 280	EXP	DS	,##		
03986	32	03249	00000	04 290		SF	BRNCH&5#		
03997		1		04 300		DC	1,2,##		
03996				04 310	SAVE	DS	,*-1#		
03998	31	03359	03147	04 320		TR	SIGN-2,FIXFLG#		
04010	44	05316	03159	04 330		BNF	INPUT,MARK1#		
				04 340			*THE FOLLOWING ROUTINES PREPARE#		
				04 350			*NUMERIC DATA FOR OUTPUT#		
04022	26	04045	03937	04 360		TF	*623,NUMBER-1#		
04034	26	00060	00009	04 370		TF	FAC,9#		
				04 380			* OUTPUT D,E,F, OR I TYPE NUMERIC#		
04046	16	04853	-0056	04 390	DEFI	TFM	A&11 ,FAC-4#		
04058	14	03246	000RR	04 400		CM	BRNCH&2,99,1011#		

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	9
04070	46	04746	01200	04 410		BE	ITYPE#			
04082	14	03246	CCORM	04 420		CM	BRNCH&2 ,94	,1011#		
04094	46	04898	01200	04 430		BE	DTYPE#			
04106	46	04570	01100	04 440		BH	ADUT#			
				04 450			* STORE SIGN FOR E OR F,SAVE EXPONENT#			
04118	26	03996	00052	04 460		TF	SAVE ,FAC-8#			
04130	12	03996	CCONC	04 470		SM	SAVE ,50	,10#		
04142	44	04166	CC060	04 480		BNF	*&24 ,FAC#			
04154	16	03361	000K0	04 490		TFM	SIGN,20,10#			
04166	14	03246	CCORN	04 500		CM	BRNCH&2,95,1011#			
04178	47	04966	01300	04 510		BL	FTYPE#			
04190	32	03362	00000	04 520	ETYPE	SF	ETYPEX#			
04202	16	03985	000-0	04 530		TFM	EXP,,10#			
04214	26	03889	03248	04 540		TF	CCOUNT,BRNCH&4#			
04226	22	03889	03250	04 550		S	CCOUNT,BRNCH&6#			
04238	12	03889	000-6	04 560		SM	COUNT,6,10#			
04250	46	03654	01100	04 570	TIE	BP	XTYPE#			
				04 580			* ROUTINE TO STORE DIGITS IN OUTPUT BAND#			
04262	44	04310	03364	04 590	STOW	BNF	*&48,DTYPEX#			
04274	26	04304	03128	04 600		TF	*&30,NEXT#			
04286	11	03128	000-2	04 610		AM	NEXT,2,10#			
04298	26	00000	03361	04 620		TF	,SIGN#			
04310	12	03985	000-1	04 630		SM	EXP,1,10#			
04322	47	04514	01300	04 640		BN	HCHO#			
04334	15	00052	000CP	04 650		TDM	FAC-8 ,7	,11#		
04346	44	04426	03364	04 660		BNF	N50,DTYPEX#			
04358	33	00053	00000	04 670	N50X	CF	FAC-7#			
04370	44	04458	03363	04 680		BNF	B ,ITYPEX#			
04382	26	03361	00053	04 690		TF	SIGN ,FAC-7#			
04394	31	00053	00054	04 700		TR	FAC-7 ,FAC-6#			
04406	15	00062	00000	04 710		TDM	FAC&2#			
04418	49	04274	00000	04 720		B	STOW&12#			
04426				04 730		DORG	*-3#			
04426	44	04370	00053	04 740	N50	BNF	N50X&12 ,FAC-7#			
04438	15	00052	0000N	04 750		TDM	FAC-8 ,5	,11#		
04450	49	04358	00000	04 780		B	N50X#			
04458				04 790		DORG	*-3#			
04458	44	04382	03365	04 800	3	BNF	N50X&24,FTYPEX#			
				04 810			* INSERT ZEROS AFTER DEC. IF EXP SMALL#			
04470	11	03996	000-1	04 820		AM	SAVE,1,10#			
04482	46	04382	01100	04 830		BP	N50X&24#			
04494	16	03361	000P0	04 840		TFM	SIGN,70,10#			
04506	49	04274	00000	04 850		B	STOW&12#			
04514				04 860		DORG	*-3#			
04514	44	04662	03363	04 870	HCHO	BNF	ISETYP,ITYPEX#			
04526	33	03363	00000	04 880		CF	ITYPEX#			
04538	16	03361	000-3	04 890		TFM	SIGN,3,10#			
04550	26	03985	03250	04 900		TF	EXP,BRNCH&6#			
04562	49	04262	00000	04 910		B	STOW#			
04570				04 920		DORG	*-3#			
04570	32	00051	00000	04 930	ADUT	SF	FAC-9#			
04582	26	04612	03128	04 940		TF	*&30 ,NEXT#			
04594	11	03128	000-2	04 950		AM	NEXT ,2	,10#		
04606	26	00000	00052	04 960		TF	,FAC-8#			
04618	31	00051	00053	04 970		TR	FAC-9 ,FAC-7#			

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	10
0463C	12	03248	CC0-1	04	980		SM	BRNCH&4	,1		,10‡
04642	47	04570	C1200	04	990		BNE	ADUT‡			
04654	49	03026	CC000	05	000		B	LOOK‡			
04662				05	010		DORG	*-3‡			
				05	020			*EXIT TO ISETYP AFTER PASS1 OF I TYPE,‡			
				05	030			*AND 2ND PASS E,F,D TYPE‡			
04662	44	03026	C3362	05	040	ISETYP	BNF	LOOK,ETYPEX‡			
				05	050			* TACK ON EXPONENT‡			
04674	31	00057	C3993	05	060		TR	FAC-3,SAVE-3‡			
04686	16	04853	-C055	05	070		TFM	A&11	,FAC-5‡		
04698	16	03248	CC0-3	05	080		TFM	BRNCH&4,3,10‡			
04710	26	04740	C3128	05	090		TF	*&30,NEXT‡			
04722	11	03128	CC0-2	05	100		AM	NEXT,2,10‡			
04734	16	00000	CC0M5	05	110		TFM	,45,10‡			
				05	120			* NOW ENTER I TYPE TO FILE AWAY EXPONENT‡			
04746	16	03363	0-000	05	130	ITYPE	TFM	SIGN&2	,0000	,8,	Q IS 1000 T
04758	44	04782	CC060	05	140		BNF	*&24,FAC‡			
04770	16	03361	CC0K0	05	150		TFM	SIGN,20,10‡			
04782	31	00053	CC0057	05	160		TR	FAC-7	,FAC-3‡		
04794	16	03985	CC0-4	05	170		TFM	EXP,4,10‡			
04806	43	04954	CC0053	05	180		BD	*&48	,FAC-7‡		
04818	31	00053	CC0054	05	190		TR	FAC-7	,FAC-6‡		
04830	12	03985	CC0-1	05	200		SM	EXP,1,10‡			
04842	45	04806	CC0054	05	210	A	BNR	*-36	,FAC-6‡		
04854	26	03889	C3248	05	220		TF	COUNT,BRNCH&4‡			
04866	12	03889	CC0-1	05	230		SM	COUNT,1,10‡			
04878	22	03889	C3985	05	240		S	COUNT,EXP‡			
04890	49	04250	CC000	05	250		B	TIE‡			
04898				05	260		DORG	*-3‡			
04898	33	03364	CC000	05	270	DTYPE	CF	DTYPEX‡			
04910	26	03985	C3248	05	280		TF	EXP,BRNCH&4‡			
04922	26	00062	CC060	05	290		TF	FAC&2	,FAC‡		
04934	43	04262	C3247	05	300		BD	STOW,BRNCH&3‡			
04946	31	00053	CC0059	05	310		TR	FAC-7	,FAC-1‡		
04958	49	04262	CC000	05	320		B	STOW‡			
04966				05	330		DORG	*-3‡			
04966	26	03985	C3996	05	340	FTYPE	TF	EXP,SAVE‡			
04978	44	05002	C3996	05	350		BNF	*&24,SAVE‡			
04990	16	03985	CC0-0	05	360		TFM	EXP,,10‡			
05002	26	03889	C3248	05	370		TF	COUNT,BRNCH&4‡			
05014	12	03889	CC0-2	05	380		SM	COUNT,2,10‡			
05026	22	03889	C3250	05	390		S	COUNT,BRNCH&6‡			
05038	22	03889	C3985	05	400		S	COUNT,EXP‡			
05050	47	05082	C1300	05	410		BN	ERROR‡			
05062	32	03365	CC000	05	420		SF	FTYPEX‡			
05074	49	04250	CC000	05	430		B	TIE‡			
05082				05	440		DORG	*-3‡			
				05	450			* CHANGE TO E TYPE‡			
05082	16	03250	CC0-8	05	460	ERROR	TFM	BRNCH&6,8,10‡			
05094	49	04190	CC000	05	470		B	ETYPE‡			
05102				05	480		DORG	*-3‡			
05103		1		05	490	INCUT	DAC	1,‡			
05315		212		05	500		DS	212‡			
				05	510	** **		FIXED FORMAT INPUT‡			
05316	26	00060	C1873	05	520	INPUT	TF	FAC	,FZEREC-9‡		

LCCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	11
05328	14	03246	00ORM	05	530		CM	BRNCH&2	,94		,1011‡
05340	47	05676	01300	05	540		BL	NUM‡			
05352	46	05536	01200	05	550		BE	DNUM‡			
				05	560		* A TYPE	‡			
05364	16	03250	000-6	05	570		TFM	BRNCH&6	,6		,10‡
05376	22	03250	03248	05	580		S	BRNCH&6			,BRNCH&4‡
05388	31	00051	00053	05	590		TR	FAC-9			,FAC-7‡
05400	26	00060	05103	05	600		TF	FAC			,INOUT‡
05412	33	00059	00000	05	610		CF	FAC-1‡			
05424	31	05102	05104	05	620		TR	INOUT-1			,INOUT&1‡
05436	12	03248	000-1	05	630		SM	BRNCH&4	,1		,10‡
05448	47	05388	01200	05	640		BNE	*-60‡			
05460	49	05504	00000	05	650		B	*&44‡			
05468				05	660		DORG	*-3‡			
05468	31	00051	00053	05	670		TR	FAC-9			,FAC-7‡
05480	16	00060	000-0	05	680		TFM	FAC	,		,10‡
05492	33	00059	00000	05	690		CF	FAC-1‡			
05504	12	03250	000-1	05	700		SM	BRNCH&6	,1		,10‡
05516	47	05468	01200	05	710		BNE	*-48‡			
05528	49	05632	00000	05	720		B	COM‡			
05536				05	730		DORG	*-3‡			
				05	740		* D TYPE	‡			
05536	31	00051	00052	05	750	DNUM	TR	FAC-9			,FAC-8‡
05548	25	00060	05103	05	760		TD	FAC			,INOUT‡
05560	14	05103	000P0	05	770		CM	INOUT	,70		,10‡
05572	46	05596	01300	05	780		BNN	*&24‡			
05584	32	00060	00000	05	790		SF	FAC‡			
05596	31	05102	05104	05	800		TR	INOUT-1			,INOUT&1‡
05608	12	03248	000-1	05	810		SM	BRNCH&4	,1		,10‡
05620	47	05536	01200	05	820		BNE	DNUM‡			
05632	32	00051	00000	05	830	COM	SF	FAC-9‡			
05644	26	05662	03937	05	840		TF	*&18			,NUMBER-1‡
05656	26	00000	00060	05	850		TF				,FAC‡
05668	49	03014	00000	05	860		B	LOOK-12‡			
05676				05	870		DORG	*-3‡			
05676	14	03246	000RR	05	880	NUM	CM	BRNCH&2	,99		,1011‡
05688	47	05836	01200	05	890		BNE	EFTYPE‡			
05700	16	06010	-5720	05	900		TFM	BX&6			,INFX1‡
05712	49	05860	00000	05	910		B	EFTYPE&24‡			
05720				05	920		DORG	*-3‡			
05720	31	00055	00056	05	930	INFX1	TR	FAC-5			,FAC-4‡
05732	25	00060	05103	05	940		TD	FAC			,INOUT‡
05744	43	05796	00056	05	950		BD	LGFX			,FAC-4‡
05756	49	06036	00000	05	960		B	EXPA-12‡			
05764				05	970		DORG	*-3‡			
05764	43	05816	06129	05	980	INFX2	BD	FIL			,CH‡
05776	32	00057	00000	05	990		SF	FAC-3‡			
05788	49	06246	00000	06	000		B	SETSF‡			
05796				06	010		DORG	*-3‡			
05796	15	06129	00009	06	020	LGFX	TDM	CH	,9‡		
05808	49	06060	00000	06	030		B	TR‡			
05816				06	040		DORG	*-3‡			
05816	16	00060	0R999	06	050	FIL	TFM	FAC	,9999		,8‡
05828	49	06490	00000	06	060		B	INOV&12‡			
05836				06	070		DORG	*-3‡			

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	12
05836	16	06010	00012	06	080	EFTYPE	TFM	BX&6	,DIGIT	,8‡	
05848	16	06018	-0053	06	090		TFM	DIGIT&6	,FAC-7‡		
05860	16	05998	00060	06	100		TFM	AX&6	,TR	,8‡	
05872	16	06247	0-041	06	110		TFM	SETSF&1	,41	,8‡	
05884	16	06131	0-021	06	120		TFM	EXPSG&1	,21	,8‡	
05896	31	06254	06414	06	130		TR	EX1-2	,MIN-12‡		
05908	15	06048	0000J	06	140		TDM	EXPA	,1	,11‡	
05920	14	05103	000-3	06	150	LP	CM	INOUT	,3	,10‡	
05932	46	06266	01200	06	160		BE	DEC‡			
05944	14	05103	000K0	06	170		CM	INOUT	,20	,10‡	
05956	46	06426	01200	06	180		BE	MIN‡			
05968	14	05103	000P0	06	190		CM	INOUT	,70	,10‡	
05980	47	06330	01300	06	200		BL	BLKPL‡			
05992	46	00000	01200	06	210	AX	BE	‡			
06004	49	00000	00000	06	220	BX	B	‡			
06012				06	230		DORG	*-3‡			
06012	25	00000	05103	06	240	DIGIT	TD		,INOUT‡		
06024	11	06018	000-1	06	250		AM	*-6	,1	,10‡	
06036	16	05998	-6004	06	260		TFM	AX&6	,BX‡		
06048	11	00052	000-1	06	270	EXPA	AM	FAC-8	,1	,10‡	
06060	31	05102	05104	06	280	TR	TR	INOUT-1	,INOUT&1‡		
06072	12	03248	000-1	06	290		SM	BRNCH&4	,1	,10‡	
06084	47	05920	01200	06	300		BNE	LP‡			
06096	44	05764	06007	06	310		BNF	INFX2	,BX&3‡		
06108	43	06130	00053	06	320		BD	*&22	,FAC-7‡		
06120	49	05632	00000	06	330		B	COM‡			
06129				06	340	CH	DS		,*-2‡		
06130				06	350		DORG	*-1‡			
06130	21	00052	06256	06	360	EXPSG	A	FAC-8	,EX1‡		
06142	21	00052	06129	06	370		A	FAC-8	,CH‡		
06154	44	06210	06048	06	380		BNF	*&56	,EXPA‡		
06166	44	06186	06254	06	390		BNF	*&20	,EX1-2‡		
06178	49	06198	00000	06	400		B	*&20‡			
06186				06	410		DORG	*-3‡			
06186	21	00052	06245	06	420		A	FAC-8	,DD‡		
06198	22	00052	03250	06	430		S	FAC-8	,BRNCH&6‡		
06210	11	00052	000N0	06	440		AM	FAC-8	,50	,10‡	
06222	47	06510	01300	06	450		BN	INUNF‡			
06234	46	06478	01400	06	460		BV	INOVP‡			
06245				06	470	DD	DS		,*‡		
06246	32	00060	00000	06	480	SETSF	SF	FAC‡			
06256				06	490	EX1	DS		,*-1‡		
06258	49	05632	00000	06	500		B	COM‡			
06266				06	510		DORG	*-3‡			
06266	44	06290	05995	06	520	DEC	BNF	*&24	,AX&3‡		
06278	16	05998	-6310	06	530		TFM	AX&6	,*&32‡		
06290	15	06048	00004	06	540		TDM	EXPA	,4‡		
06302	49	06060	00000	06	550		B	TR‡			
06310				06	560		DORG	*-3‡			
06310	12	06129	000-1	06	570		SM	CH	,1	,10‡	
06322	49	06060	00000	06	580		B	TR‡			
06330				06	590		DORG	*-3‡			
06330	44	06350	05995	06	600	BLKPL	BNF	*&20	,AX&3‡		
06342	49	06060	00000	06	610		B	TR‡			
06350				06	620		DORG	*-3‡			
06350	11	06245	000-1	06	630		AM	DD	,1	,10‡	

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	13
06362	16	06010	00382	06	640		TFM	BX&6	,B2		,8‡
06374	49	06060	00000	06	650		B	TR‡			
06382				06	660		DORG	*-3‡			
06382	31	06254	06255	06	670	B2	TR	EX1-2	,EX1-1‡		
06394	25	06256	05103	06	680		TD	EX1	,INOUT‡		
06406	32	06255	00-00	06	690		SF	EX1-1	,		,9‡
06417		1		06	700		DC	1	,		,‡‡
06418	49	06060	00000	06	710		B	TR‡			
06426				06	720		DORG	*-3‡			
06426	44	06458	05995	06	730	MIN	BNF	*&32	,AX&3‡		
06438	16	06247	000L2	06	740		TFM	SETSF&1	,32		,10‡
06450	49	06060	00000	06	750		B	TR‡			
06458				06	760		DORG	*-3‡			
06458	15	06131	00002	06	770		TDM	EXPSG&1	,2‡		
06470	49	06362	00000	06	780		B	PLKPL&32‡			
06478				06	790		DORG	*-3‡			
06478	26	00060	01861	06	800	INOVF	TF	FAC	,FNINES-2‡		
06490	39	06531	00100	06	810		WATY	INERM‡			
06502	49	06246	00000	06	820		B	SETSF‡			
06510				06	830		DORG	*-3‡			
06510	26	00060	01873	06	840	INUNF	TF	FAC	,FZEREC-9‡		
06522	49	06490	00000	06	850		B	INOVF&12‡			
06530				06	860		DORG	*-3‡			
				06	870			* VARIOUS FLAGS AND BINS‡			
03358				06	880	HYPEX	DS	,FLAGS‡			
03359				06	890	STCWX	DS	,FLAGS&1‡			
03361				06	900	SIGN	DS	,FLAGS&3‡			
03362				06	910	ETYPEX	DS	,FLAGS&4‡			
03362				06	920	DTBX	DS	,FLAGS&4‡			
03363				06	930	ITYPEX	DS	,FLAGS&5‡			
03364				06	940	DTYPEX	DS	,FLAGS&6‡			
03365				06	950	FTYPEX	DS	,FLAGS&7‡			
03365				06	960	EX	DS	,FLAGS&7‡			
03367				06	970	SEY	DS	,FLAGS&9‡			
03373				06	980	NUMBX	DS	,FLAGS&15‡			
03374				06	990	LASTX	DS	,FLAGS&16‡			
03375				07	000	RTPARX	DS	,FLAGS&17‡			
03376				07	010	LTPARX	DS	,FLAGS&18‡			
06531		5		07	020	INERM	DAC	5	,ERIN‡‡		
00078				07	030	TFAC	DS		,78‡		
05190				07	040		DORG	INCUT&87‡			
05190	25	02190	00400	07	050		TD	FAXB&2	,400‡		
05202	25	02214	00400	07	060		TD	FAXB&26	,400‡		
05214	25	02266	00400	07	070		TD	FAXB&78	,400‡		
05226	25	02278	00400	07	080		TD	FAXB&90	,400‡		
05238	49	00000	00000	07	090		B	‡			
00000				07	100		DEND	‡			

00000* PDQ FORTRAN SUBROUTINES 11/63 FIXED FMT AD											
05210	A	04390	05070								
00480	ADCT1	00450									
00380	ADCT2	00175	00270	02385							
04930	ADUT	04440	04990								
06210	AX	06100	06260	06520	06530	06600	06730				
04800	B	04680									
00750	BB	02140	02270	02450							
06600	BLKPL	06200	06780								
02930	BOX	02900	03840								
03470	BRNCH	03200	03220	03220	04250	04260	04270	04290	04400	04420	04500
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		05460	05530	05570	05580	05580	05630	05700	05810	05880	06290
		06430									
06220	BX	05900	06080	06260	06310	06640					
06670	BZ	06640									
03650	CARD	03270									
06340	CH	05980	06020	06370	06570						
05830	COM	05720	06330	06500							
04160	COUNT	04000	04140	04540	04550	04560	05220	05230	05240	05370	05380
		05390	05400								
03380	CRCD	03580	03910								
06470	DD	06420	06630								
06520	DEC	06160									
04390	DEFI										
06240	DIGIT	06080	06090								
05750	DNUM	05550	05820								
06920	DTBX										
05270	DTYPE	04430									
01230	DVRND	01170									
02670	EMM	02720									
02720	END	02730									
00730	ENDD	00260	00500	00640	00830	01060	01690	02060	02110	02140	02200
		02240	02270	02390	02450						
00570	ERD	01070	03710								
05460	ERROR	05410									
00770	ER9	00700	01200	01630							
01790	ETAB	02280	02290								
04520	ETYPE	05470									
06960	EX										
04280	EXP	04530	04630	04900	05170	05200	05240	05280	05340	05360	05400
06270	EXPA	05960	06140	06380	06540						
06360	EXPSC	06120	06770								
06490	EX1	06130	06360	06390	06670	06670	06680	06690			
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		00670	00690	00720	00770	00890	00910	00970	00980	01020	01030
		01040	01050	01130	01140	01160	01180	01270	01330	01400	01420
		01460	01480	01510	01520	01560	01580	01610	01620	01690	01700
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		02830	02850	03150	04370	04390	04460	04480	04650	04670	04690
		04700	04700	04710	04740	04750	04930	04960	04970	04970	05060
		05070	05140	05160	05160	05180	05190	05190	05210	05290	05290
		05310	05310	05520	05590	05590	05600	05610	05670	05670	05680
		05690	05750	05750	05760	05790	05830	05850	05930	05930	05940
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		06440	06480	06800	05840						
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		00300	00300	00370	00410	00420	00470	02380	02400	02410	02430
00420	FAD1	00190	00270	00280	00290	00320	00430	00450	02580		

01840	ONE								
00820	CVFLM	00790							
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02970	RACC								
03000	RATY								
03310	READ	03550	03750	03770	03810				
03840	RTPAR	02860	03070						
01690	RVSGN								
04310	SAVE	04460	04470	04820	05060	05340	05350		
06480	SETSF	06000	06110	06740	06820				
06970	SEY								
06900	SIGN	04320	04490	04620	04690	04840	04890	05130	05150
04050	SKIP	03970	04010						
03570	SLASH	03800	03820	03920					
02700	SMM	02590							
02590	STOP	02640							
04590	STOW	04170	04720	04850	04910	05300	05320		
06890	STOWX	03180	03970	04170					
04080	TF	03950	04040						
07030	TFAC								
04570	TIE	05250	05430						
04140	TIEH	04090							
06280	TR	06030	06100	06550	06580	06610	06650	06710	06750
03500	TRAC	03250							
02750	TRACE	02780	02810						
02470	TRFLC	02820							
02420	TRFXC	02840							
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06910	ETYPEX	04520	05040						
03340	FIXFLG	04320							
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01810	FNINES	00770	06800						
06950	FTYPEX	04800	05420						
01820	FZERIC	00630	02160	03150	05520	06840			
06880	HTYPEX	03960	04010						
05040	ISETYP	04870							
06930	ITYPEX	04680	04870	04880					
07010	LTPARX	02910	02920	03140					
04240	NUMBER	04220	04360	05840					
03210	PINFMT	02820	02840	02900	02980	03010	03050	03080	03110
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03770	READCK	02950	03570						
07000	RTPARX	03260	03410	03420	03850				
02310	SETONE	02030							
03070	WATYSC								
00630	ZERFAC	00460	00920	01250					

***** LISTING OF THE FIXED FORMAT SUBROUTINES

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LOCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	1
				00 000		** PDQ	FORTTRAN PRGCESSOR CLC2 10/63#		
00402				00 010		DORG	402#		
00402	16	11523	000-0	00 020	INITL	TFM	DMM1,0,10#		
00414	16	08427	R9999	00 030		TFM	SMCNT,99999#		
00426	16	16135	-6600	00 040		TFM	L ,6600#		
00438	26	16593	16135	00 050		TF	LOAD,L#		
00450	15	00459	00000	00 060		TDM	SKPPCH,0#		
00459				00 070	SKPPCH	DS	,*-2#		
00462	16	11387	000-1	00 080	BEGIN	TFM	SUBN,1,10#		
00474	24	16135	08427	00 090		C	L,SMCNT#		
00486	47	00534	01100	00 100		BNH	*848#		
00498	34	00000	00102	00 110		RCTY	#		
00510	39	16563	00100	00 130		WATY	OVERL#		
00522	15	00459	0000J	00 140		TDM	SKPPCH,1,11#		
00534	26	00702	11487	00 150		TF	IFSWCH,ZER09-2#		
00546	47	00694	00400	00 160		BNC4	BA#		
00558	37	17225	00500	00 170		RACD	CHI#		
00570	16	00641	J7369	00 180		TFM	*871,CHI8144#		
00582	26	00680	00641	00 190		TF	*898,*859#		
00594	12	00641	000-2	00 200		SM	*847,2,10#		
00606	14	00641	J7225	00 210		CM	*835,CHI#		
00618	47	00462	01300	00 220		BL	BEGIN#		
00630	26	00470	00000	00 230		TF	BEGIN8#		
00642	43	00674	00470	00 240		BD	*832 ,BEGIN8#		
00654	43	00674	00469	00 250		BD	*820 ,BEGIN87#		
00666	49	00582	00000	00 260		B	*-84#		
00674				00 270		DORG	*-3#		
00674	16	00000	-0000	00 280		TFM	,#		
00685		2		00 285		DC	2 , @,##		
00686	49	00730	00000	00 290		B	BA836#		
00694				00 300		DORG	*-3#		
00694	34	00000	00102	00 310	BA	RCTY	#		
00706	37	17225	00100	00 320		RCTY	CHI#		
00718	46	00694	00400	00 330		BC4	BA#		
00730	46	00802	00100	00 340	TYST	BC1	BRC#		
00742	34	00000	00102	00 350		RCTY	#		
00754	38	16131	00100	00 352		WNTY	L-4#		
00766	34	00000	00101	00 354		SPTY	#		
00778	39	17225	00100	00 380		WATY	CHI#		
00790	15	00731	00006	00 385		TDM	TYST&1 ,6#		
00802	49	00810	00000	00 390	BRC	B	*88#		
00810				00 395		DORG	*-3#		
00810	16	10864	J6764	00 400		TFM	PUTETB&6,PHI&12#		
00822	43	00854	17225	00 510		BD	*832,CHI#		
00834	31	17224	17226	00 520		TR	CHI-1,CHI&1#		
00846	49	00822	00000	00 530		B	*-24#		
00854				00 540		DORG	*-3#		
00854	14	17225	000M3	00 550		CM	CHI,43,10#		
00866	47	00926	01200	00 560		BNE	*860#		
00878	24	00901	17227	00 570		C	*823,CHI&2#		
00890	47	00926	012-0	00 580		BNE	*836,0,10#		
00902	24	00901	17229	00 590		C	*-1,CHI&4#		
00914	46	00462	01200	00 600		BE	BEGIN#		
00926	14	17225	000P0	00 610		CM	CHI,70,10#		
00938	47	01314	01300	00 620		BL	BLANKS&12#		

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND	REMARKS	PAGE	2
00950	17	09248	-0962	00	630		BTM	CFXN,*&12,7#				
00962	26	00984	08346	00	640		TF	*&22,SMTLUI&10#				
00974	44	01022	00004	00	650		BNF	*&48,4#				
00986	15	00701	0000P	00	660		TDM	DOSWCH,7,11#				
00998	26	01020	08346	00	670		TF	*&22,SMTLUI&10#				
01010	26	01069	00004	00	680		TF	SLOT,4#				
01022	26	01039	08346	00	690		TF	*&17,SMTLUI&10#				
01034	26	00004	16135	00	700		TF	4,L#				
01046	26	01063	08346	00	710		TF	*&17,SMTLUI&10#				
01058	32	00005	00000	00	720		SF	5#				
01069				00	730	SLOT	DS	,*#				
01070	16	01180	-0089	00	740	FRMAT1	TFM	FRMAT2&6,89#				
01082	26	16290	16135	00	750		TF	BRINST&6,L#				
01094	26	16141	08427	00	760		TF	LODER,SMCNT#				
01106	16	01192	-0088	00	770		TFM	FRMAT2&18,88#				
01118	31	16751	17224	00	780		TR	PHI-1,CHI-1#				
01130	45	01150	16752	00	790		BNR	*&20,PHI#				
01142	49	01302	00000	00	800		B	BLANKS#				
01150				00	810		DORG	*-3#				
01150	14	16752	000-0	00	820		CM	PHI,,10#				
01162	46	01246	01200	00	830		BE	FRMAT2&72#				
01174	26	-0000	16752	00	840	FRMAT2	TF	,PHI,2#				
01186	33	-0000	00000	00	850		CF	,,2#				
01195		2		00	852		DC	2	,37			,*-2#
01197		2		00	854	AVOID	DC	2	,			2,*#
01198	14	01180	-0099	00	860		CM	FRMAT2&6,99#				
01210	46	01266	01200	00	870		BE	*&56#				
01222	11	01180	000-2	00	880		AM	FRMAT2&6,2,10#				
01234	11	01192	000-2	00	890		AM	FRMAT2&18,2,10#				
01246	31	16751	16753	00	900		TR	PHI-1,PHI&1#				
01258	49	01130	00000	00	910		B	FRMAT1&60#				
01266				00	920		DORG	*-3#				
01266	32	00088	00000	00	930		SF	88#				
01278	24	00099	16155	00	940		C	99,FRMSCT&10#				
01290	46	02768	01200	00	950		BE	FORMAT#				
01302	27	14820	14819	00	960	BLANKS	BT	BGO,BGO-1#				
01314	31	16751	17224	00	970		TR	PHI-1,CHI-1#				
01326	26	01577	04983	00	980		TF	BLNK1&11,ELEVEN&11#				
01338	14	16752	000-0	00	990		CM	PHI,,10#				
01350	31	16751	16753	01	000		TR	PHI-1,PHI&1#				
01362	46	01566	01200	01	010		BE	BLNK1#				
01374	21	01577	08195	01	020		A	BLNK1&11,INCREM#				
01386	45	01338	16752	01	030	BLNK2	BNR	*-48,PHI#				
01398	26	01416	01572	01	040		TF	*&18,BLNK1&6#				
01410	31	00000	01194	01	050		TR	,AVOID-3#				
01422	49	01430	00000	01	052		B	*&8#				
01430				01	054		DORG	*-3#				
01430	31	16753	17224	01	060	SDECOD	TR	PHI&1,CHI-1#				
01442	31	16751	16753	01	070		TR	PHI-1,PHI&1#				
01454	14	16752	000L3	01	080		CM	PHI,33,10#				
01466	47	01586	01200	01	090		HNE	ISITF-12#				
01478	31	16751	16753	01	100	STDCD2	TR	PHI-1,PHI&1#				
01490	45	01510	16756	01	110		BNR	*&20,PHI&04#				
01502	49	11514	00000	01	120		B	ASCAN#				
01510				01	130		DORG	*-3#				

LOCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	3
01510	14	16752	000K4	01 140		CM	PHI,24,10#		
01522	46	11514	01200	01 150		BE	ASCAN#		
01534	14	16752	000K3	01 160		CM	PHI,23,10#		
01546	47	01478	01200	01 170		BNE	STDCD2#		
01558	49	05198	00000	01 180		B	DO#		
01566				01 190		DORG	*-3#		
01566	31	J7224	17226	01 200	BLNK1	TR	CHI-1,CHI&1,2#		
01578	49	01386	00000	01 210		B	BLNK2#		
01586				01 220		DORG	*-3#		
01586	45	01442	16756	01 230		BNR	SDECOD&12,PHI&4#		
01598	14	17225	000M6	01 240	ISITF	CM	CHI,46,10#		
01610	47	01634	01200	01 250		BNE	*&24#		
01622	17	11426	0P170	01 260		BTM	ERROR,7170,8#		
01634	14	17225	000M9	01 270		CM	CHI,49,10#		
01646	46	04500	01200	01 280		BE	IF#		
01658	14	17225	000M7	01 290		CM	CHI,47,10#		
01670	46	05622	01200	01 300		BE	GOTO#		
01682	14	17225	000M4	01 310		CM	CHI,44,10#		
01694	46	04436	01200	01 320		BE	DIM#		
01706	14	17225	000M2	01 330		CM	CHI,42,10#		
01718	47	01774	01200	01 332		BNE	*&56#		
01730	14	17235	000N7	01 334		CM	CHI&10 ,57 ,10#		
01742	46	06050	01200	01 336		BE	BEGPRO#		
01754	15	15991	00004	01 338		TDM	TRACE&1 ,4#		
01766	49	00462	00000	01 340		B	BEGIN#		
01774				01 342		DORG	*-3#		
01774	14	17225	000M3	01 350		CM	CHI,43,10#		
01786	47	01842	01200	01 360		BNE	*&56#		
01798	14	17233	000N6	01 370		CM	CHI&8 ,56 ,10#		
01810	47	06640	01300	01 380		BL	CONTIN#		
01822	46	04468	01200	01 390		BE	COMM#		
01834	49	07116	00000	01 400		B	CONTRL#		
01842				01 410		DORG	*-3#		
01842	14	17225	000N9	01 420		CM	CHI,59,10#		
01854	47	01890	01200	01 430		BNE	*&36#		
01866	14	17229	00003	01 440		CM	CHI&4,63,10#		
01878	46	06270	01200	01 450		BE	XRETURN#		
01890	14	17225	00002	01 460		CM	CHI,62,10#		
01902	46	07076	01200	01 470		BE	STOP#		
01914	14	17225	000N7	01 480		CM	CHI,57,10#		
01926	46	02126	01200	01 490		BE	OUTCHK#		
01938	46	02262	01100	01 500		BH	INCHK#		
01950	14	17225	000M1	01 510		CM	CHI,41,10#		
01962	46	02318	01200	01 520		BE	ACCEPT#		
01974	14	17225	000M5	01 530		CM	CHI,45,10#		
01986	47	11646	01200	01 540		BNE	ER1#		
01998	14	17231	000N7	01 550		CM	CHI&6 ,57 ,10#		
02010	46	06250	01200	01 554		BE	ENDPRO#		
02022	47	02054	01300	01 558		BL	*&32#		
02034	15	15991	00001	01 562		TDM	TRACE&1 ,1#		
02046	49	00462	00000	01 566		B	BEGIN#		
02054				01 570		DORG	*-3#		
02054	45	06410	17233	01 574		BNR	EXPROC ,CHI&8#		
02066	49	07240	00000	01 580		B	END#		
02074				01 590		DORG	*-3#		

LOCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	4
02074	43	02094	17235	01 591	CONIO	BD	*&20 ,CHI&10‡		
02086	49	11646	00000	01 592		B	ERI‡		
02094				01 593		DORG	*-3‡		
02094	16	01428	-2606	01 594		TFM	SDECOD-2 ,I02&83‡		
02106	31	17224	17236	01 595		TR	CHI-1 ,CHI&11‡		
02118	49	01314	00000	01 596		B	BLANKS&12‡		
02126				01 597		DORG	*-3‡		
02126	14	17227	000N9	01 600	OUTCHK	CM	CHI&2,59,10‡		
02138	46	02230	01200	01 610		BE	PRINT‡		
02150	47	07056	01100	01 620		BNH	PAUSE‡		
02162	31	17224	17234	01 630		TR	CHI-1,CHI&9‡		
02174	14	17225	00003	01 640		CM	CHI,63,10‡		
02186	47	02210	01200	01 650		BNE	*&24‡		
02198	31	17224	17232	01 660		TR	CHI-1,CHI&7‡		
02210	16	12916	-2882	01 670		TFM	INST2&6,WACD‡		
02222	49	02398	00000	01 680		B	I01‡		
02230				01 690		DORG	*-3‡		
02230	31	17224	17234	01 700	PRINT	TR	CHI-1,CHI&9‡		
02242	16	12916	-2954	01 710		TFM	INST2&6,WATY‡		
02254	49	02398	00000	01 720		B	I01‡		
02262				01 730		DORG	*-3‡		
02262	14	17225	00003	01 740	INCHK	CM	CHI,63,10‡		
02274	31	17224	17232	01 750		TR	CHI-1,CHI&7‡		
02286	47	02366	01200	01 760		BNE	RDCD‡		
02298	16	12916	-2918	01 770		TFM	INST2&6 ,WATYSC‡		
02310	49	02398	00000	01 780		B	I01‡		
02318				01 790		DORG	*-3‡		
02318	31	17224	17236	01 800	ACCEPT	TR	CHI-1,CHI&11‡		
02330	14	17225	00003	01 810		CM	CHI,63,10‡		
02342	47	02386	01200	01 820		BNE	*&44‡		
02354	31	17224	17232	01 830		TR	CHI-1,CHI&7‡		
02366	16	12916	-2798	01 840	RDCD	TFM	INST2&6,RACD‡		
02378	49	02398	00000	01 850		B	I01‡		
02386				01 860		DORG	*-3‡		
02386	16	12916	-2834	01 870		TFM	INST2&6,RATY‡		
02398	16	12911	000K7	01 880	I01	TFM	INST2&1,27,10‡		
02410	14	17225	00009	01 890		CM	CHI,69,10‡		
02422	46	02446	01100	01 900		BH	*&24‡		
02434	17	11426	0P173	01 910		BTM	ERROR,7173,8‡		
02446	17	09248	-2458	01 920		BTM	CFXN,*&12‡		
02458	26	02480	08426	01 930		TF	*&22,SMCNT-1‡		
02470	16	12921	-0006	01 940		TFM	INST2&11,6‡		
02482	16	12925	0-000	01 950		TFM	INST2&15,,8‡		
02493		1		01 960		DC	1,a,**		
02494	27	13996	13995	01 970		BT	PUT2,PUT2-1‡		
02506	26	12916	02728	01 980		TF	INST2&6,I0INST&6‡		
02518	45	02538	17227	01 990	I02	BNR	I02&20,CHI&2‡		
02530	49	06640	00000	02 000		B	TESTD0‡		
02538				02 010		DORG	*-3‡		
02538	14	17225	000K3	02 020		CM	CHI,23,10‡		
02550	31	17222	17224	02 030		TR	CHI-3,CHI-1‡		
02562	47	02518	01200	02 040		BNE	I02‡		
02574	45	02618	17227	02 050		BNR	*&44 ,CHI&2‡		
02586	16	00808	-2074	02 060		TFM	BRC&6 ,CONIO‡		
02598	49	00546	00000	02 064		B	BEGIN&84‡		

LGCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	5
02606				02 070		DORG	*-3#		
02606	16	01428	-1430	02 075		TFM	SDECOO-2 ,SDECOO#		
02618	15	00698	00000	02 080		TDM	SBSWCH#		
02630	17	09474	-2642	02 090		BTM	CSORN,*&12#		
02642	26	02665	10864	02 100		TF	*&23,PUTETB&6#		
02654	31	12917	00000	02 110		TR	INST2&7#		
02666	45	02690	17227	02 120		BNR	*&24,CHI&2#		
02678	16	12916	-3914	02 130		TFM	INST2&6,COMPLT#		
02690	27	13996	13995	02 140		BT	PUT2,PUT2-1#		
02702	12	10864	-0009	02 150		SM	PUTETB&6,9#		
02714	49	02518	00000	02 160		B	IO2#		
02722				02 170		DORG	*-3#		
02722	J7	03938	-2734	02 180	IOINST	BTM	SWC,LSUBS-1,07#		
02735		17		02 190	LSUBS	DAC	17,LOAD SUBROUTINESa#		
02768	31	17224	16751	02 200	FORMAT	TR	CHI-1,PHI-1#		
02780	26	02797	08346	02 210		TF	*&17,SMTLUI&10#		
02792	11	00004	000-6	02 220		AM	4,6,10#		
02804	26	02821	08346	02 230		TF	*&17,SMTLUI&10#		
02816	15	00005	0000K	02 240		TDM	5,2,11#		
02828	11	16290	-0006	02 250		AM	BRINST&6,6#		
02840	27	14832	14831	02 260		BT	BGO&12,BGO&11#		
02852	16	03061	000J7	02 270		TFM	SWLP&1,17,10#		
02864	16	03546	J6758	02 280		TFM	TRANS&18,PHI&6#		
02876	31	16749	04425	02 290		TR	PHI-3,FMTSP-10#		
02888	16	03491	00000	02 300		TFM	WIDTH ,80 ,10#		
02900	31	17224	17226	02 310	FSCAN	TR	CHI-1,CHI&1#		
02912	45	02944	17225	02 320		BNR	*&32,CHI#		
02924	16	00808	-3910	02 330		TFM	BRC&6 ,CONFMT#		
02936	49	00546	00000	02 340		B	BEGIN&84#		
02944				02 350		DORG	*-3#		
02944	14	17225	000K3	02 360		CM	CHI,23,10#		
02956	46	02900	01200	02 370		BE	FSCAN#		
02968	14	17225	000-0	02 380		CM	CHI,,10#		
02980	46	02900	01200	02 390		BE	FSCAN#		
02992	14	17225	000K4	02 400		CM	CHI,24,10#		
03004	47	03060	01200	02 410		BNE	SWLP#		
03016	16	03551	-2726	02 420		TFM	TRANS&23,LIPAR#		
03028	16	03570	-2900	02 430		TFM	TRNSBR&6,FSCAN#		
03040	16	03061	000M1	02 440		TFM	SWLP&1,41,10#		
03052	49	03528	00000	02 450		B	TRANS#		
03060				02 460		DORG	*-3#		
03060	17	11426	0P171	02 470	SWLP	BTM	ERROR,7171,8#		
03072	47	03658	01100	02 480		BNH	PUNCT#		
03084	14	17225	000M0	02 490		CM	CHI,40,10#		
03096	47	03962	01100	02 500		BNH	CHCHI&12#		
03108	14	17225	00009	02 510		CM	CHI,69,10#		
03120	46	04098	01100	02 520		BH	HOLL#		
03132	25	03547	17225	02 530		TD	TRANS&19,CHI#		
03144	16	03479	00-00	02 540		TFM	EFIND,,9#		
03156	14	17225	000M1	02 550		CM	CHI ,41 ,10#		
03168	46	03276	01200	02 560		BE	TIER#		
03180	14	17225	000M4	02 570		CM	CHI,44,10#		
03192	47	03962	01300	02 580		BL	CHCHI&12#		
03204	46	03276	01200	02 590		BE	TIER#		
03216	14	17225	000M9	02 600		CM	CHI,49,10#		

LGCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	6
03228	46	03276	01200	02 610		BE	TIER#		
03240	16	03479	000-0	02 620		TFM	EFIND,,10#		
03252	14	17225	000M6	02 630		CM	CHI,46,10#		
03264	46	03962	01100	02 640		BH	CHCHI&12#		
03276	31	17224	17226	02 650	TIER	TR	CHI-1,CHI&1#		
03288	17	09248	000-0	02 660		BTM	CFXN,00,10#		
03300	17	03574	000-0	02 670		BTM	WIDTST,,10#		
03312	26	03995	17213	02 680		TF	RPFMT&21 ,SYM#		
03324	16	03551	000-0	02 690		TFM	TRANS&23,00,10#		
03336	44	03468	03478	02 700		BNF	PRETRN,EFIND-1#		
03348	27	03950	03949	02 710		BT	CHCHI ,CHCHI-1#		
03360	14	17225	000-3	02 720		CM	CHI,03,10#		
03372	47	03962	01200	02 730		BNE	CHCHI&12#		
03384	31	17224	17226	02 740		TR	CHI-1,CHI&1#		
03396	27	03950	03949	02 750		BT	CHCHI ,CHCHI-1#		
03408	14	17225	00009	02 760		CM	CHI,69,10#		
03420	47	03962	01100	02 770		BNH	CHCHI&12#		
03432	17	09248	000-0	02 780		BTM	CFXN,,10#		
03444	32	17212	00000	02 790		SF	SYM-1#		
03456	26	03551	17213	02 800		TF	TRANS&23,SYM#		
03468	33	03548	00000	02 810	PRETRN	CF	TRANS&20#		
03479		2		02 820	EFIND	DS	2,**		
03480	33	03550	00000	02 830		CF	TRANS&22#		
03492	32	03551	00000	02 840		SF	TRANS&23#		
03504	32	03547	00000	02 850		SF	TRANS&19#		
03516	16	03570	-2912	02 860		TFM	TRNSBR&6,FSCAN&12#		
03528	11	03546	000-5	02 870	TRANS	AM	*&18,5,10#		
03540	16	16758	-0000	02 880		TFM	PHI&6#		
03552	21	16751	03539	02 890		A	PHI-1,TRANS&11#		
03564	49	00000	00000	02 900	TRNSBR	B	#		
03574				02 910		DORG	*-1#		
03574	32	17212	00000	02 920	WIDTST	SF	SYM-1#		
03586	26	03549	17213	02 930		TF	TRANS&21,SYM#		
03598	22	03491	17213	02 940		S	WIDTH,SYM#		
03610	47	03646	01300	02 950		BN	*&36#		
03622	14	17213	000-0	02 960		CM	SYM,,10#		
03634	46	09448	01100	02 970		BH	CSORN-26#		
03646	17	11426	0P172	02 980		BTM	ERROR,7172,8#		
03658	14	17225	000K1	02 990	PUNCT	CM	CHI,21,10#		
03670	47	03714	01200	03 000		BNE	*&44#		
03682	16	03551	-3298	03 010		TFM	TRANS&23,SLASH#		
03694	16	03570	-2888	03 020		TFM	TRNSBR&6,FSCAN-12#		
03706	49	03528	00000	03 030		B	TRANS#		
03714				03 040		DORG	*-3#		
03714	46	02900	01100	03 050		BH	FSCAN#		
03726	14	17225	000-4	03 060		CM	CHI,04,10#		
03738	47	03962	01200	03 070		BNE	CHCHI&12#		
03750	16	03551	-3574	03 080		TFM	TRANS&23,RTPAR#		
03762	16	03570	-3782	03 090		TFM	TRNSBR&6,FINISH#		
03774	49	03528	00000	03 100		B	TRANS#		
03782				03 110		DORG	*-3#		
03782	16	03812	J6752	03 120	FINISH	TFM	*&30,PHI#		
03794	21	03812	16751	03 130		A	*&18,PHI-1#		
03806	31	00000	16289	03 140		TR	,BRINST&5#		
03818	25	03841	16751	03 150		TD	*&23,PHI-1#		

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	7
03830	43	03854	00210	03	160		BD	*&24,210#		
03842	11	16751	000-1	03	170		AM	PHI-1,1,10#		
03854	26	16758	16135	03	180		TF	PHI&6,L#		
03866	21	16758	16751	03	190		A	PHI&6,PHI-1#		
03878	27	14556	16751	03	200		BT	PUTPHI,PHI-1#		
03890	16	00808	-0810	03	210		TFM	BRC&6 ,BRC&8#		
03902	49	00462	00000	03	220		B	BEGIN#		
03910				03	230		DORG	*-3#		
03910	43	03930	17235	03	240	CONFMT	BD	*&20 ,CHI&10#		
03922	49	03962	00000	03	250		B	CHCHI&12#		
03930				03	260		DORG	*-3#		
03930	31	17224	17236	03	270		TR	CHI-1 ,CHI&11#		
03942	49	029J2	00000	03	280		B	FSCAN&12 , ,5#		
03950				03	290		DORG	*-3#		
03950	45	09448	17225	03	300	CHCHI	BNR	CSORN-26 ,CHI#		
03962	17	11426	0P171	03	310		BTM	ERROR ,7171 ,8#		
03974	16	03527	-4042	03	320	RPFMT	TFM	TRANS-1 ,RPT1#		
03986	32	17212	00000	03	330		SF	SYM-1#		
03998	26	03997	17213	03	340		TF	*-1 ,SYM#		
04010	49	02912	00000	03	350		B	FSCAN&12#		
04018				03	360		DORG	*-3#		
04018	22	03491	03995	03	370	RPT2	S	WIDTH ,RPFMT&21#		
04030	47	03646	01300	03	380		BN	PUNCT-12#		
04042	16	03570	-4018	03	390	RPT1	TFM	TRNSBR&6 ,RPT2#		
04054	16	03527	-2912	03	400		TFM	TRANS-1 ,FSCAN&12#		
04066	12	03997	000-1	03	410		SM	RPFMT&23 ,1 ,10#		
04078	46	03528	01100	03	420		BH	TRANS#		
04090	49	02912	00000	03	430		B	FSCAN&12#		
04098				03	440		DORG	*-3#		
03491				03	450	WIDTH	DS	,EFIND&12#		
04098	17	09248	000-0	03	460	HOLL	BTM	CFXN,,10#		
04110	27	03950	03949	03	470		BT	CHCHI ,CHCHI-1#		
04122	14	17225	00007	03	480		CM	CHI,67,10#		
04134	46	04238	01200	03	490		BE	*&104#		
04146	14	17225	000M8	03	500		CM	CHI,48,10#		
04158	47	03974	01200	03	510		BNE	RPFMT#		
04170	17	03574	000-0	03	520		BTM	WIDTST , ,10#		
04182	16	03551	-3690	03	530		TFM	TRANS&23,HTYPE#		
04194	16	04329	-4350	03	540		TFM	HOLL1&11,HCONT2#		
04206	31	17224	17226	03	550		TR	CHI-1,CHI&1#		
04218	16	03570	-4282	03	560		TFM	TRNSBR&6,HCONT1#		
04230	49	03528	00000	03	570		B	TRANS#		
04238				03	580		DORG	*-3#		
04238	17	03574	000-0	03	590		BTM	WIDTST , ,10#		
04250	16	03551	-3654	03	600		TFM	TRANS&23 ,XTYPE#		
04262	16	04329	-4406	03	610		TFM	HOLL1&11 ,HCONT4&24#		
04274	49	04218	00000	03	620		B	*-56#		
04282				03	630		DORG	*-3#		
04282	16	03539	000-2	03	640	HCONT1	TFM	TRANS&11,2,10#		
04294	32	17212	00000	03	650		SF	SYM-1#		
04306	26	03551	17213	03	660		TF	TRANS&23,SYM#		
04318	16	03570	-4350	03	670	HOLL1	TFM	TRNSBR&6,HCONT2#		
04330	49	03528	00000	03	680		B	TRANS#		
04338				03	690		DORG	*-3#		
04338	31	17224	17226	03	700	HCONT3	TR	CHI-1,CHI&1#		

LCCTN	OP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE
04350	16	C3570	-4382	03	710	HCONT2	TFM	TRNSR&6,HCONT4#	80
04362	26	C3551	17225	03	720		TF	TRANS&23,CHI#	
04374	49	03528	0C000	03	730		B	TRANS#	
04382				03	740		DORG	*-3#	
04382	12	17213	000-1	03	750	HCONT4	SM	SYM,1,10#	
04394	46	04338	01100	03	760		BP	HCONT3#	
04406	16	03539	000-5	03	770		TFM	TRANS&11,5,10#	
04418	49	02900	0C000	03	780		B	FSCAN#	
04425				03	790		DORG	*-4#	
04435		11		03	800	FMTSP	DC	11,74900000a#	
04436	15	00699	0C004	03	810	DIM	TDM	DMSWCH,4#	
04448	31	17224	17242	03	820		TR	CHI-1,CHI&17#	
04460	49	09602	0C000	03	830		B	CS#	
04468				03	840		DORG	*-3#	
04468	31	17224	17236	03	850	COMM	TR	CHI-1,CHI&11#	
04480	15	00699	0C00M	03	860		TDM	DMSWCH,4,11#	
04492	49	09602	0C000	03	870		B	CS#	
04500				03	880		DORG	*-3#	
04500	31	17224	17230	03	890	IF	TR	CHI-1,CHI&5#	
04512	16	16972	000M9	03	900		TFM	PHI&220,49,10#	
04524	16	11523	0C0M9	03	910		TFM	OMMI,49,10#	
04536	15	00697	0C001	03	920		TDM	FSTSW,1#	
04548	32	00702	0C000	03	930		SF	IFSWCH#	
04560	49	11526	0C000	03	940		B	ASCAN&12#	
04568				03	950		DORG	*-3#	
04568	33	17212	0C000	03	960		CF	SYM-1#	
04580	33	17210	0C000	03	970		CF	SYM-3#	
04592	33	17208	0C000	03	980		CF	SYM-5#	
04604	33	17206	0C000	03	990		CF	SYM-7#	
04616	24	17213	04661	04	000		C	SYM,SENSE&8#	
04628	46	04672	01200	04	010		BE	IFSS#	
04640	17	11426	0-076	04	020	ER6	BTM	ERROR,76,8#	
04653		10		04	040	SENSE	DAC	10,SENSE#	
04672	31	00000	05177	04	050	IFSS	TR	OUT,IFSSRC#	
04684	14	17237	0C009	04	060		CM	CHI&12,69,10#	
04696	47	04756	01100	04	070		BNH	*&60#	
04708	25	00009	17237	04	080		TD	OUT&9,CHI&12#	
04720	31	17224	17240	04	090		TR	CHI-1,CHI&15#	
04732	14	17225	00009	04	100		CM	CHI,69,10#	
04744	46	04768	01100	04	110		BH	*&24#	
04756	17	11426	0-077	04	120	ER7	BTM	ERROR,77,8#	
04768	16	05936	-0005	04	130		TFM	KK&6,OUT&5#	
04780	16	05067	000K0	04	140		TFM	THAT&11,20,10#	
04792	49	04984	0C000	04	150		B	ELEVEN&12#	
04800				04	160		DORG	*-3#	
04800	26	04823	10864	04	170	TEN	TF	*&23,PUTETB&6#	
04812	31	12901	00000	04	180		TR	INST1&7#	
04824	26	12900	16283	04	190		TF	INST1&6,TFFAC#	
04836	31	12910	16324	04	200		TR	INST2,RVINST#	
04848	44	04868	12907	04	210		BNF	*&20,INST1&13#	
04860	49	04880	00000	04	220		B	*&20#	
04868				04	230		DORG	*-3#	
04868	27	13976	13975	04	240		BT	PUT1,PUT1-1#	
04880	44	04904	12908	04	250		BNF	*&24,INST1&14#	
04892	27	13996	13995	04	260		BT	PUT2,PUT2-1#	
04904	43	04948	12908	04	270		BD	*&44,INST1&14#	

LOC TN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	9
04916	31	00000	05088	04 280		TR	OUT ,IFRCFL#		
04928	21	00006	16135	04 290		A	OUT&6 ,L#		
04940	49	04960	00000	04 300		B	*&20#		
04948				04 310		DORG	*-3#		
04948	31	00000	05132	04 320		TR	OUT ,IFRCFX#		
04960	16	05936	-0041	04 330		TFM	KK&6 ,OUT&41#		
04972	31	J7224	17226	04 340	ELEVEN	TR	CHI-1,CHI&1,2#		
04984	17	05918	-4996	04 350		BTM	STATNO,*&12#		
04996	14	05936	-0041	04 360		CM	KK&6 ,OUT&41#		
05008	47	05032	01200	04 370		DNE	*&24#		
05020	16	05936	-0005	04 380		TFM	KK&6 ,OUT&5#		
05032	11	05936	000J2	04 390		AM	KK&6,12,10#		
05044	45	04972	17227	04 400		BNR	ELEVEN,CHI&2#		
05056	17	14522	000M4	04 410	THAT	BTM	PUTX,44,10#		
05068	16	05067	000M4	04 420		TFM	*-1,44,10#		
05080	49	00462	00000	04 430		B	BEGIN#		
05088				04 440		DORG	*-3#		
05088	43	-0024	00053	04 450	IFRCFL	BD	24,FAC-7,2#		
05100	49	00000	00000	04 460		B	#		
05112	44	00000	00060	04 470		BNF	,FAC#		
05124	49	00000	00000	04 480		B	#		
05132				04 490		DORG	*-3#		
05132	14	00060	0-000	04 500	IFRCFX	CM	FAC,,8#		
05144	46	00000	01200	04 510		BE	#		
05156	46	00000	01100	04 520		BH	#		
05168	49	00000	00000	04 530		B	#		
05176				04 540		DORG	*-3#		
05176		1		04 550		DC	1,0#		
05177		1		04 560	IFSSRC	DC	1,4#		
05188		11		04 570		DC	11,60000000000#		
05197		9		04 580		DC	9,4900000000#		
05198	31	17224	17228	04 590	DO	TR	CHI-1,CHI&3#		
05210	17	09248	-5222	04 600		BTM	CFXN,*&12#		
05222	26	05239	08346	04 610		TF	*&17,SMTLU&10#		
05234	12	00004	000L6	04 620		SM	4,36,10#		
05246	14	17225	000K3	04 630		CM	CHI,23,10#		
05258	47	05282	01200	04 640		BNE	*&24#		
05269		1		04 650		DC	1,0,#		
05270	17	11426	0-078	04 660		BTM	ERROR,78,8#		
05282	17	09474	-5294	04 670		BTM	CSORN,*&12#		
05294	K6	00011	05305	04 680		TF	OUT&11 ,*&11 ,0#		
05306	26	00006	08427	04 690		TF	OUT&6 ,SMCNT#		
05318	26	05605	08427	04 700		TF	DSADO ,SMCNT#		
05330	16	05620	0-001	04 710		TFM	DSADO&15,1,8#		
05342	16	05444	-5605	04 720		TFM	KAY&6,DSADO#		
05354	31	17224	17226	04 730	ELL	TR	CHI-1,CHI&1#		
05366	14	17225	000P0	04 740		CM	CHI,70,10#		
05378	46	05402	01300	04 750		BNL	*&24#		
05390	17	09474	-5426	04 760		BTM	CSORN,*&36#		
05402	17	09248	000-0	04 770		BTM	CFXN,,10#		
05414	26	08427	17213	04 780		TF	SMCNT,SYM#		
05426	11	05444	-0005	04 790		AM	*&18,5#		
05438	26	00000	08427	04 800	KAY	TF	,SMCNT#		
05450	45	05354	17227	04 810		BNR	ELL,CHI&2#		
05462	26	00011	05610	04 820		TF	OUT&11 ,DSADO&5#		

LOCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	10
05474	44	05498	00008	04 830		BNF	*&24 ,OUT&8‡		
05486	15	00000	0000J	04 840		TDM	OUT ,1 ,11‡		
05498	17	14522	000J2	04 850		BTM	PUTX,12,10‡		
05510	26	05610	16135	04 860		TF	DSADO&5,L‡		
05522	26	05557	05564	04 862		TF	*&35 ,EMM&6‡		
05534	11	05557	000J9	04 864		AM	*&23 ,19 ,10‡		
05546	45	11408	00000	04 866		BNR	NOSPCE‡		
05558	31	00000	05601	04 870	EMM	TR	,DSADO-4‡		
05570	11	05564	-0020	04 880		AM	*-6,20‡		
05582	26	08427	16582	04 890		TF	SMCNT,MEMCAP-1‡		
05594	49	00462	00000	04 900		B	BEGIN‡		
05601				04 910		DORG	*-4‡		
05605		00005	-0000	04 920	DSADO	DSA	0,0,0,0‡		
05610		00005	-0000						
05615		00005	-0000						
05620		00005	-0000						
05621		1		04 930		DC	1,2‡		
05622	31	17224	17232	04 940	GOTO	TR	CHI-1,CHI&7‡		
05634	14	17225	000K4	04 950		CM	CHI,24,10‡		
05646	46	05714	01200	04 960		BE	COMPUT‡		
05658	31	00000	07047	04 970		TR	OUT ,GGG‡		
05670	17	09248	-5682	04 980		BTM	CFXN,*&12‡		
05682	26	00005	08426	04 990		TF	OUT&5 ,SMCNT-1‡		
05694	17	14522	000-8	05 000		BTM	PUTX,8,10‡		
05706	49	00462	00000	05 010		B	BEGIN‡		
05714				05 020		DORG	*-3‡		
05714	16	05936	J6823	05 030	COMPUT	TFM	KK&6,PHI&71‡		
05726	31	16749	06984	05 040		TR	PHI-3,GOTORC-3‡		
05738	15	00698	00001	05 050		TDM	SBSWCH,1‡		
05750	31	17224	17226	05 060		TR	CHI-1,CHI&1‡		
05762	17	05918	-5774	05 070		BTM	STATNO,*&12‡		
05774	11	16751	000-4	05 080		AM	PHI -1,4,10‡		
05786	11	05936	000-4	05 090		AM	KK&6,4,10‡		
05798	43	05738	17224	05 100		BD	COMPUT&24,CHI-1‡		
05810	21	16787	16135	05 110		A	PHI&35,L‡		
05822	21	16794	16135	05 120		A	42&PHI,L‡		
05834	21	16806	16135	05 130		A	54&PHI,L‡		
05846	31	17224	17228	05 140		TR	CHI-1,CHI&3‡		
05858	17	09474	-5870	05 150		BTM	CSORN,*&12‡		
05870	15	00698	00000	05 160		TDM	SBSWCH,0‡		
05882	26	16758	08427	05 170		TF	PHI&6,SMCNT‡		
05894	27	14556	16751	05 180		BT	PUTPHI,PHI-1‡		
05906	49	00462	00000	05 190		B	BEGIN‡		
05918	17	09248	-5930	05 200	STATNO	BTM	CFXN,*&12‡		
05930	26	00000	08426	05 210	KK	TF	,SMCNT-1‡		
05942	26	05964	08346	05 220		TF	*&22,SMTLU1&10‡		
05954	44	05986	00005	05 230		BNF	*&32,5‡		
05966	26	05984	05917	05 240		TF	*&18,STATNO-1‡		
05978	49	00000	00000	05 250		B	‡		
05985				05 260		DORG	*-4‡		
05986	26	06008	08346	05 270		TF	*&22,SMTLU1&10‡		
05998	44	06018	00004	05 280		BNF	*&20,4‡		
06010	49	05966	00000	05 290		B	KK&36‡		
06018				05 300		DORG	*-3‡		
06018	26	06035	08346	05 310		TF	*&17,SMTLU1&10‡		

LCCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	11
06030	16	00005	-0090	05	320		TFM	5,90‡		
06042	49	05966	00000	05	330		B	KK&36‡		
06050				05	340		DORG	*-3‡		
06050	17	06482	-6062	05	350	BEGPRO	BTM	GETNO,*&12‡		
06062	31	00000	06598	05	360		TR	OUT ,BEREC‡		
06074	21	00005	08426	05	370		A	OUT&5 ,SMCNT-1‡		
06086	17	14522	000J6	05	380		BTM	PUTX,16,10‡		
06098	26	06115	08346	05	390		TF	*&17,SMTLUI&10‡		
06110	26	00004	16135	05	400		TF	4,L‡		
06122	26	00088	08427	05	410		TF	88,SMCNT‡		
06134	26	16290	16135	05	420		TF	BRINST&6,L‡		
06146	33	16286	00000	05	430		CF	BRINST&2‡		
06158	31	00089	16346	05	440		TR	89,CRAM-3‡		
06170	31	00091	16284	05	450		TR	91,BRINST‡		
06182	31	00098	16347	05	460		TR	98,CRAM-2‡		
06194	27	14868	14867	05	470		BT	COMGO,COMGO-1‡		
06206	21	00006	16135	05	480		A	OUT&6 ,L‡		
06218	26	00010	08426	05	490		TF	OUT&10 ,SMCNT-1‡		
06230	17	14522	000J2	05	500		BTM	PUTX,12,10‡		
06242	49	00462	00000	05	510		B	BEGIN‡		
06250				05	520		DORG	*-3‡		
06250	32	06270	00000	05	530	ENDPRO	SF	XETURN‡		
06262	49	06282	00000	05	540		B	XETURN&12‡		
06270				05	550		DORG	*-3‡		
06270	33	06270	00000	05	560	XETURN	CF	XETURN‡		
06282	17	06482	-6294	05	570		BTM	GETNO,*&12‡		
06294	31	00000	06606	05	580		TR	OUT ,BEREC&8‡		
06306	26	06328	08346	05	590		TF	*&22,SMTLUI&10‡		
06318	21	00006	00004	05	600		A	OUT&6 ,4‡		
06330	17	14522	000-8	05	610		BTM	PUTX,8,10‡		
06342	44	00462	06270	05	620		BNF	BEGIN,XETURN‡		
06354	26	16141	08427	05	630		TF	LODER,SMCNT‡		
06366	12	16141	000J0	05	640		SM	LODER,10,10‡		
06378	26	16290	16135	05	650		TF	BRINST&6,L‡		
06390	27	14820	14819	05	660		BT	BGO,BGO-1‡		
06402	49	00462	00000	05	670		B	BEGIN‡		
06410				05	680		DORG	*-3‡		
06410	17	06482	-6422	05	690	EXPROC	BTM	GETNO,*&12‡		
06422	31	00000	06627	05	700		TR	OUT ,EXEC‡		
06434	26	00005	08426	05	710		TF	OUT&5 ,SMCNT-1‡		
06446	21	00011	16135	05	720		A	OUT&11 ,L‡		
06458	17	14522	000J2	05	730		BTM	PUTX,12,10‡		
06470	49	06640	00000	05	740		B	TESTDO‡		
06482	31	17224	17226	05	750	GETNO	TR	CHI-1,CHI&1‡		
06494	14	17225	00009	05	760		CM	CHI,69,10‡		
06506	47	06482	C1100	05	770		BNH	*-24‡		
06518	17	09248	-6530	05	780		BTM	CFXN,*&12‡		
06530	26	06571	08346	05	790		TF	*&41,SMTLUI&10‡		
06542	26	06576	08346	05	800		TF	*&34,SMTLUI&10‡		
06554	12	06571	000-1	05	810		SM	*&17,1,10‡		
06566	26	00009	00009	05	820		TF	9,9‡		
06578	26	06596	06481	05	830		TF	*&18,GETNO-1‡		
06590	49	98765	00000	05	840		B	98765‡		
06597				05	850		DORG	*-4‡		
06598	49	-00J0	00000	05	860	BEREC	B	10,,25‡		

LOC TN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	12
06606				05 870		DORG	*-3#		
06606	49	-000Q	00000	05 880		B	8,,26#		
06614				05 890		DORG	*-3#		
06614	26	-000K	00001	05 900		TF	2,1,26#		
06626		1		05 910		DC	1,2#		
06627		1		05 920	EXREC	DC	1,1#		
06633		6		05 930		DC	6,700002#		
06639		6		05 940		DC	6,00012a#		
06640	44	03890	00701	05 950	TESTDO	BNF	CONFMT-20 ,DOSWCH#		
06652	31	00000	06947	05 960		TR	OUT ,DORCRD#		
06664	12	05564	-0020	05 970		SM	EMM&6,20#		
06676	26	06699	05564	05 980		TF	*&23,EMM&6#		
06688	31	00040	00000	05 990		TR	OUT&40#		
06700	26	06718	06699	06 000		TF	*&18,*-1#		
06712	15	00000	00000	06 010		TDM	#		
06723		1		06 020		DC	1,2,##		
06724	11	06718	-0010	06 030		AM	*-6,10#		
06736	26	06754	06718	06 040		TF	*&18,*-18#		
06748	26	00000	16349	06 050		TF	,CRAM#		
06760	11	06754	-0010	06 060		AM	*-6,10#		
06772	26	06790	06754	06 070		TF	*&18,*-18#		
06784	26	00000	16349	06 080		TF	,CRAM#		
06796	26	00006	00044	06 090		TF	OUT&6 ,OUT&44#		
06808	26	00011	00059	06 100		TF	OUT&11 ,OUT&59#		
06820	26	00018	00044	06 110		TF	OUT&18 ,OUT&44#		
06832	26	00023	00054	06 120		TF	OUT&23 ,OUT&54#		
06844	26	00030	00049	06 130		TF	OUT&30 ,OUT&49#		
06856	44	06880	00007	06 140		BNF	*&24 ,OUT&7#		
06868	15	00000	00002	06 150		TDM	OUT ,2#		
06880	44	06904	00019	06 160		BNF	*&24 ,OUT&19#		
06892	15	00012	00002	06 170		TDM	OUT&12 ,2#		
06904	17	14522	000L6	06 180		BTM	PUTX,36,10#		
06916	11	01069	000L6	06 190		AM	SLOT ,36,10#		
06928	47	06652	01200	06 200		BNE	TESTDO&12#		
06940	49	03890	00000	06 210		B	CONFMT-20#		
06947				06 220		DORG	*-4#		
06947		1		06 230	DORCRD	DC	1,1#		
06958		11		06 240		DC	11,10000000000#		
06970		12		06 250		DC	12,14000000000#		
06983		13		06 260		DC	13,470000001100a#		
06986		3		06 270		DC	3,68#		
06987		1		06 280	GOTORC	DC	1,1#		
06996		9		06 290		DC	9,300009000#		
06998		2		06 300		DC	2,04#		
07010		12		06 310		DC	12,32000950000#		
07017		7		06 320		DC	7,1100099#		
07022		5		06 330		DC	5,00067#		
07034		12		06 340		DC	12,260005900099#		
07046		12		06 350		DC	12,26000650000#		
07047		1		06 360	GGG	DC	1,4#		
07055		8		06 370		DC	8 ,9000000a#		
06640				06 380	CONTIN	DS	,TESTDO#		
07056	16	12895	000M8	06 390	PAUSE	TFM	INST1&1 ,48 ,10#		
07068	49	07200	00000	06 420		B	ENDX-32#		
07076				06 430		DORG	*-3#		

07076	31	17224	17232	06	450	STOP	TR	CHI-1,CHI&7#	
07088	26	12901	07115	06	460		TF	INST1&7,CONTRL-1#	
07100	49	07140	00000	06	470		B	CONTRL&24#	
07108					480		DORG	*-3#	
07108	J7	02452	-0000	06	490		BTM	STOPSR , ,07#	
07116					500		DORG	*-3#	
07116	31	17224	17238	06	510	CONTRL	TR	CHI-1,CHI&13#	
07128	16	12895	0004	06	520		TFM	INST1&1,34,10#	
07140	17	09248	000-0	06	550		BTM	CFXN,,10#	
07152	26	12905	17213	06	560		TF	INST1&11,SYM#	
07164	33	12902	00000	06	570		CF	INST1&8#	
07176	45	07200	17225	06	580		BNR	*&24,CHI#	
07188	16	12905	-0000	06	590		TFM	INST1&11#	
07200	31	12906	16345	06	595		TR	INST1&12 ,CRAM-4#	
07212	27	13976	13975	06	600		BT	PUT1,PUT1-1#	
07224	49	06640	00000	06	610		B	TESTDO#	
07232					620		DORG	*-3#	
07232	49	02562	00000	06	630	ENDX	B	ENDSR#	
07239					640		DORG	*-4#	
07239		1			650		DC	1,2#	
07240	31	00000	07232	06	660	END	TR	OUT ,ENDX#	
07252	17	14522	000-8	06	670		BTM	PUTX,8,10#	
07264	16	14756	-7284	06	680		TFM	DUMP&54,*&20#	
07276	49	14702	00000	06	690		B	DUMP#	
07284					700		DORG	*-3#	
07284	16	14756	J4592	06	710		TFM	DUMP&54,PUTPHI&36#	
07296	45	07316	16669	06	720		BNR	*&20,IMAGE#	
07308	49	07340	00000	06	730		B	*&32#	
07316					740		DORG	*-3#	
07316	43	07340	00459	06	750		BD	*&24,SKPPCH#	
07328	38	16669	00400	06	760		WNCD	IMAGE#	
07340	26	16600	16135	06	770		TF	BUFBAS&6,L#	
07352	16	17213	00R99	06	780		TFM	SYM,999,9#	
07364	16	09473	-7384	06	790		TFM	CSORN-1,*&20#	
07376	49	08280	00000	06	800		B	SMTLU#	
07384					810		DORG	*-3#	
07384	26	16605	08427	06	820		TF	BUFBAS&11,SMCNT#	
07396	26	16610	08347	06	830		TF	BUFBAS&16,SMTLU&11#	
07408	31	16611	16156	06	840		TR	BUFBAS&17,USEDFS#	
07420	31	16661	16578	06	850		TR	BUFBAS&67,MEMCAP-5#	
07432	26	07491	16582	06	870	DOI	TF	*&59,MEMCAP-1#	
07444	26	07474	16582	06	880		TF	*&30,MEMCAP-1#	
07456	46	07904	00100	06	890		BC1	EXIT#	
07468	34	00000	00102	06	900		RCTY	#	
07475		1			910		DC	1,2,*-4#	
07480	26	07901	00000	06	920		TF	DOIT-3#	
07492	44	07556	07901	06	930		BNF	NOTCON ,DOIT-3#	
07504	44	07536	07898	06	940		BNF	FLPCON ,DOIT-6#	
07516	16	07674	-7898	06	950	FXPCON	TFM	WNUM&5 ,DOIT-6#	
07528	49	07632	00000	06	960		B	WADDR#	
07536					970		DORG	*-3#	
07536	16	07674	-7892	06	980	FLPCON	TFM	WNUM&5 ,DOIT-12#	
07548	49	07632	00000	06	990		B	WADDR#	
07556					000		DORG	*-3#	
07556	44	07612	07899	07	010	NOTCON	BNF	NOTACC,DOIT-5#	

LOCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	14
07568	14	07901	00R99	07 020		CM	DOIT-3,999,9‡		
07580	46	07904	01200	07 030		BE	EXIT‡		
07592	16	07674	-7899	07 040		TFM	WNUMB&6,DOIT-5‡		
07604	49	07632	00000	07 050		B	WADDR‡		
07612				07 060		DORG	*-3‡		
07612	44	07712	07898	07 070	NOTACC	BNF	VAR,DOIT-6‡		
07624	49	07516	00000	07 080		B	FXPCON‡		
07632				07 090		DORG	*-3‡		
07632	38	07470	00100	07 100	WADDR	WNTY	DOI&38‡		
07644	34	00000	0010J	07 110		SPTY	,,11‡		
07651		1		07 120		DC	1,2,*-4‡		
07656	44	07732	07655	07 130		BNF	VARE20,*-1‡		
07668	38	00000	00100	07 140	WNUMB	WNTY	‡		
07680	12	07491	000J0	07 150	RETURN	SM	DOI&59,10,10‡		
07692	12	07474	000J0	07 160		SM	DOI&42,10,10‡		
07704	49	07456	00000	07 170		B	DOI&24‡		
07712				07 180		DORG	*-3‡		
07712	33	07655	00000	07 190	VAR	CF	WADDR&23‡		
07724	49	07632	00000	07 200		B	WADDR‡		
07732				07 210		DORG	*-3‡		
07732	39	07893	00100	07 220		WATY	DOIT-11‡		
07744	32	07655	00000	07 230		SF	WADDR&23‡		
07756	26	07790	07490	07 240		TF	*&34,DOI&58‡		
07768	12	07790	000-1	07 250		SM	*&22,1,10‡		
07780	44	07680	00005	07 260		BNF	RETURN,5‡		
07792	26	07814	07790	07 270		TF	*&22,*-2‡		
07804	44	07824	00006	07 280		BNF	*&20,6‡		
07816	49	07680	00000	07 290		B	RETURN‡		
07824				07 300		DORG	*-3‡		
07824	26	07846	07790	07 310		TF	*&22,VAR&78‡		
07836	26	07474	00009	07 320		TF	DOI&42,9‡		
07848	34	00000	00101	07 330		SPTY	‡		
07860	38	07470	00100	07 340		WNTY	DOI&38‡		
07872	12	07491	000K0	07 350		SM	DOI&59,20,10‡		
07884	49	07692	00000	07 360		B	RETURN&12‡		
07901		6		07 370		DS	6‡		
07902		1		07 380		DC	1,2‡		
07903		1		07 390		DC	1,2‡		
07904				07 400	DOIT	DS	,*&1‡		
07904	43	08056	00459	07 410	EXIT	BD	MOON7-24,SKPPCH‡		
07916	46	07996	00300	07 420		BC3	LOOP‡		
07928	31	00402	16596	07 430		TR	402,BUFBAS&2‡		
07940	49	07952	-0152	07 440		B	STOPER,152,7‡		
07952	34	00000	00102	07 450	STOPER	RCTY	‡		
07964	39	02735	00100	07 470		WATY	LSUBS‡		
07976	36	00000	00500	07 480		RNCD	‡		
07988	49	00000	00000	07 490		B	‡		
07995		1		07 500		DC	1,2,*-4‡		
07996				07 510		DORG	*-3‡		
07996	15	16644	0000J	07 520	LOOP	TDM	BUFBAS&50,1,11‡		
08008	16	16595	-0402	07 530		TFM	BUFBAS&1,402‡		
08020	38	16591	00400	07 540		WNCB	LOAD-2‡		
08032	38	02729	00400	07 550		WNCB	LSUBS-6‡		
08044	38	07347	00400	07 560		WNCB	STOPER-5‡		
08056	34	00000	00102	07 570		RCTY	‡		

08068	39	16511	00100	07	580		WATY	ECC#		
08080	26	08098	16588	07	590	MOON7	TF	*E18,FCTEND#		
08092	26	00000	16349	07	600		TF	,CRAM#		
08104	26	08157	08097	07	610		TF	*E53,*-7#		
08116	12	08098	000J0	07	620		SM	*-18,10,10#		
08128	14	08098	J7396	07	630		CM	*-30,LAST&12#		
08140	46	08092	01100	07	640		BH	*-48#		
08152	15	00008	000C0	07	650		TDM	8#		
08164	26	05564	08098	07	660		TF	EMM&6,MOON7&18#		
08176	22	16205	16205	07	670		S	USED FS&49,USED FS&49#		
08188	34	K0000	20102	07	680		K	20000 ,20102 ,2#		
08195				07	685	INCREM	DS	,*-4#		
08200	15	15991	00001	07	687		TDM	TRACE&1 ,1#		
08212	39	16551	00100	07	690		WATY	LSTM#		
08224	41	N1000	00000	07	700		NOP	51000 , ,2#		
08235				07	705	F1	DS	,**#		
08236	15	08225	00008	07	710		TDM	*-11,8#		
08248	38	16350	00400	07	740		WNCD	LROUT#		
08260	38	16430	00400	07	750		WNCD	LROUT2#		
08272	49	00402	00000	07	760		B	INITL#		
08280				07	770		DORG	*-3#		
08280	26	08427	16582	07	780	SMTLU	TF	SMCNT,MECAP-1#		
08292	26	08346	16581	07	790		TF	SMTLU1&10,MECAP-2#		
08304	49	08336	00000	07	800		B	SMTLU1#		
08312				07	810		DORG	*-3#		
08324	12	08426	000-1	07	820	SMLOOP	SM	SMCNT-1,1,10#		
08324	12	08346	000-1	07	830		SM	SMTLU1&10,1,10#		
08336	26	17223	00009	07	840	SMTLU1	TF	COMP,9#		
08348	44	08380	17221	07	850		BNF	*E32,COMP-2#		
08360	44	08312	17211	07	860		BNF	SMLOOP,SYM-2#		
08372	49	08596	00000	07	870		B	SMTST#		
08380				07	880		DORG	*-3#		
08380	44	08428	17219	07	890		BNF	SMNOT,COMP-4#		
08392	26	08426	17222	07	900		TF	SMCNT-1,COMP-1#		
08404	15	17219	00000	07	910		TDM	COMP-4,0#		
08416	49	08312	R9999	07	920		B	SMLOOP,99999,7#		
08427				07	930	SMCNT	DS	,**#		
08428	45	08596	17223	07	940	SMNOT	BNR	SMTST,COMP#		
08440	45	11408	17222	07	950		BNR	NOSPCE,COMP-1#		
08452	26	08469	08346	07	960		TF	*E17,SMTLU1&10#		
08464	26	00009	17213	07	970		TF	9,SYM#		
08476	44	08548	17213	07	980		BNF	MOON3,SYM#		
08488	33	17213	00000	07	990		CF	SYM#		
08500	15	17214	00000	08	000		TDM	SYM&1#		
08511		1		08	010		DC	1,a,*#		
08512	31	00089	17204	08	020		TR	89,SYM-9#		
08524	26	00088	08427	08	030		TF	88,SMCNT#		
08536	27	14868	14867	08	040		BT	COMGO,COMGO-1#		
08548	43	08864	00699	08	050	MOON3	BD	DMM,DMSWCH#		
08560	14	17225	000K4	08	070		CM	CHI,24,10#		
08572	47	11332	01200	08	080		BNE	PUTETA-12#		
08584	17	11426	0-072	08	090		BTM	ERROR,72,8#		
08596	24	17213	17223	08	100	SMTST	C	SYM,COMP#		
08608	46	08312	C1400	08	110		BV	SMLOOP#		
08620	47	08312	C1200	08	120		BNE	SMLOOP#		

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND	REMARKS	PAGE	16
08632	24	17223	17213	08 130		C	COMP,SYM#				
08644	46	08312	01400	08 140		BV	SMLOOP#				
08656	31	17215	10899	08 150		TR	COMP-8,ETAC-7#				
08668	24	08347	16588	08 160		C	SMTLUI&11,FCTEND#				
08680	47	11308	01100	08 170		BNH	PUTETA-36#				
08692	25	08714	08426	08 180		TD	*&22,SMCNT-1#				
08704	43	08728	00200	08 190		BD	*&24,200#				
08716	11	08426	000-1	08 200		AM	SMCNT-1,1,10#				
08728	16	08782	J6105	08 210		TFM	*&54,USEDIFS-51#				
08740	26	08775	08426	08 220		TF	*&35,SMCNT-1#				
08752	32	08774	00000	08 230		SF	*&22#				
08764	11	08782	-0000	08 240		AM	*&18,#				
08776	15	16105	00001	08 250		TDM	USEDIFS-51,1#				
08788	15	08427	00000	08 260		TDM	SMCNT,0#				
08800	16	17225	000M6	08 270		TFM	CHI,46,10#				
08812	15	11597	00000	08 280		TDM	FXORFL#				
08824	16	09473	-8844	08 290		TFM	CSORN-1,*&20#				
08836	49	11344	00000	08 300		B	PUTETA#				
08844				08 310		DORG	*-3#				
08844	15	00697	00001	08 320		TDM	FSTSW,1#				
08856	49	12582	00000	08 330		B	TFSAVE#				
08863				08 340		DORG	*-4#				
08864	26	09123	08427	08 350	DMM	TF	DIMONT,SMCNT#				
08876	14	17225	000K4	08 351		CM	CHI ,24 ,10#				
08888	46	08920	01200	08 352		BE	*&32#				
08900	44	09192	00699	08 354		BNF	DIMC-32 ,DMSWCH#				
08912	49	09124	00000	08 356		B	DIMB&12#				
08920				08 358		DORG	*-3#				
08920	12	08346	000-1	08 360		SM	SMTLUI&10,1,10#				
08932	26	08997	08346	08 370		TF	DIMA&5,SMTLUI&10#				
08944	26	09117	08346	08 380		TF	DIMB&5,SMTLUI&10#				
08956	11	09122	000-1	08 390		AM	DIMONT-1,1,10#				
08968	31	17222	17224	08 400		TR	CHI-3,CHI-1#				
08980	17	09248	000-0	08 410		BTM	CFXN,0,10#				
08992	26	19994	17213	08 420	DIMA	TF	19994,SYM#				
09004	31	17222	17224	08 430		TR	CHI-3,CHI-1#				
09016	14	17223	000-4	08 440		CM	CHI-2,4,10#				
09028	46	09224	01200	08 450		BE	DIMC#				
09040	26	17223	17213	08 460		TF	SYM&10,SYM#				
09052	17	09248	000-0	08 470		BTM	CFXN,,10#				
09064	23	17223	17213	08 480		M	SYM&10,SYM#				
09076	32	00096	00000	08 490		SF	96#				
09088	31	17222	17224	08 500		TR	CHI-3,CHI-1#				
09100	22	09122	00099	08 510		S	DIMONT-1,99#				
09112	16	19999	-0000	08 520	DIMB	TFM	19999,#				
09123				08 530	DIMCNT	DS	,#				
09124	45	09156	17227	08 540		BNR	*&32,CHI&2#				
09136	15	00699	00000	08 550		TDM	DMSWCH#				
09148	49	00462	00000	08 560		B	BEGIN#				
09156				08 570		DORG	*-3#				
09156	14	17225	000K3	08 580		CM	CHI,23,10#				
09168	31	17222	17224	08 590		TR	CHI-3,CHI-1#				
09180	46	09204	01200	08 600		BE	*&24#				
09192	17	11426	C-079	08 610		BTM	ERROR,79,8#				
09204	45	09602	17227	08 620		BNR	CS,CHI&2#				

LOC TN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	17
09216	49	09192	00000	08 630		B	*-24‡		
09224				08 640		DORG	*-3‡		
09224	22	09122	17213	08 650	DIMC	S	DIMONT-1,SYM‡		
09236	49	C9112	C000C	08 660		B	DIMB‡		
09248	16	17209	0-000	08 670	CFXN	TFM	SYM-4,,8‡		
09260	16	09290	J7209	08 680		TFM	*&30,SYM-4‡		
09272	11	09290	C00-1	08 690		AM	*&18,1,10‡		
09284	25	17210	17225	08 700		TD	SYM-3,CHI‡		
09296	31	17222	17224	08 710		TR	CHI-3,CHI-1‡		
09308	45	09328	17225	08 720		BNR	*&20,CHI‡		
09320	49	09376	C0000	08 730		B	*&56‡		
09328				08 740		DORG	*-3‡		
09328	14	17225	C00-0	08 750		CM	CHI,,10‡		
09340	46	09296	01200	08 760		BE	*-44‡		
09352	14	17225	C0009	08 770		CM	CHI,69,10‡		
09364	46	09272	01100	08 780		BH	CFXN&24‡		
09376	14	09290	J7213	08 790		CM	CFXN&42,SYM‡		
09388	46	10462	01100	08 800		BH	EXCESS‡		
09400	26	09423	09290	08 810		TF	*&23,CFXN&42‡		
09412	26	17213	C0000	08 820		TF	SYM‡		
09424	32	17210	C0000	08 830		SF	SYM-3‡		
09436	44	09450	09246	08 840		BNF	*&14,CFXN-2‡		
09448	42	C0000	C0000	08 850		BB	‡		
09450				08 860		DORG	*-9‡		
09450	26	09473	09247	08 870		TF	CSORN-1,CFXN-1‡		
09462	49	08280	C0000	08 880		B	SMTLU‡		
09474	14	17225	C00-3	08 890	CSORN	CM	CHI,3,10‡		
09486	15	11597	C0000	08 900		TDM	FXORFL‡		
09498	46	09850	01200	08 910		BE	NUMBER‡		
09510	14	17225	C00P0	08 920		CM	CHI,70,10‡		
09522	46	09850	C1300	08 930		BNL	NUMBER‡		
09534	14	17225	C00M8	08 940		CM	CHI,48,10‡		
09546	46	09566	01100	08 950		BH	*&20‡		
09558	49	09602	C0000	08 960		B	CS‡		
09566				08 970		DORG	*-3‡		
09566	14	17225	C00N5	08 980		CM	CHI,55,10‡		
09578	46	09602	C1100	08 990		BH	CS‡		
09590	15	11597	C0002	09 000		TDM	FXORFL,2‡		
09602	16	09632	J7205	09 010	CS	TFM	SALT&6,SYM-8‡		
09614	26	17214	11489	09 020		TF	SYM&1,ZERO9‡		
09626	26	17205	17225	09 030	SALT	TF	SYM-8,CHI‡		
09638	31	17222	17224	09 040		TR	CHI-3,CHI-1‡		
09650	11	09632	C00-2	09 050		AM	SALT&6,2,10‡		
09662	14	17225	C00M0	09 060		CM	CHI,40,10‡		
09674	46	10530	C1300	09 070		BNL	SYMCHK‡		
09686	33	17212	C0000	09 080		CF	SYM-1‡		
09698	33	17210	C0000	09 090		CF	SYM-3‡		
09710	33	17208	C0000	09 100		CF	SYM-5‡		
09722	33	17206	C0000	09 110		CF	SYM-7‡		
09734	49	08280	C0000	09 120		B	SMTLU‡		
09742				09 130		DORG	*-3‡		
09742	14	10008	J7210	09 140	FXNUMB	CM	NUMB1&6 ,SYM-3‡		
09754	15	11597	C0002	09 150		TDM	FXORFL,2‡		
09766	46	10462	C1100	09 160		BH	EXCESS‡		
09778	16	17205	C-000	09 170		TFM	SYM-8 , ,8‡		

LDCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	18
09790	26	09813	10008	09	180		TF	*&23,NUMB1&6‡		
09802	26	17214	00000	09	190		TF	SYM&1‡		
09814	32	17213	00000	09	200		SF	SYM‡		
09826	32	17210	00000	09	210		SF	SYM-3‡		
09838	49	08280	00000	09	220		B	SMTLU‡		
09850	26	17213	08235	09	230	NUMBER	TF	SYM ,F1‡		
09862	16	09849	J0118	09	240		TFM	NUMBER-1,NUMB3‡		
09874	16	10008	J7206	09	250		TFM	NUMB1&6 ,SYM-7‡		
09886	14	17225	000P0	09	260		CM	CHI,70,10‡		
09898	47	09930	01200	09	270		BNE	*&32‡		
09910	31	17224	17226	09	280		TR	CHI-1,CHI&1‡		
09922	49	09886	00000	09	290		B	*-36‡		
09930				09	300		DORG	*-3‡		
09930	14	17225	000-3	09	310	NUMB	CM	CHI,3,10‡		
09942	46	10058	01200	09	320		BE	FLNUMB‡		
09954	14	17225	00009	09	330		CM	CHI,69,10‡		
09966	47	09742	01100	09	340		BNH	FXNUMB‡		
09978	14	10008	J7213	09	350		CM	NUMB1&6,SYM‡		
09990	46	10014	01100	09	360		BH	NUMB1&12‡		
10002	25	00000	17225	09	370	NUMB1	TD	,CHI‡		
10014	31	17224	17226	09	380		TR	CHI-1,CHI&1‡		
10026	11	10008	-0001	09	390		AM	NUMB1&6,1‡		
10038	J1	17205	000-1	09	400	NUMB5	AM	SYM-8 ,1 ,010‡		
10050	49	09930	00000	09	410		B	NUMB‡		
10058				09	420		DORG	*-3‡		
10058	26	10220	10008	09	430	FLNUMB	TF	NUMB2&6,NUMB1&6‡		
10070	14	17205	000N1	09	440		CM	SYM-8 ,51 ,10‡		
10082	46	10106	01200	09	450		BE	*&24‡		
10094	16	09849	J0226	09	460		TFM	NUMBER-1,NUMB2&12‡		
10106	26	10160	09849	09	470		TF	VARBR&6,NUMBER-1‡		
10118	12	17205	000-1	09	480	NUMB3	SM	SYM-8 ,1 ,10‡		
10130	31	17224	17226	09	490		TR	CHI-1,CHI&1‡		
10142	14	17225	000P0	09	500		CM	CHI,70,10‡		
10154	46	00000	01200	09	510	VARBR	BE	‡		
10166	47	10246	01100	09	520		BNH	CMPAR‡		
10178	16	10160	J0226	09	530		TFM	VARBR&6,NUMB2&12‡		
10190	14	10220	J7213	09	540		CM	NUMB2&6 ,SYM‡		
10202	46	10226	01100	09	550		BH	NUMB2&12‡		
10214	25	00000	17225	09	560	NUMB2	TD	,CHI‡		
10226	11	10220	-0001	09	570		AM	NUMB2&6,1‡		
10238	49	10130	00000	09	580		B	NUMB3&12‡		
10246				09	590		DORG	*-3‡		
10246	14	17225	000M5	09	600	CMPAR	CM	CHI,45,10‡		
10258	47	10438	01200	09	610		BNE	PLUS&12‡		
10270	26	10436	10048	09	620		TF	PLUS&10,NUMB5&10‡		
10282	14	17227	000K0	09	630		CM	CHI&2,20,10‡		
10294	47	10330	01300	09	640		BL	*&36‡		
10306	47	10342	01200	09	650		BNE	*&36‡		
10318	15	10427	00002	09	660		TDM	PLUS&1,2‡		
10330	31	17224	17226	09	670		TR	CHI-1,CHI&1‡		
10342	25	10437	17227	09	680		TD	PLUS&11,CHI&2‡		
10354	31	17224	17228	09	690		TR	CHI-1,CHI&3‡		
10366	14	17225	00009	09	700		CM	CHI,69,10‡		
10378	47	10426	01100	09	710		BNH	PLUS‡		
10390	22	10436	10437	09	720		S	PLUS&10,PLUS&11‡		
10402	25	10437	17225	09	730		TD	PLUS&11,CHI‡		

LOCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	19
10414	31	17224	17226	09 740		TR	CHI-1,CHI&1#		
10426	11	17205	-0000	09 750	PLUS	AM	SYM-8#		
10438	46	10462	01400	09 760		BV	EXCESS#		
10450	44	10474	17205	09 770		BNF	*&24 ,SYM-8#		
10462	17	11426	0-073	09 780	EXCESS	BTM	ERROR ,73 ,8#		
10474	15	11597	00000	09 790		TDM	FXORFL,0#		
10486	32	17213	00000	09 800		SF	SYM#		
10498	43	08280	17206	09 810		BD	SMTLU,SYM-7#		
10510	16	17205	000-0	09 820		TFM	SYM-8 , ,10#		
10522	49	08280	00000	09 830		B	SMTLU#		
10530				09 840		DORG	*-3#		
10530	14	09632	J7215	09 860	SYMCHK	CM	SALT&6,SYM&2#		
10542	47	09626	01200	09 870		BNE	SALT#		
10554	44	04640	00702	09 880		BNF	ER6 ,IFSWCH#		
10566	49	04568	00000	09 890		B	IF&68#		
10574				09 900		DORG	*-3#		
10574	26	10608	08346	09 920	SCRIPT	TF	*&34,SMTLU1&10#		
10586	12	10609	000J0	09 930		SM	*&23,10,10#		
10598	44	08584	00005	09 940		BNF	SMTST-12,5#		
10610	26	10632	10608	09 950		TF	*&22,*-2#		
10622	44	10642	00006	09 960		BNF	*&20,6#		
10634	49	08584	00000	09 970		B	SMTST-12#		
10642				09 980		DORG	*-3#		
10642	15	00698	00002	09 990		TDM	SBSWCH,2#		
10654	31	10889	10898	10 000		TR	ETAN,ETAC-8#		
10666	26	10893	08427	10 010		TF	ETAN&4,SMC#		
10678	11	10892	000-1	10 020		AM	ETAN&3,1,10#		
10690	26	10724	08346	10 030		TF	*&34,SMTLU1&10#		
10702	12	10724	000-1	10 040		SM	*&22,1,10#		
10714	26	00004	00004	10 050		TF	OUT&4 ,4#		
10726	17	11084	J0738	10 060		BTM	COLECT,*&12#		
10738	31	00005	16137	10 070		TR	OUT&5 ,SYMB5B-4#		
10750	22	10892	11287	10 080		S	ETAN&3,NOMB#		
10762	14	17225	000K3	10 090		CM	CHI,23,10#		
10774	46	10908	01200	10 100		BE	TWODIM#		
10786	44	11000	00009	10 110	QUERY	BNF	GORE ,OUT&9#		
10798	31	17224	17226	10 120		TR	CHI-1,CHI&1#		
10810	15	00698	00000	10 130		TDM	SBSWCH#		
10822	25	10896	11597	10 140		TD	ETAN&7,FXORFL#		
10834	43	11376	00700	10 150		BD	PETA,FLAGSW#		
10846	11	10864	000-9	10 160		AM	*&18,9,10#		
10858	31	00000	10889	10 170	PUTETB	TR	,ETAN#		
10870	26	10888	09473	10 180		TF	*&18,CSORN-1#		
10882	49	98765	00000	10 190		B	98765#		
10889				10 200	ETAN	DS	,*-4#		
10897		4		10 210		DS	4#		
10906		9		10 220	ETAC	DC	9,a#		
10908	17	11084	J0920	10 230	TWODIM	BTM	COLECT,*&12#		
10920	31	00010	16137	10 240		TR	OUT&10 ,SYMB5B-4#		
10932	23	00004	11287	10 250		M	OUT&4 ,NOMB#		
10944	32	00096	00000	10 260		SF	96#		
10956	22	10892	00099	10 270		S	ETAN&3,99#		
10968	21	10892	00004	10 280		A	ETAN&3 ,OUT&4#		
10980	44	11000	00014	10 290		BNF	GORE ,OUT&14#		
10992	49	10786	00000	10 300		B	QUERY#		

LOCTN	OP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	20
11000				10	310		DORG	*-3#		
11000	11	11387	000-1	10	320	GCORE	AM	SUBN,1,10#		
11012	26	10895	11387	10	330		TF	ETAN&6,SUBN#		
11024	13	11387	000J5	10	340		MM	SUBN,15,10#		
11036	16	11066	J7203	10	350		TFM	*E30,TOPE1#		
11048	22	11066	0C099	10	360		S	*E18,99#		
11060	31	00000	0C001	10	370		TR	,OUT&1#		
11072	49	10798	CC000	10	380		B	QUERY&12#		
11084	15	11277	0C003	10	390	COLECT	TDM	FAGR&1,3#		
11096	16	16141	-000-	10	400		TFM	SYMB5B,0,711#		
11108	16	11287	C-000	10	410		TFM	NCMB,,8#		
11120	31	17224	17226	10	420		TR	CHI-1,CHI&1#		
11132	14	17225	00009	10	430		CM	CHI,69,10#		
11144	46	11252	C1100	10	440		BH	FAGR-24#		
11156	17	09602	000-2	10	450		BTM	CS,2,10#		
11168	26	16141	08427	10	460		TF	SYMB5B,SMCNT#		
11180	14	17225	000J0	10	470		CM	CHI,10,10#		
11192	46	11240	01200	10	480		BE	*E48#		
11204	14	17225	000K0	10	490		CM	CHI,20,10#		
11216	47	11288	01200	10	500		BNE	FAGR&12#		
11228	15	11277	C0002	10	510		TDM	FAGR&1,2#		
11240	31	17224	17226	10	520		TR	CHI-1,CHI&1#		
11252	17	09248	000-0	10	530		BTM	CFXN,,10#		
11264	26	11287	17213	10	540		TF	NCMB,SYM#		
11276	33	11287	00000	10	550	FAGR	CF	NCMB#		
11288	26	11306	11083	10	560		TF	*E18,COLECT-1#		
11300	49	00000	00000	10	570		B	#		
11308				10	580		DORG	*-3#		
11287				10	590	NOMB	DS	,FAGR&11#		
11308	14	17225	0C0K4	10	600		CM	CHI,24,10#		
11320	46	10574	01242	10	610		BE	SCRIPT,42#		
11332	43	11330	00698	10	620		BD	*-2,SBSWCH#		
11344	31	10889	10898	10	630	PUTETA	TR	ETAN,ETAC-8#		
11356	26	10893	08427	10	640		TF	ETAN&4,SMCNT#		
11368	49	10822	00000	10	650		B	QUERY&36#		
11376				10	660		DORG	*-3#		
11376	32	10896	00000	10	670	PETA	SF	ETAN&7#		
11387		2		10	675	SUBN	DC	2 ,0 ,#		
11388	15	00700	00000	10	680		TDM	FLAGSW,0#		
11400	49	10846	00000	10	690		B	PUTETB-12#		
11408				10	700		DORG	*-3#		
11408	17	11426	C-074	10	720	NOSPCE	BTM	ERROR,74,8#		
11424		5		10	730		DS	5#		
11426	26	11511	11425	10	740	ERROR	TF	ERRMSS&20,ERROR-1#		
11438	39	11491	00100	10	750		WATY	ERRMSS#		
11450	15	00459	0000J	10	760		TDM	SKPPCH,1,11#		
11462	15	00731	00001	10	765		TDM	TYST&1 ,1#		
11474	49	03890	00000	10	770		B	CONFMT-20#		
11481				10	780		DORG	*-4#		
11489		9		10	785	ZERO9	DC	9 ,0#		
11491		12		10	790	ERRMSS	DAC	12,ERROR NO. a#		
11514	16	11523	000-0	10	830	ASCAN	TFM	OMM1,00,10#		
11523		2		10	835	OMM1	DC	2 , ,*-2#		
11526	16	15111	00-00	10	840		TFM	ACC,,9#		
11538	16	15020	J6972	10	850		TFM	PUTOMH&6,PHI&220#		
11550	16	10864	J6764	10	860		TFM	PUTETB&6,PHI&12#		

11562	45	11834	17227	10	870	S	BNR	SSA,CHI&2#	
11574	14	11523	000L3	10	880		CM	OMM1,33,10#	
11586	46	11658	01200	10	890		BE	SSB#	
11597		1		10	895	FXORFL	DS	1 ,**	
11598	14	11523	000KM	10	900		CM	OMM1,-24,10#	
11610	46	11646	C1200	10	910		BE	*&36#	
11622	14	11523	000K4	10	920		CM	OMM1,24,10#	
11634	47	12450	C1200	10	930		BNE	SS#	
11646	17	11426	C-071	10	940	ER1	BTM	ERROR ,71 ,8#	
11658	17	12932	000-0	10	950	SSB	BTM	CODE,,10#	
11670	44	15814	00696	10	960		BNF	FCF ,EQSW#	
11682	43	11750	12908	10	970		BD	*&68 ,INST1&14#	
11694	43	11730	12924	10	980		BD	*&36 ,INST2&14#	
11706	44	11770	12906	10	990	EQ2	BNF	EQ3 ,INST1&12#	
11718	44	11802	12922	11	000		BNF	EQ4 ,INST2&12#	
11730	33	00696	00000	11	010		CF	EQSW#	
11742	49	15814	00000	11	020		B	FCF#	
11750				11	030		DORG	*-3#	
11750	43	11706	12924	11	040		BD	EQ2 ,INST2&14#	
11762	49	11730	00000	11	050		B	*-32#	
11770				11	060		DORG	*-3#	
11770	31	12896	12901	11	070	EQ3	TR	INST1&2 ,INST1&7#	
11782	31	12901	12917	11	080		TR	INST1&7 ,INST2&7#	
11794	49	16042	00000	11	090		B	ZOT&12#	
11802				11	100		DORG	*-3#	
11802	26	12900	12905	11	110	EQ4	TF	INST1&6 ,INST1&11#	
11814	26	12905	12921	11	120		TF	INST1&11 ,INST2&11#	
11826	49	16030	00000	11	130		B	ZOT#	
11834				11	140		DORG	*-3#	
11834	14	17225	000#0	11	150	SSA	CM	CHI,40,10#	
11846	47	11882	01100	11	160		BNH	*&36#	
11858	15	00697	00000	11	170		TCM	FSTSW#	
11870	17	09474	J1562	11	180		BTM	CSORN,S#	
11882	14	17225	000L3	11	190		CM	CHI ,33 ,10#	
11894	46	11918	01200	11	200		BE	*&24#	
11906	33	00696	00000	11	210		CF	EQSW#	
11918	14	17225	000J0	11	220		CM	CHI,10,10#	
11930	46	12142	01200	11	230		BE	SS001#	
11942	14	17225	000K0	11	240		CM	CHI,20,10#	
11954	46	12130	01200	11	250		BE	SS4#	
11966	15	00697	00000	11	260		TDM	FSTSW#	
11978	14	17225	000-4	11	270		CM	CHI,4,10#	
11990	46	12294	C1200	11	280		BE	SSA1#	
12002	14	17225	000K1	11	290		CM	CHI,21,10#	
12014	46	12498	C1200	11	300		BE	SS1#	
12026	14	17225	000J4	11	310		CM	CHI,14,10#	
12038	46	12206	01200	11	320		BE	SS3#	
12050	14	17225	000K4	11	330		CM	CHI,24,10#	
12062	46	12262	C1200	11	340		BE	SS5#	
12074	14	17225	000L3	11	350		CM	CHI,33,10#	
12086	46	12570	C1200	11	360		BE	SS6#	
12098	14	17225	000-3	11	370		CM	CHI,3,10#	
12110	46	11858	C1200	11	380		BE	SSA&24#	
12122	49	11646	00000	11	390		B	ER1#	
12130				11	400		DORG	*-3#	

LCCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	22
12130	15	00700	C0005	11	410	SS4	TDM	FLAGSW,5#		
12142	43	12174	C0697	11	420	SS001	BD	*&32,FSTSW#		
12154	15	00700	C0000	11	430		TDM	FLAGSW,0#		
12166	49	12450	C0000	11	440		B	SS#		
12174				11	450		DORG	*-3#		
12174	15	00697	C0000	11	460		TDM	FSTSW,0#		
12186	31	17224	17226	11	470		TR	CHI-1,CHI&1#		
12198	49	11562	C0000	11	480		B	S#		
12206				11	490		DORG	*-3#		
12206	14	17227	C00J4	11	500	SS3	CM	CHI&2,14,10#		
12218	47	12498	C1200	11	510		BNE	SS1#		
12230	31	17222	17224	11	520		TR	CHI-3,CHI-1#		
12242	15	00700	C0005	11	530		TDM	FLAGSW,5#		
12254	49	12546	C0000	11	540		B	SS2#		
12262				11	550		DORG	*-3#		
12262	15	00697	C0001	11	560	SS5	TDM	FSTSW,1#		
12274	11	15111	C00-1	11	570		AM	ACC,1,10#		
12286	49	14990	C0000	11	580		B	PUTOMG#		
12294				11	590		DORG	*-3#		
12294	14	11523	C00L3	11	600	SSCA1	CM	OMM1,33,10#		
12306	46	11646	C1200	11	610		BE	ER1#		
12318	44	12354	C0702	11	620		BNF	SSC,IFSWCH#		
12330	14	17227	C00K3	11	630		CM	CHI&2,23,10#		
12342	46	04756	C1200	11	640		BE	ER7#		
12354	14	11523	C00K4	11	650	SSC	CM	OMM1,24,10#		
12366	46	12834	C1200	11	660		BE	SSCA#		
12378	14	11523	C00KM	11	670		CM	OMM1,-24,10#		
12390	46	12742	C1200	11	680		BE	SSCB#		
12402	14	11523	C00M6	11	690		CM	OMM1,46,10#		
12414	46	15462	C1200	11	700		BE	CFCT#		
12426	14	11523	C00M9	11	710		CM	OMM1,49,10#		
12438	46	04800	C1200	11	720		BE	TEN#		
12450	14	11523	C00J0	11	730	SS	CM	OMM1,10,10#		
12462	46	13160	C1200	11	740		BE	CADD#		
12474	14	11523	C00K0	11	750		CM	OMM1,20,10#		
12486	46	13444	C1200	11	760		BE	CSUB#		
12498	14	11523	C00K1	11	770	SS1	CM	OMM1,21,10#		
12510	46	13540	C1200	11	780		BE	CDIV#		
12522	14	11523	C00J4	11	790		CM	OMM1,14,10#		
12534	46	13520	C1200	11	800		BE	CMULT#		
12546	14	11523	C00JM	11	810	SS2	CM	OMM1,-14,10#		
12558	46	15090	C1200	11	820		BE	CEXP#		
12570	15	00697	C0001	11	830	SS6	TDM	FSTSW,1#		
12582	15	12895	C0006	11	840	TFSAVE	TDM	INST1&1,6#		
12594	26	12629	10864	11	850		TF	*&35,PUTETB&6#		
12606	12	12629	C00-9	11	860		SM	*&23,9,10#		
12618	31	12896	C0000	11	870		TR	INST1&2#		
12630	15	12906	C0000	11	880		TDM	INST1&12,0#		
12642	44	14990	12902	11	890		BNF	PUTOMG,INST1&8#		
12654	44	12674	12904	11	900		BNF	*&20,INST1&10#		
12666	49	14990	C0000	11	910		B	PUTOMG#		
12674				11	920		DDRG	*-3#		
12674	16	12905	-0060	11	930		TFM	INST1&11, FAC#		
12686	27	13976	13975	11	940		BT	PUT1,PUT1-1#		
12698	26	12728	12629	11	950		TF	*&30,TFSAVE&47#		

LOCTN	OP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	23
12710	11	12728	000-8	11	960		AM	*818,8,10#		
12722	32	00000	00000	11	970		SF	#		
12734	49	12274	00000	11	980		B	SS5812#		
12742				11	990		DORG	*-3#		
12742	26	12777	10864	12	000	SSCB	TF	*835,PUTETB&6#		
12754	26	12828	10864	12	010		TF	*874,PUTETB&6#		
12766	31	12901	00000	12	020		TR	INST1&7,#		
12778	44	12810	12908	12	030		BNF	*832,INST1&14#		
12790	33	12908	00000	12	040		CF	INST1&14#		
12802	49	12822	00000	12	050		B	*820#		
12810				12	060		DORG	*-3#		
12810	32	12908	00000	12	070		SF	INST1&14#		
12822	31	00000	12901	12	080		TR	,INST1&7#		
12834	31	17224	17226	12	090	SSCA	TR	CHI-1,CHI&1#		
12846	12	15020	000-2	12	100		SM	PUTOMH&6,2,10#		
12858	26	12881	15020	12	110		TF	*823,PUTOMH&6#		
12870	26	11523	00000	12	120		TF	OMM1,#		
12882	49	11562	00000	12	130		B	S#		
12894	26	00060	00000	12	140	INST1	TF	FAC#		
12909		4		12	150		DC	4,@#		
12910	27	00480	00000	12	170	INST2	BT	FAD#		
12925		4		12	180		DC	4,@#		
12930		5		12	190		DS	5#		
12932	26	12900	16283	12	200	CODE	TF	INST1&6,TFFAC#		
12944	16	12911	000K7	12	210		TFM	INST2&1,27,10#		
12956	26	13015	10864	12	220		TF	CODA&11,PUTETB&6#		
12968	26	12991	10864	12	230		TF	*823,PUTETB&6#		
12980	31	12917	00000	12	240		TR	INST2&7#		
12992	12	13015	000-9	12	250		SM	*823,9,10#		
13004	31	12901	00000	12	260	CODA	TR	INST1&7#		
13016	43	13042	12924	12	270		BD	*826,INST2&14#		
13028	43	13128	12908	12	280		BD	CODC,INST1&14#		
13040	42	00000	00000	12	290		BB	#		
13042				12	300		DORG	*-9#		
13042	43	13114	12908	12	310		BD	CODD,INST1&14#		
13054	14	11523	000JM	12	320		CM	OMM1,-14,10#		
13066	46	16090	01200	12	330		BE	FXEXP#		
13078	14	11523	000L3	12	340		CM	OMM1,33,10#		
13090	46	15778	01200	12	350		BE	FLOAT#		
13102	17	11426	0-075	12	360	CODF	BTM	ERROR,75,8#		
13114	11	13675	000M0	12	370	CODD	AM	OP,40,10#		
13126	42	00000	00000	12	380		BB	#		
13128				12	390		DORG	*-9#		
13128	14	11523	000L3	12	400	CODC	CM	OMM1,33,10#		
13140	46	15758	01200	12	410		BE	FIX#		
13152	49	13102	00000	12	420		B	CODF#		
13160				12	430		DORG	*-3#		
13160	16	13675	J6211	12	440	CADD	TFM	OP,AFAD#		
13172	17	12932	C00-0	12	450		BTM	CODE,,10#		
13184	44	13304	12908	12	460		BNF	CADDH,INST1&14#		
13196	44	13392	12924	12	470		BNF	CADDK,INST2&14#		
13208	15	00700	00003	12	480		TDM	FLAGSW,3#		
13220	44	13264	12923	12	490		BNF	CADDB,INST2&13#		
13232	31	12917	12901	12	500	CADDI	TR	INST2&7,INST1&7#		
13244	16	13677	0COMJ	12	510	CADDK	TFM	COMMON&1,41,1011#		

LOCTN	CP	P/L	Q	PG LN	LABEL	MNEH	OPERANDS AND REMARKS	PAGE	24
13256	49	13664	CG000	12 520		B	C#		
13264				12 530		DORG	*-3#		
13264	44	13284	12907	12 540	CADDB	BNF	CADD,INST1&13#		
13276	49	13244	00000	12 550		B	CADD#		
13284				12 560		DORG	*-3#		
13284	16	13677	CC0KP	12 570	CADD	TFM	COMMON&1,27,1011#		
13296	49	13664	00000	12 580		B	C#		
13304				12 590		DORG	*-3#		
13304	44	13372	12924	12 600	CADDH	BNF	CADDJ&12,INST2&14#		
13316	44	13360	12923	12 610		BNF	CADDJ,INST2&13#		
13328	15	00700	CC004	12 620		TDM	FLAGSW,4#		
13340	11	13675	000-5	12 630		AM	OP,5,10#		
13352	49	13232	CC000	12 640		B	CADDI#		
13360				12 650		DORG	*-3#		
13360	11	13675	000-5	12 660	CADDJ	AM	OP,5,10#		
13372	15	00700	CC000	12 670		TDM	FLAGSW,#		
13384	49	13220	00000	12 680		B	CADDI-12#		
13392				12 690		DORG	*-3#		
13392	44	13412	12923	12 700	CADDK	BNF	CADDL,INST2&13#		
13404	49	13360	CC000	12 710		B	CADDJ#		
13412				12 720		DORG	*-3#		
13412	15	00700	CC004	12 730	CADDL	TDM	FLAGSW,4#		
13424	11	13675	000-5	12 740		AM	OP,5,10#		
13436	49	13264	00000	12 750		B	CADDB#		
13444				12 760		DORG	*-3#		
13444	16	13675	J6211	12 770	CSUB	TFM	OP,AFAD#		
13456	17	12932	000-0	12 780		BTM	CODE,,10#		
13468	44	13500	12924	12 790		BNF	CSUBA,INST2&14#		
13480	33	12924	00000	12 800		CF	INST2&14#		
13492	49	13184	00000	12 810		B	CADD&24#		
13500				12 820		DORG	*-3#		
13500	32	12924	00000	12 830	CSUBA	SF	INST2&14#		
13512	49	13184	00000	12 840		B	CADD&24#		
13520				12 850		DORG	*-3#		
13520	16	13675	J6221	12 860	CMULT	TFM	OP,AFMP#		
13532	49	13552	00000	12 870		B	CDIV&12#		
13540				12 880		DORG	*-3#		
13540	16	13675	J6231	12 890	CDIV	TFM	OP,AFDV#		
13552	17	12932	-0000	12 900		BTM	CODE#		
13564	44	13632	12908	12 910		BNF	CMDA,INST1&14#		
13576	44	13644	12924	12 920		BNF	CMDA&12,INST2&14#		
13588	15	00700	00000	12 930		TDM	FLAGSW#		
13600	44	13264	12923	12 940	CMDB	BNF	CADDB,INST2&13#		
13612	11	13675	000-5	12 950		AM	OP,5,10#		
13624	49	13232	00000	12 960		B	CADDI#		
13632				12 970		DORG	*-3#		
13632	44	13588	12924	12 980	CMDA	BNF	CMDB-12,INST2&14#		
13644	15	00700	00005	12 990		TDM	FLAGSW,5#		
13656	49	13600	CC000	13 000		B	CMDB#		
13664				13 010		DORG	*-3#		
13664	26	12916	CC000	13 020	C	TF	INST2&6#		
13676	41	13976	13975	13 030	COMMON	NOP	PUT1,PUT1-1#		
13688	44	13712	13677	13 040		BNF	*&24,COMMON&1#		
13700	27	13996	13995	13 050		BT	PUT2,PUT2-1#		
13712	12	10864	CC0J8	13 060		SM	PUTET&6,18,10#		

13724	26	17213	15111	13	070	TF	SYM,ACC#		
13736	16	09473	J3756	13	080	TFM	CSORN-1,*&20#		
13748	49	08280	CCOCC	13	090	B	SMTLU#		
13756				13	100	DORG	*-3#		
13756	26	13786	10864	13	110	TF	*&30,PUTETB&6#		
13768	11	13786	000-6	13	120	AM	*&18,6,10#		
13780	32	00000	00000	13	130	SF	#		
13792	12	15020	CCC-2	13	140	SM	PUTOMH&6,2,10#		
13804	26	13827	15020	13	150	TF	*&23,PUTOMH&6#		
13816	26	11523	00000	13	160	TF	OMM1#		
13828	14	17225	000-4	13	170	CM	CHI,4,10#		
13840	46	12354	01200	13	180	BE	SSC#		
13852	45	13872	17227	13	190	BNR	*&20,CHI&2#		
13864	49	11574	00000	13	200	B	S&12#		
13872				13	210	DORG	*-3#		
13872	14	17227	000J4	13	220	CM	CHI&2,14,10#		
13884	46	12230	01200	13	230	BE	SS3&24#		
13896	14	11523	CCCK4	13	240	CM	OMM1,24,10#		
13908	46	14990	C1200	13	250	BE	PUTOMG#		
13920	14	11523	CCCKM	13	260	CM	OMM1,-24,10#		
13932	46	14990	C1200	13	270	BE	PUTOMG#		
13944	14	11523	COOL3	13	280	CM	OMM1,33,10#		
13956	46	14990	C1200	13	290	BE	PUTOMG#		
13968	49	11502	00000	13	300	B	S,,5#		
13976				13	310	DORG	*-3#		
				13	320		*CUTPUT ROUTINES#		
13976	16	14031	J2894	13	330	PUT1 TFM	PUT2&35,INST1#		
13988	49	140-8	00000	13	340	B	PUT2&12,,5#		
13996				13	350	DORG	*-3#		
13996	16	14031	J2910	13	360	PUT2 TFM	PUT2&35,INST2#		
14008	31	00000	14758	13	370	TR	CUT ,SUBI#		
14020	31	00060	00000	13	380	TR	OUT&60#		
14032	43	14088	00072	13	390	BD	*&56 ,OUT&72#		
14044	43	14088	00073	13	400	BD	*&44 ,OUT&73#		
14056	16	14521	000J2	13	410	TFM	PUTX-1,12,10#		
14068	31	00000	00060	13	420	TR	CUT ,OUT&60#		
14080	49	14522	00000	13	430	B	PUTX#		
14088				13	440	DORG	*-3#		
14088	44	14056	00072	13	450	BNF	*-32 ,OUT&72#		
14100	33	00073	00000	13	460	CF	OUT&73#		
14112	13	00073	CC0J5	13	470	MM	OUT&73 ,15 ,10#		
14124	16	14159	J7203	13	480	TFM	*&35,TOPE1#		
14136	22	14159	00099	13	490	S	*&23,99#		
14148	31	00081	00000	13	500	TR	OUT&81#		
14160	26	00047	00071	13	510	TF	OUT&47 ,OUT&71#		
14172	44	14196	14530	13	520	BNF	*&24 ,PUTX&8#		
14184	26	00047	00066	13	530	TF	OUT&47 ,OUT&66#		
14196	45	14324	00090	13	540	BNR	BL2 ,OUT&90#		
14208	26	00059	00089	13	550	BL1 TF	OUT&59 ,OUT&89#		
14220	31	00000	00036	13	560	TR	OUT ,OUT&36#		
14232	26	00006	16135	13	570	TF	OUT&6 ,L#		
14244	11	00006	-0035	13	580	AM	OUT&6 ,35#		
14256	44	14280	14530	13	590	BNF	*&24 ,PUTX&8#		
14268	12	00006	000-5	13	600	SM	OUT&6 ,5 ,10#		
14280	26	00018	00006	13	610	TF	OUT&18 ,OUT&6#		

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14292	12	00018	C00-1	13 620		SM	OUT&18 ,1 ,10‡		
14304	16	14521	C00L6	13 630		TFM	PUTX-1,36,10‡		
14316	49	14522	C0000	13 640		B	PUTX‡		
14324				13 650		DORG	*-3‡		
14324	44	14344	00094	13 660	BL2	BNF	*&20 ,OUT&94‡		
14336	49	14208	C0000	13 670		B	BL1‡		
14344				13 680		DORG	*-3‡		
14344	16	14521	000P2	13 690		TFM	PUTX-1,72,10‡		
14356	21	C0042	16135	13 700		A	OUT&42 ,L‡		
14368	21	C0054	16135	13 710		A	OUT&54 ,L‡		
14380	26	00006	00094	13 720		TF	OUT&6 ,OUT&94‡		
14392	26	00011	00084	13 730		TF	OUT&11 ,OUT&84‡		
14404	26	00035	00089	13 740		TF	OUT&35 ,OUT&89‡		
14416	44	14452	14530	13 750		BNF	*&36 ,PUTX&8‡		
14428	12	C0042	C00-5	13 760		SM	OUT&42 ,5 ,10‡		
14440	12	C0054	C00-5	13 770		SM	OUT&54 ,5 ,10‡		
14452	44	14522	C0035	13 780		BNF	PUTX ,OUT&35‡		
14464	12	00042	-0012	13 790		SM	OUT&42 ,12‡		
14476	12	00054	-0012	13 800		SM	OUT&54 ,12‡		
14488	31	00024	00036	13 810		TR	OUT&24 ,OUT&36‡		
14500	16	14521	C0000	13 820		TFM	PUTX-1,60,10‡		
14512	49	14522	C0000	13 830		B	PUTX‡		
14522				13 840		DORG	*-1‡		
14522	33	14522	C0000	13 850	PUTX	CF	*‡		
14534	26	14555	14521	13 860		TF	PUTPHI-1,PUTX-1‡		
14546	49	14568	C0000	13 870		B	PUTPHI&12‡		
14556				13 880		DORG	*-1‡		
14556	32	14522	C0000	13 890	PUTPHI	SF	PUTX‡		
14568	14	14634	J6669	13 900		CM	PUTTD&6,BUFBAS&75‡		
14580	46	14702	01300	13 910		BNL	DUMP‡		
14592	44	14628	14522	13 920		BNF	*&36,PUTX‡		
14604	25	00000	16752	13 930		TD	OUT ,PHI‡		
14616	31	16752	16753	13 940		TR	PHI,PHI&1‡		
14628	25	J6594	C0000	13 950	PUTTD	TD	BUFBAS ,OUT ,2‡		
14640	31	00000	C0001	13 960		TR	OUT ,OUT&1‡		
14652	11	16135	-0001	13 970		AM	L,1‡		
14664	11	14634	-0001	13 980		AM	PUTTD&6,1‡		
14676	12	14555	C00-1	13 990		SM	PUTPHI-1,1,10‡		
14688	46	14568	C1100	14 000		BP	PUTPHI&12‡		
14700	42	00000	C0000	14 010		BE	‡		
14702				14 020		DORG	*-9‡		
14702	16	14634	J6594	14 030	DUMP	TFM	PUTTD&6,BUFBAS‡		
14714	43	14738	00459	14 040		BD	*&24,SKPPCH‡		
14726	38	16589	00400	14 050		WNCD	LOAD-4‡		
14738	26	16593	16135	14 060		TF	LOAD,L‡		
14750	49	14592	C0000	14 070		B	PUTPHI&36‡		
14758				14 080		DORG	*-3‡		
14758	13	-0000	-0000	14 090	SUBI	MM	,,27‡		
14770	32	00096	C0000	14 100		SF	96‡		
14782	21	-0099	-0000	14 110		A	99,,27‡		
14794	16	-0071	-0000	14 120		TFM	71,,27‡		
14806	22	-0070	-0099	14 130		S	70,99,27‡		
14818		1		14 140		DC	1,2‡		
14820	33	16286	C00-0	14 150	BGO	CF	BRINST&2,,10‡		
14832	31	00089	16284	14 160		TR	89,BRINST‡		

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14844	31	00096	16345	14 170		TR	96,CRAM-4‡			
14856	26	00088	16141	14 180		TF	88,LODER‡			
14868	33	00084	00000	14 190	COMGO	CF	84‡			
14880	14	14958	J6744	14 200		CM	GOER&6 ,IMAGE&75‡			
14892	47	14952	01300	14 210		BL	GOER‡			
14904	43	14928	00459	14 220		BD	*&24,SKPPCH‡			
14916	38	16669	00400	14 230		WNCD	IMAGE‡			
14928	16	14958	J6669	14 240		TFM	GOER&6,IMAGE‡			
14940	15	16669	00000	14 250		TDM	IMAGE‡			
14951		1		14 260		DC	1,a,‡‡			
14952	31	J6669	00084	14 270	GOER	TR	IMAGE ,84 ,2‡			
14964	15	00079	00000	14 280		TDM	79‡			
14975		1		14 290		DC	1,a,‡‡			
14976	11	14958	-0015	14 300		AM	*-18 ,15‡			
14988	42	00000	00000	14 310		BB	‡			
14990				14 320		DORG	*-9‡			
14990	43	15058	00700	14 330	PUTOMG	BD	*&68,FLAGSW‡			
15002	11	15020	-0002	14 340		AM	*&18,2‡			
15014	26	00000	17225	14 350	PUTOMH	TF	,CHI‡			
15026	26	11523	17225	14 360		TF	OMMI,CHI‡			
15038	31	17224	17226	14 370		TR	CHI-1,CHI&1‡			
15050	49	11562	00000	14 380		B	S‡			
15058				14 390		DORG	*-3‡			
15058	32	17225	00000	14 400		SF	CHI‡			
15070	15	00700	00000	14 410		TDM	FLAGSW‡			
15082	49	15002	00000	14 420		B	PUTOMG&12‡			
15089				14 430		DORG	*-4‡			
13675		5		14 440	OP	DS	5,C&11‡			
15090	16	13675	J6241	14 460	CEXP	TFM	OP,AFXP‡			
15102	17	12932	C00-0	14 470		BTM	CODE,,10‡			
15111		3		14 475	ACC	DS	3 ,*-2‡			
15114	15	16200	00001	14 480		TDM	USEDIFS&44 ,1‡			
15126	15	16198	00001	14 490		TDM	USEDIFS&42,1‡			
15138	44	15162	12924	14 500		BNF	*&24,INST2&14‡			
15150	11	13675	000-5	14 510		AM	OP,5,10‡			
15162	44	15290	12923	14 520		BNF	CEXPA,INST2&13‡			
15174	31	15446	12901	14 530		TR	TEMP,INST1&7‡			
15186	16	12908	C-000	14 540		TFM	INST1&14,,8‡			
15198	26	12900	12921	14 550		TF	INST1&6 ,INST2&11‡			
15210	16	12905	-0060	14 560		TFM	INST1&11 ,FAC‡			
15222	27	13976	13975	14 570		BT	PUT1,PUT1-1‡			
15234	31	12901	15446	14 580		TR	INST1&7,TEMP‡			
15246	26	12900	16283	14 590		TF	INST1&6,TFFAC‡			
15258	44	15366	12907	14 600		BNF	CEXPB,INST1&13‡			
15270	27	13976	13975	14 610		BT	PUT1,PUT1-1‡			
15282	49	15302	00000	14 620		B	CEXPA&12‡			
15290				14 630		DORG	*-3‡			
15290	44	15366	12907	14 640	CEXPA	BNF	CEXPB,INST1&13‡			
15302	44	15346	12908	14 650		BNF	CEXPC,INST1&14‡			
15314	26	12905	16335	14 660		TF	INST1&11,RVINST&11‡			
15326	16	13677	000KP	14 670	CEXPD	TFM	COMMON&1,27,1011‡			
15338	49	13664	00000	14 680		B	C‡			
15346				14 690		DORG	*-3‡			
15346	16	13677	000MJ	14 700	CEXPC	TFM	COMMON&1,41,1011‡			
15358	49	13664	00000	14 710		B	C‡			

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15366				14 720		DORG	*-3‡		
15366	44	15326	12908	14 730	CXPB	BNF	CXPD,INST1&14‡		
15378	31	15446	12910	14 740		TR	TEMP,INST2‡		
15390	26	12922	16336	14 750		TF	INST2&12,RVINST&12‡		
15402	27	13976	13975	14 760		BT	PUT1,PUT1-1‡		
15414	27	13996	13995	14 770		BT	PUT2,PUT2-1‡		
15426	31	12910	15446	14 780		TR	INST2,TEMP‡		
15438	49	15346	00000	14 790		B	CXPC‡		
15446				14 800		DORG	*-3‡		
15446		1		14 810	TEMP	DS	1‡		
15461		15		14 820		DS	15‡		
15462	17	12932	000-0	14 830	CFCT	BTM	CODE,,10‡		
15474	26	12916	12905	14 840		TF	INST2&6,INST1&11‡		
15486	31	17222	17224	14 850		TR	CHI-3,CHI-1‡		
15498	44	15590	12924	14 860		BNF	CFCTA,INST2&14‡		
15510	44	15646	12923	14 870		BNF	CFCTB,INST2&13‡		
15522	44	15546	12908	14 880		BNF	*&24,INST1&14‡		
15534	15	00700	00002	14 890		TDM	FLAGSW,2‡		
15546	16	13677	000KP	14 900		TFM	COMMON&1,27,1011‡		
15558	31	12894	16324	14 910		TR	INST1,RVINST‡		
15570	16	12921	-0060	14 920		TFM	INST2&11,FAC‡		
15582	49	13676	00000	14 930		B	COMMON‡		
15590				14 940		DORG	*-3‡		
15590	44	15714	12923	14 950	CFCTA	BNF	CFCTC,INST2&13‡		
15602	16	13677	000MJ	14 960		TFM	COMMON&1,41,1011‡		
15614	44	15570	12908	14 970		BNF	CFCTA-20,INST1&14‡		
15626	15	00700	00002	14 980		TDM	FLAGSW,2‡		
15638	49	15570	00000	14 990		B	CFCTA-20‡		
15646				15 000		DORG	*-3‡		
15646	44	15670	12908	15 010	CFCTB	BNF	*&24,INST1&14‡		
15658	15	00700	00002	15 020		TDM	FLAGSW,2‡		
15670	26	12900	16283	15 030		TF	INST1&6,TFFAC‡		
15682	31	12901	12917	15 040		TR	INST1&7,INST2&7‡		
15694	27	13976	13975	15 050		BT	PUT1,PUT1-1‡		
15706	49	15546	00000	15 060		B	CFCT&84‡		
15714				15 070		DORG	*-3‡		
15714	16	13677	000MJ	15 080	CFCTC	TFM	COMMON&1,41,1011‡		
15726	44	13676	12908	15 090		BNF	COMMON,INST1&14‡		
15738	15	00700	00002	15 100		TDM	FLAGSW,2‡		
15750	49	13676	00000	15 110		B	COMMON‡		
15757				15 120		DORG	*-4‡		
15758	16	15849	J6292	15 130	FIX	TFM	TWAGS&11,FIX2‡		
15770	49	15790	00000	15 140		B	*&20‡		
15778				15 150		DORG	*-3‡		
15778	16	15849	J6308	15 160	FLCAT	TFM	TWAGS&11,FLOAT2‡		
15790	16	15883	000K7	15 170		TFM	SSBCD&13,27,10‡		
15802	33	00696	00000	15 180		CF	EQSW‡		
15814	31	15446	12901	15 190	FOF	TR	TEMP,INST1&7‡		
15826	31	12901	12917	15 200		TR	INST1&7,INST2&7‡		
15838	31	12910	16292	15 210	TWAGS	TR	INST2,FIX2‡		
15850	44	15870	12907	15 220		BNF	*&20,INST1&13‡		
15862	49	15882	00000	15 230		B	*&20‡		
15870				15 240		DORG	*-3‡		
15870	27	13976	13975	15 250	SSBCD	BT	PUT1,PUT1-1‡		
15882	41	13996	13995	15 260		NOP	PUT2,PUT2-1‡		

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15894	44	15930	12908	15 270		BNF	*836, INST1&14#		
15906	31	12910	16324	15 280		TR	INST2, RVINST#		
15918	27	13996	13995	15 290		BT	PUT2, PUT2-1#		
15930	31	12901	15446	15 300		TR	INST1&7, TEMP#		
15942	31	16081	12901	15 305		TR	TRAREC&1 , INST1&7#		
15954	26	12900	12905	15 310		TF	INST1&6 , INST1&11#		
15966	16	12905	-0060	15 320		TFM	INST1&11 , FAC#		
15978	16	15883	000M1	15 330		TFM	SSBCD&13 , 41 , 10#		
15990	41	16010	C0696	15 350	TRACE	NOP	*820 , EQSW#		
16002	49	16030	00000	15 360		B	ZOT#		
16010				15 370		DORG	*-3#		
16010	31	12894	16074	15 380		TR	INST1 , TRAREC-6#		
16022	49	16042	00000	15 390		B	ZOT&12#		
16030				15 400		DORG	*-3#		
16030	32	14530	00000	15 410	ZOT	SF	PUTX&8#		
16042	27	13976	13975	15 420		BT	PUT1 , PUT1-1#		
16054	33	14530	00000	15 430		CF	PUTX&8#		
16066	49	06640	00000	15 450		B	TESTD0#		
16074				15 460		DORG	*-3#		
16075		2		15 470		DC	2, 17#		
16080		00005	-2586	15 480	TRAREC	DSA	TRACX#		
16085		5		15 490		DC	5, -90500#		
16089		4		15 500		DC	4, @#		
16090	16	13675	J6125	15 510	FXEXP	TFM	OP, *835#		
16102	15	11597	00000	15 520		TDM	FXORFL#		
16114	49	15138	-2000	15 530		B	CEXP&48, FAXI, 7#		
16130		00005	-1964	15 540		DSA	FAXIN#		
16135		5		15 550	L	DS	5#		
16136		1		15 560		DC	1, @#		
16141		5		15 570	LODER	DS	5#		
16142		1		15 580		DC	1, @#		
02452				15 590	STCPSR	DS	, 2452#		
02562				15 600	ENDSR	DS	, 2562#		
02586				15 610	TRACX	DS	, 2586#		
02000				15 620	FAXI	DS	, 2000#		
01964				15 630	FAXIN	DS	, 1964#		
03914				15 640	CCMPLT	DS	, 3914 , , LAST#		
02834				15 650	RATY	DS	, 2834#		
02798				15 660	RACD	DS	, 2798#		
02882				15 670	WACD	DS	, 2882#		
02918				15 680	WATYSC	DS	, 2918#		
02954				15 690	WATY	DS	, 2954 , , WATYE		
03938				15 700	SWC	DS	, 3938 , , NUMBE		
02726				15 710	LTPAR	DS	, 2726#		
03574				15 720	RTPAR	DS	, 3574#		
03690				15 730	HTYPE	DS	, 3690#		
03654				15 740	XTYPE	DS	, 3654#		
03298				15 750	SLASH	DS	, 3298#		
00696				15 770	EQSW	DS	, BA&2#		
00697				15 780	FSTSW	DS	, BA&3#		
00698				15 790	SBSWCH	DS	, BA&4#		
00699				15 800	DMSWCH	DS	, BA&5#		
00700				15 810	FLAGSW	DS	, BA&6#		
00701				15 820	DOSWCH	DS	, BA&7#		
00702				15 830	IFSWCH	DS	, BA&8#		

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16145		6		15 860	FRMSCT	DAC	6,FORMAT‡		
16156		1		15 870	USED FS	DC	1,0‡		
16205		49		15 880		DC	49,0‡		
16206		1		15 890		DC	1,‡		
02298				15 900	FIX1	DS		,2298‡	
02392				15 910	FLOAT1	DS		,2392‡	
00060				15 920	FAC	DS		,60‡	
00480				15 930	FAD	DS		,480‡	
16211		5		15 940	AFAD	DC	5	,480‡	
16216		5		15 950	AFSB	DC	5	,420‡	
16221		5		15 960	AFMP	DC	5	,1128‡	
16226		5		15 970		DC	5	,1128‡	
16231		5		15 980	AFDV	DC	5	,1382‡	
16236		5		15 990	AFDVR	DC	5	,1346‡	
16241		5		16 000	AFXP	DC	5	,2188‡	
16246		5		16 010	FAXBN	DC	5	,2152‡	
16251		5		16 020	FXA	DC	5	,1614‡	
16256		5		16 030	FXS	DC	5	,1590‡	
16261		5		16 040	FXM	DC	5	,1644‡	
16266		5		16 050		DC	5	,1644‡	
16271		5		16 060	FXD	DC	5	,1722‡	
16276		5		16 070	FXDR	DC	5	,1686‡	
01816				16 080	RVSGN	DS	0	,1816‡	
16283		7		16 090	TFFAC	DC	7	,2600060‡	
16284	M9	00000	00000	16 110	BRINST	B		,,0‡	
16291		1		16 120		DC	1,‡,-4‡		
16292				16 130		DORG	*-3‡		
16292	K7	02298	02297	16 140	FIX2	BT	FIX1, FIX1-1,0‡		
16307		4		16 150		DC	4,‡		
16308	K7	02392	02391	16 160	FLOAT2	BT	FLOAT1, FLOAT1-1,0‡		
16323		4		16 170		DC	4,‡		
16324	K7	01816	01815	16 180	RVINST	BT	RVSGN, RVSGN-1,0‡		
16339		4		16 190		DC	4,‡		
16348		9		16 200		DC	9,‡		
16349		1		16 210	CRAM	DC	1,‡		
16350	15	--240	00000	16 350	LROUT	TDM	240	, ,23‡	
16361		1		16 360		DC	1,‡,*‡		
16362	36	00080	00500	16 370		RNCD	80‡		
16374	49	00104	00000	16 380		B	104‡		
16382				16 390		DORG	*-3‡		
16382	44	00092	00161	16 400		BNF	92	,161‡	
16394	49	00104	00000	16 410		B	104‡		
16406	26	00074	00164	16 420		TF	74	,164‡	
16418	26	00000	00174	16 430		TF		,174‡	
16430	31	-0160	00175	16 440	LROUT2	TR	160	,175 ,2‡	
16442	45	00056	00160	16 450		BNR	56	,160‡	
16454	36	00160	00500	16 460		RNCD	160‡		
16466	44	00032	00160	16 470		BNF	32,160‡		
16478	26	00146	00164	16 480		TF	146,164‡		
16490	31	00000	00165	16 490		TR	,165‡		
16502	49	00104	00000	16 500		B	104,60000,7‡		
16510				16 510		DORG	*-3‡		
16511		20		16 520	EOC	DAC	20, PROCESSING COMPLETE‡		
16551		6		16 530	LSTM	DAC	6	, START‡	
16563		8		16 540	OVERL	DAC	8, OVERLAP‡		

LCCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	31
00000				16 550	OUT	DS	,0‡		
16583		6		16 570	MEMCAP	DC	6,19999a‡		
16588		5		16 580	FCTEND	DS	5‡		
16593		5		16 590	LOAD	DS	5‡		
16594		1		16 600	BUFBAS	DS	1‡		
16668		74		16 610		DS	74‡		
16669		1		16 620	IMAGE	DS	1‡		
16748		79		16 630		DS	79‡		
16752		4		16 640	PHI	DS	4‡		
17212		460		16 650		DS	460‡		
17213		1		16 660	SYM	DS	1‡		
17223		10		16 670	COMP	DS	10‡		
17225		80		16 690	CHI	DAS	80‡		
17384	11	17411	C00K0	16 980	LAST	AM	*E27,20,10‡		
17396	15	00000	C0000	16 990		TDM	‡		
17406		1		17 000		DC	1,a,-1‡		
17408	31	J9999	17405	17 010		TR	19999,-3,2‡		
17420	45	17384	C0000	17 020		BNR	LAST‡		
17432	26	16582	17414	17 030		TF	MEMCAP-1,-18‡		
17444	26	16588	16582	17 040		TF	FCTEND,MEMCAP-1‡		
17456	37	17841	00500	17 050		RACD	CCD‡		
17468	25	17820	17841	17 060		TD	NO-3,CCD‡		
17480	25	17821	17843	17 070		TD	NO-2,CCD&2‡		
17492	25	17822	17845	17 080		TD	NO-1,CCD&4‡		
17504	25	17823	17847	17 090		TD	NO,CCD&6‡		
17516	31	17840	17848	17 100	TRY	TR	CCD-1,CCD&7‡		
17528	14	17823	-C000	17 110		CM	NO‡		
17540	46	17752	01200	17 120		BE	CHIGO‡		
17552	45	17576	17849	17 130		BNR	*E24,CCD&8‡		
17564	37	17841	00500	17 140		RACD	CCD‡		
17576	16	18011	00-00	17 150		TFM	CCC&8,,9‡		
17588	26	18009	17847	17 160		TF	CCC&6,CCD&6‡		
17600	26	17618	16588	17 170		TF	*E18,FCTEND‡		
17612	26	00000	18011	17 180		TF	,CCC&8‡		
17624	12	16588	000J0	17 190		SM	FCTEND,10,10‡		
17636	16	17671	J8000	17 200		TFM	*E35,CCC-3‡		
17648	11	17671	000-2	17 210		AM	*E23,2,10‡		
17660	43	17648	18002	17 220		BD	*-12,CCC-1‡		
17672	26	17690	17671	17 230		TF	*E18,-1‡		
17684	31	00000	17826	17 240		TR	,FRECK‡		
17696	26	17714	16588	17 250		TF	*E18,FCTEND‡		
17708	26	00000	18011	17 260		TF	,CCC&8‡		
17720	12	16588	000J0	17 270		SM	FCTEND,10,10‡		
17732	12	17823	000-1	17 280		SM	NO,1,10‡		
17744	49	17516	00000	17 290		B	TRY‡		
17752				17 300		DORG	*-3‡		
17752	16	J7225	000-0	17 310	CHIGO	TFM	CHI,,210‡		
17763		1		17 320		DC	1,a,**‡		
17764	11	17758	000-2	17 330		AM	*-6,2,10‡		
17776	14	17758	J7384	17 340		CM	*-18 ,LAST‡		
17788	47	17752	C1300	17 350		BL	CHIGO‡		
17800	15	00079	C0000	17 360		TDM	OUT&79‡		
17811		1		17 370		DC	1,a,**‡		
17812	49	08080	C0000	17 380		B	MOON7‡		
17819				17 390		DCRG	*-4‡		

LOC TN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE
17823		5		17 400	NO	DC	5,C#		32
17824		1		17 410		DS	1#		
17826	46	00000	CC000	17 420	FRECK	BI	#		
17838		1		17 430		DC	1,@#		
17841		4		17 440	CCD	DAC	4,AAAA#		
17849		4		17 450		DAC	4,AAAA#		
17857		4		17 460		DAC	4,AAAA#		
17865		4		17 470		DAC	4,AAAA#		
17873		4		17 480		DAC	4,AAAA#		
17881		4		17 490		DAC	4,AAAA#		
17889		4		17 500		DAC	4,AAAA#		
17897		4		17 510		DAC	4,AAAA#		
17905		4		17 520		DAC	4,AAAA#		
17913		4		17 530		DAC	4,AAAA#		
17921		4		17 540		DAC	4,AAAA#		
17929		4		17 550		DAC	4,AAAA#		
17937		4		17 560		DAC	4,AAAA#		
17945		4		17 570		DAC	4,AAAA#		
17953		4		17 580		DAC	4,AAAA#		
17961		4		17 590		DAC	4,AAAA#		
17969		4		17 600		DAC	4,AAAA#		
17977		4		17 610		DAC	4,AAAA#		
17985		4		17 620		DAC	4,AAAA#		
17993		4		17 630		DAC	4,AAAA#		
16141				17 640	SYMBSB	DS	,LODER#		
18001		1		17 650		DAC	1,@#		
17202				17 660	TOP	DS	,PHI&450#		
18003		6		17 670	CCC	DAC	6,AAAAAA#		
17396				17 680		DEND	LAST&12#		

0000** PDQ FORTRAN PROCESSOR CLC2 10/63

14475	ACC	10340	11570	13070								
15940	AFAC	12440	12770									
15980	AFDV	12890										
15990	AFOVR											
15960	AFMP	12860										
15950	AFSB											
16000	AFXP	14460										
10830	ASCAN	C1120	01150	03940								
00854	AVOID	01050										
00310	BA	00160	00290	00330	15770	15780	15790	15800	15810	15820	15830	
00080	BEGIN	00220	00230	00240	00250	00600	01340	01566	02064	02340	03220	
		04430	04900	05010	05190	05510	05620	05670	08560			
05860	BEREC	05360	05580									
14150	BGO	00960	00960	02260	02260	05660	05660					
01200	BLNK1	00980	01010	01020	01040							
01030	BLNK2	C1210										
13550	BL1	13670										
13660	BL2	13540										
00390	BRC	00340	02060	02330	03210	03210						
13020	C	12520	12580	14440	14680	14710						
12440	CADD	11740	12810	12840								
12540	CADDB	12490	12750	12940								
12510	CADDC	12550										
12570	CADDD	12540										
12600	CADDDH	12460										
12500	CADDI	12640	12680	12960								
12660	CADDJ	12600	12610	12710								
12700	CADDK	12470										
12730	CADDL	12700										
17670	CCC	17150	17160	17180	17200	17220	17260					
17440	CCD	17050	17060	17070	17080	17090	17100	17100	17130	17140	17160	
12890	CDIV	11780	12870									
14460	CEXP	11820	15530									
14640	CEXPA	14520	14620									
14730	CEXPB	14600	14640									
14700	CEXPC	14650	14790									
14670	CEXPD	14730										
14830	CFCT	11700	15060									
14950	CFCTA	14860	14970	14990								
15010	CFCTB	14870										
15080	CFCTC	14950										
08670	CFXN	00630	01920	02660	02780	03460	04600	04770	04980	05200	05780	
		06550	08410	08470	08780	08790	08810	08840	08870	10530		
03300	CHCHI	02500	02580	02640	02710	02710	02730	02750	02750	02770	03070	
		03250	03470	03470								
16690	CHI	00170	00180	00210	00320	00380	00510	00520	00520	00550	00570	
		00590	00610	00780	00970	01060	01200	01200	01240	01270	01290	
		01310	01330	01334	01350	01370	01420	01440	01460	01480	01510	
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		01660	01660	01700	01700	01740	01750	01750	01800	01800	01810	
		01830	01830	01890	01990	02020	02030	02030	02050	02120	02200	
		02310	02310	02320	02360	02380	02400	02490	02510	02530	02550	
		02570	02600	02630	02650	02650	02720	02740	02740	02760	02990	
		03060	03240	03270	03270	03300	03480	03500	03550	03550	03700	
		03700	03720	03820	03820	03850	03850	03890	03890	04060	04080	
		04090	04090	04100	04340	04340	04400	04590	04590	04630	04730	
		04730	04740	04810	04940	04940	04950	05060	05060	05100	05140	
		05140	05750	05750	05760	05450	06450	06510	06510	06580	08070	
		08270	08351	08400	08400	08430	08430	08440	08500	08500	03540	

		08580	08590	08590	08620	08700	08710	08710	08720	08750	08770
		08890	08920	08940	08980	09030	09040	09040	09060	09260	09280
		09280	09310	09330	09370	09380	09380	09490	09490	09500	09560
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		09740	10090	10120	10120	10420	10420	10430	10470	10490	10520
		10520	10600	10870	11150	11190	11220	11240	11270	11290	11310
		11330	11350	11370	11470	11470	11500	11520	11520	11630	12090
		12090	13170	13190	13220	14350	14360	14370	14370	14400	14850
		14850	17310								
17310	CHIGC	17120	17350								
12980	CMDA	12910	12920								
12940	CMDB	12980	13000								
09600	CMPAR	09520									
12860	CMULT	11800									
12260	CODA	12220									
12400	COOC	12280									
12370	COOC	12310									
12200	CODE	10950	12450	12780	12900	14470	14830				
12360	CODF	12420									
14190	COMGO	05470	05470	08040	08040						
03850	COMM	01390									
16670	COMP	07840	07850	07890	07900	07910	07940	07950	08100	08130	08150
01591	CONIO	02060									
16210	CRAM	05440	05460	06050	06080	06595	07600	14170			
09010	CS	03830	03870	08620	08960	08990	10450				
08890	CSORN	02090	02970	03300	04670	04760	05150	06790	08290	08870	10180
		11180	13080								
12770	CSUB	11760									
12830	CSUBA	12790									
03810	DIM	01320									
08420	DIMA	08370									
08520	DIMB	08356	08380	08660							
08650	DIMC	08354	08450								
08350	DMM	08050									
04590	DC	01180									
06870	DOI	07100	07150	07160	07170	07240	07320	07340	07350		
07400	DCIT	06920	06930	06940	06950	06980	07010	07020	07040	07070	07220
04920	DSADO	04700	04710	04720	04820	04860	04870				
14030	DUMP	06680	06690	06710	13910						
02820	EFIND	02540	02620	02700	03450						
04730	ELL	04810									
04870	EMM	04862	05970	05980	07660						
06660	END	01580									
15600	ENDSR	06630									
06630	ENDX	06420	06660								
16520	ECC	07580									
15770	EQSW	10960	11010	11210	15180	15350					
10990	EQ2	11040									
11070	EQ3	10990									
11110	EQ4	11000									
10740	ERRCR	01260	01910	02470	02980	03310	04020	04120	04660	08090	08610
		09780	10720	10740	10940	12360					
10940	ER1	01540	01592	11390	11610						
04020	ER6	09830									
04120	ER7	11640									
10220	ETAC	08150	10000	10630							
10200	ETAN	10000	10010	10020	10080	10140	10170	10270	10280	10330	10630
		10640	10670								
07410	EXIT	06890	07030								
05920	EXREC	05700									

15920	FAC	04450	04470	04500	11930	12140	14560	14920	15320	
15930	FAD	12170								
10550	FAGR	10390	10440	10500	10510	10590				
16010	FAXBN									
15620	FAXI	15530								
15630	FAXIN	15540								
15130	FIX	12410								
15900	FIX1	16140	16140							
16140	FIX2	15130	15210							
15160	FLOAT	12350								
03800	FMTSP	02290								
15190	FOF	10960	11020							
17420	FRECK	17240								
02310	FSCAN	02370	02390	02430	02860	03020	03050	03280	03350	03400 03430
		03780								
15780	FSTSW	03920	08320	11170	11260	11420	11460	11560	11830	
16020	FXA									
16060	FXD									
16070	FXDR									
15510	FXEXP	12330								
16040	FXM									
16030	FXS									
07705	F1	09230								
05750	GETNO	05350	05570	05690	05830					
06360	GGG	04970								
14270	GCER	14200	14210	14240						
10320	GORE	10110	10290							
04940	GOTO	01300								
03460	HCLL	02520								
03670	HCLL1	03540	03610							
15730	HTYPE	03530								
03890	IF	01280	09890							
04050	IFSS	04010								
16620	IMAGE	06720	06760	14200	14230	14240	14250	14270		
01740	INCHK	01500								
00020	INITL	07760								
12140	INST1	04180	04190	04210	04250	04270	06390	06460	06520	06560 06570
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		11840	11870	11880	11890	11900	11930	12020	12030	12040 12070
		12080	12200	12260	12280	12310	12460	12500	12540	12910 13330
		14530	14540	14550	14560	14580	14590	14600	14640	14650 14660
		14730	14840	14880	14910	14970	15010	15030	15040	15090 15190
		15200	15220	15270	15300	15305	15310	15310	15320	15380
12170	INST2	01670	01710	01770	01840	01870	01880	01940	01950	01980 02110
		02130	04200	10980	11000	11040	11080	11120	12210	12240 12270
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		12940	12980	13020	13360	14500	14520	14550	14740	14750 14780
		14840	14860	14870	14920	14950	15040	15200	15210	15280
01880	IC1	01680	01720	01780	01850					
01990	IG2	01594	01990	02040	02160					
01240	ISITF	01090								
04800	KAY	04720								
05210	KK	04130	04330	04360	04380	04390	05030	05090	05290	05330
15550	L	00040	00050	00090	00352	00700	00750	03180	04290	04860 05110
		05120	05130	05400	05420	05480	05650	05720	06770	13570 13700
		13710	13970	14060						
16980	LAST	07630	17020	17340	17680					
16590	LOAD	00050	07540	14050	14060					
15570	LCDER	00760	05630	05640	14180	17640				
07520	LOOP	07420								

0073C	SLCT	00680	0619C									
0793C	SMCNT	00030	0009C	00760	01930	04690	04700	04780	04800	04890	04990	
		05170	0521C	05370	05410	05490	05630	05710	06820	07780	07820	
		07900	08030	08180	08200	08220	08260	08350	10010	10460	10640	
0794C	SMNGT	07890										
0778C	SMTLU	06800	0886C	09120	09220	09810	09330	13090				
0810C	SMTST	07870	07940	09940	09970							
1173C	SS	10930	11440									
1115C	SSA	10870	1138C									
1095C	SSB	10890										
1525C	SSBCD	15170	15330									
1165C	SSC	11620	13180									
1209C	SSCA	11660										
1160C	SSCA1	11280										
1200C	SSCB	11680										
1142C	SS0C1	11230										
1177C	SS1	11300	11510									
1181C	SS2	11540										
1150C	SS3	11320	13230									
1141C	SS4	11250										
1156C	SS5	11340	11980									
1183C	SS6	11360										
0645C	STOP	01470										
1409C	SUBI	13370										
10675	SUBN	00080	10320	10330	10340							
15700	SWC	02180										
02470	SWLP	02270	02410	02440								
16660	SYM	02680	02790	02800	02920	02930	02940	02960	03330	03340	03650	
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		09010	09020	09030	09080	09090	09100	09110	09140	09170	09190	
		09200	09210	09230	09250	09350	09400	09440	09480	09540	09750	
		09770	09800	09810	09820	09860	10540	13070				
14810	TEMP	14530	14580	14740	14780	15190	15300					
04170	TEN	11720										
1609C	TFFAC	04190	12200	14590	15030							
04410	THAT	04140										
02650	TIER	02560	02590	02610								
17660	TOP	10350	13480									
15350	TRACE	01330	01562	07687								
15610	TRACX	15480										
0287C	TRANS	02280	02420	02450	02530	02690	02800	02810	02830	02840	02850	
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		03570	03600	03640	03660	03680	03720	03730	03770			
17100	TRY	17290										
15210	TWAGS	15130	15160									
00340	TYST	00385	10765									
0719C	VAR	07070	07130	07310								
09510	VARBR	09470	09530									
15670	WACD	01670										
07100	WADDR	06960	06990	07050	07190	07200	07230					
15690	WATY	01710										
03450	WIDTH	02300	02940	03370								
07140	WNUMB	06950	06980	07040								
1574C	XTYPE	03600										
10785	ZERO9	00150	09020									
15410	ZOT	11090	11130	15360	15390							
01800	ACCEPT	01520										
05350	BEGPRO	01336										

00960	BLANKS	00620	00800	01596										
16110	BRINST	00750	02250	03140	05420	05430	05450	05650	14150	14160				
16600	BUFBAS	06770	06820	06830	06840	06850	07430	07520	07530	13900	13950			
		14030												
10390	COLECT	10060	10230	10560										
13030	COMMON	12510	12570	13040	14670	14700	14900	14930	14960	15080	15090			
		15110												
15640	COMPLT	02130												
05030	COMPUT	04960	05100											
03240	CONFMT	02330	05950	06210	10770									
06380	CONTIN	01380												
06510	CONTRL	01400	06460	06470										
08530	DIMONT	08350	08390	08510	08650									
15800	DMSWCH	03810	03860	08050	08354	08550								
06230	DORCRD	05960												
15820	DOSWCH	00660	05950											
04340	ELEVEN	00980	04150	04400										
05530	ENDPRO	01554												
10790	ERRMSS	10740	10750											
09780	EXCESS	08800	09160	09760										
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03120	FINISH	03090												
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09430	FLNUMB	09320												
15910	FLCAT1	16160	16160											
16160	FLOAT2	15160												
06980	FLPCON	06940												
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***** LISTING OF THE PDC FORTRAN CLC2 PROCESSOR

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00486	47	00534	01100	00	100		BNH	*848#		
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00582	26	00680	00641	00	190		TF	*898,*859#		
00594	12	00641	000-2	00	200		SM	*847,2,10#		
00606	14	00641	J7173	00	210		CM	*835,CHI#		
00618	47	00462	01300	00	220		BL	BEGIN#		
00630	26	00470	00000	00	230		TF	BEGIN&8#		
00642	43	00674	00470	00	240		BD	*832 ,BEGIN&8#		
00654	43	00674	00469	00	250		BD	*820 ,BEGIN&7#		
00666	49	00582	00000	00	260		B	*-84#		
00674				00	270		DCRG	*-3#		
00674	16	00000	-0000	00	280		TFM	,#		
00685		2		00	285		DC	2 , @,##		
00686	49	00730	00000	00	290		B	BA&36#		
00694				00	300		DCRG	*-3#		
00694	34	00000	00102	00	310	BA	RCTY	#		
00706	37	17173	00100	00	320		RCTY	CHI#		
00718	46	00694	00400	00	330		BC4	BA#		
00730	16	17171	0-000	00	331		TFM	CHI-2 , ,8#		
00742	25	17167	16065	00	332		TD	CHI-6 ,L#		
00754	25	17165	16064	00	333		TD	CHI-8 ,L-1#		
00766	25	17163	16063	00	334		TD	CHI-10 ,L-2#		
00778	25	17161	16062	00	335		TD	CHI-12 ,L-3#		
00790	25	17159	16061	00	336		TD	CHI-14 ,L-4#		
00802	46	00838	00200	00	337		BC2	*836#		
00814	43	00838	00459	00	338		BD	*824 ,SKPPCH#		
00826	39	17157	00400	00	339		WACD	CHI-16#		
00838	46	00886	00100	00	340	TYST	BC1	BRC#		
00850	34	00000	00102	00	350		RCTY	#		
00862	39	17159	00100	00	380		WATY	CHI-14#		
00874	15	00839	00006	00	385		TDM	TYST&1 ,6#		
00886	49	00894	00000	00	390	BRC	B	*88#		
00894				00	395		DCRG	*-3#		
00894	16	10794	J6694	00	400		TFM	PUTETB&6,PHI&12#		
00906	43	00938	17173	00	510		BD	*832,CHI#		
00918	31	17172	17174	00	520		TR	CHI-1,CHI&1#		
00930	49	00906	00000	00	530		B	*-24#		
00938				00	540		DCRG	*-3#		
00938	14	17173	000M3	00	550		CM	CHI,43,10#		

LOC TN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND	REMARKS	PAGE	2
00950	47	01010	01200	00 560		BNE	*860‡				
00962	24	00985	17175	00 570		C	*823,CHI&2‡				
00974	47	01010	012-0	00 580		BNE	*836,0,10‡				
00986	24	00985	17177	00 590		C	*-1,CHI&4‡				
00998	46	00462	01200	00 600		BE	BEGIN‡				
01010	14	17173	000P0	00 610		CM	CHI,70,10‡				
01022	47	01398	01300	00 620		BL	BLANKS&12‡				
01034	17	09178	-1046	00 630		BTM	CFXN,*812,7‡				
01046	26	01068	08276	00 640		TF	*822,SMTLU1&10‡				
01058	44	01106	00004	00 650		BNF	*848,4‡				
01070	15	00701	000CP	00 660		TDM	DOSWCH,7,11‡				
01082	26	01104	08276	00 670		TF	*822,SMTLU1&10‡				
01094	26	01153	00004	00 680		TF	SLOT,4‡				
01106	26	01123	08276	00 690		TF	*817,SMTLU1&10‡				
01118	26	00004	16065	00 700		TF	4,L‡				
01130	26	01147	08276	00 710		TF	*817,SMTLU1&10‡				
01142	32	00005	00000	00 720		SF	5‡				
01153				00 730	SLOT	DS	,‡				
01154	16	01264	-0089	00 740	FRMAT1	TFM	FRMAT2&6,89‡				
01166	26	16220	16065	00 750		TF	BRINST&6,L‡				
01178	26	16071	08357	00 760		TF	LCODER,SMCNT‡				
01190	16	01276	-0088	00 770		TFM	FRMAT2&18,88‡				
01202	31	16681	17172	00 780		TR	PHI-1,CHI-1‡				
01214	45	01234	16682	00 790		BNR	*820,PHI‡				
01226	49	01386	00000	00 800		B	BLANKS‡				
01234				00 810		DORG	*-3‡				
01234	14	16682	000-0	00 820		CM	PHI,,10‡				
01246	46	01330	01200	00 830		BE	FRMAT2&72‡				
01258	26	-0000	16682	00 840	FRMAT2	TF	,PHI,2‡				
01270	33	-0000	00000	00 850		CF	,,2‡				
01279		2		00 852		DC	2 ,37				,*-2‡
01281		2		00 854	AVCID	DC	2 ,				a,‡
01282	14	01264	-0099	00 860		CM	FRMAT2&6,99‡				
01294	46	01350	01200	00 870		BE	*856‡				
01306	11	01264	000-2	00 880		AM	FRMAT2&6,2,10‡				
01318	11	01276	000-2	00 890		AM	FRMAT2&18,2,10‡				
01330	31	16681	16683	00 900		TR	PHI-1,PHI&1‡				
01342	49	01214	00000	00 910		B	FRMAT1&60‡				
01350				00 920		DORG	*-3‡				
01350	32	00088	00000	00 930		SF	88‡				
01362	24	00099	16085	00 940		C	99,FRMSCT&10‡				
01374	46	02852	01200	00 950		BE	FORMAT‡				
01386	27	14750	14749	00 960	BLANKS	BT	BGO,BGO-1‡				
01398	31	16681	17172	00 970		TR	PHI-1,CHI-1‡				
01410	26	01661	05067	00 980		TF	BLNK1&11,ELEVEN&11‡				
01422	14	16682	000-0	00 990		CM	PHI,,10‡				
01434	31	16681	16683	01 000		TR	PHI-1,PHI&1‡				
01446	46	01650	01200	01 010		BE	BLNK1‡				
01458	21	01661	08125	01 020		A	BLNK1&11,INCREM‡				
01470	45	01422	16682	01 030	BLNK2	BNR	*-48,PHI‡				
01482	26	01500	01656	01 040		TF	*818,BLNK1&6‡				
01494	31	00000	01278	01 050		TR	,AVOID-3‡				
01506	49	01514	00000	01 052		B	*88‡				
01514				01 054		DORG	*-3‡				
01514	31	16683	17172	01 060	SDECOD	TR	PHI&1,CHI-1‡				

LOCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	3
01526	31	16681	16683	01 070		TR	PHI-1,PHI&1#		
01538	14	16682	000L3	01 080		CM	PHI,33,10#		
01550	47	01670	01200	01 090		BNE	ISITF-12#		
01562	31	16681	16683	01 100	STDCD2	TR	PHI-1,PHI&1#		
01574	45	01594	16686	01 110		BNR	*&20,PHI&04#		
01586	49	11444	00000	01 120		B	ASCAN#		
01594				01 130		DORG	*-3#		
01594	14	16682	000K4	01 140		CM	PHI,24,10#		
01606	46	11444	01200	01 150		BE	ASCAN#		
01618	14	16682	000K3	01 160		CM	PHI,23,10#		
01630	47	01562	01200	01 170		BNE	STDCD2#		
01642	49	05282	00000	01 180		B	DO#		
01650				01 190		DORG	*-3#		
01650	31	J7172	17174	01 200	BLNK1	TR	CHI-1,CHI&1,2#		
01662	49	01470	00000	01 210		B	BLNK2#		
01670				01 220		DORG	*-3#		
01670	45	01526	16686	01 230		BNR	SDECODE&12,PHI&4#		
01682	14	17173	000M6	01 240	ISITF	CM	CHI,46,10#		
01694	47	01718	01200	01 250		BNE	*&24#		
01706	17	11356	0P170	01 260		BTM	ERROR,7170,8#		
01718	14	17173	000M9	01 270		CM	CHI,49,10#		
01730	46	04584	01200	01 280		BE	IF#		
01742	14	17173	000M7	01 290		CM	CHI,47,10#		
01754	46	05706	01200	01 300		BE	GOTO#		
01766	14	17173	000M4	01 310		CM	CHI,44,10#		
01778	46	04520	01200	01 320		BE	DIM#		
01790	14	17173	000M2	01 330		CM	CHI,42,10#		
01802	47	01858	01200	01 332		BNE	*&56#		
01814	14	17183	000N7	01 334		CM	CHI&10 ,57 ,10#		
01826	46	06134	01200	01 336		BE	BEGPRO#		
01838	15	15921	00004	01 338		TDM	TRACE&1 ,4#		
01850	49	00462	00000	01 340		B	BEGIN#		
01858				01 342		DORG	*-3#		
01858	14	17173	000M3	01 350		CM	CHI,43,10#		
01870	47	01926	01200	01 360		BNE	*&56#		
01882	14	17181	000N6	01 370		CM	CHI&8 ,56 ,10#		
01894	47	06724	01300	01 380		BL	CONTIN#		
01906	46	04552	01200	01 390		BE	COMM#		
01918	49	07200	00000	01 400		B	CONTRL#		
01926				01 410		DORG	*-3#		
01926	14	17173	000N9	01 420		CM	CHI,59,10#		
01938	47	01974	01200	01 430		BNE	*&36#		
01950	14	17177	00003	01 440		CM	CHI&4,63,10#		
01962	46	06354	01200	01 450		BE	XETURN#		
01974	14	17173	00002	01 460		CM	CHI,62,10#		
01986	46	07160	01200	01 470		BE	STOP#		
01998	14	17173	000N7	01 480		CM	CHI,57,10#		
02010	46	02210	01200	01 490		BE	OUTCHK#		
02022	46	02346	01100	01 500		BH	INCHK#		
02034	14	17173	000M1	01 510		CM	CHI,41,10#		
02046	46	02402	01200	01 520		BE	ACCEPT#		
02058	14	17173	000M5	01 530		CM	CHI,45,10#		
02070	47	11576	01200	01 540		BNE	ER1#		
02082	14	17179	000N7	01 550		CM	CHI&6 ,57 ,10#		
02094	46	06334	01200	01 554		BE	ENDPRO#		

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	4
02106	47	02138	01300	01 558		BL	*&32#			
02118	15	15921	00001	01 562		TDM	TRACE&1	,1#		
02130	49	00462	00000	01 566		B	BEGIN#			
02138				01 570		DORG	*-3#			
02138	45	06494	17181	01 574		BNR	EXPROC	,CHI&8#		
02150	49	07324	00000	01 580		B	END#			
02158				01 590		DORG	*-3#			
02158	43	02178	17183	01 591	CONIO	BD	*&20	,CHI&10#		
02170	49	11576	00000	01 592		B	ER1#			
02178				01 593		DORG	*-3#			
02178	16	01512	-2690	01 594		TFM	SDECOD-2	,IO2&88#		
02190	31	17172	17184	01 595		TR	CHI-1	,CHI&11#		
02202	49	01398	00000	01 596		B	BLANKS&12#			
02210				01 597		DORG	*-3#			
02210	14	17175	000N9	01 600	OUTCHK	CM	CHI&2,59,10#			
02222	46	02314	01200	01 610		BE	PRINT#			
02234	47	07140	01100	01 620		BNH	PAUSE#			
02246	31	17172	17182	01 630		TR	CHI-1,CHI&9#			
02258	14	17173	00003	01 640		CM	CHI,63,10#			
02270	47	02294	01200	01 650		BNE	*&24#			
02282	31	17172	17180	01 660		TR	CHI-1,CHI&7#			
02294	16	12846	-2882	01 670		TFM	INST2&6,WACD#			
02306	49	02482	00000	01 680		B	IO1#			
02314				01 690		DORG	*-3#			
02314	31	17172	17182	01 700	PRINT	TR	CHI-1,CHI&9#			
02326	16	12846	-2954	01 710		TFM	INST2&6,WATY#			
02338	49	02482	00000	01 720		B	IO1#			
02346				01 730		DORG	*-3#			
02346	14	17173	00003	01 740	INCHK	CM	CHI,63,10#			
02358	31	17172	17180	01 750		TR	CHI-1,CHI&7#			
02370	47	02450	01200	01 760		BNE	RDCD#			
02382	16	12846	-2918	01 770		TFM	INST2&6	,WATYSC#		
02394	49	02482	00000	01 780		B	IO1#			
02402				01 790		DORG	*-3#			
02402	31	17172	17184	01 800	ACCEPT	TR	CHI-1,CHI&11#			
02414	14	17173	00003	01 810		CM	CHI,63,10#			
02426	47	02470	01200	01 820		BNE	*&44#			
02438	31	17172	17180	01 830		TR	CHI-1,CHI&7#			
02450	16	12846	-2798	01 840	RDCD	TFM	INST2&6,RACD#			
02462	49	02482	00000	01 850		B	IO1#			
02470				01 860		DORG	*-3#			
02470	16	12846	-2834	01 870		TFM	INST2&6,RATY#			
02482	16	12841	000K7	01 880	IO1	TFM	INST2&1,27,10#			
02494	14	17173	00009	01 890		CM	CHI,69,10#			
02506	46	02530	01100	01 900		BH	*&24#			
02518	17	11356	0P173	01 910		BTM	ERROR,7173,8#			
02530	17	09178	-2542	01 920		BTM	CFXN,*&12#			
02542	26	02564	08356	01 930		TF	*&22,SMCNT-1#			
02554	16	12851	-0006	01 940		TFM	INST2&11,6#			
02566	16	12855	0-000	01 950		TFM	INST2&15,,8#			
02577		1		01 960		DC	1,a,*#			
02578	27	13926	13925	01 970		BT	PUT2,PUT2-1#			
02590	26	12846	02812	01 980		TF	INST2&6,IOINST&6#			
02602	45	02622	17175	01 990	IO2	BNR	IO2&20,CHI&2#			
02614	49	06724	00000	02 000		B	TESTDO#			

LOC TN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE
02622				02 010		DORG	*-3#	
02622	14	17173	000K3	02 020		CM	CHI,23,10#	
02634	31	17170	17172	02 030		TR	CHI-3,CHI-1#	
02646	47	02602	01200	02 040		BNE	IC2#	
02658	45	02702	17175	02 050		BNR	*844 ,CHI&2#	
02670	16	00892	-2158	02 060		TFM	BRC&6 ,CONIO#	
02682	49	00546	00000	02 064		B	BEGIN&84#	
02690				02 070		DCRG	*-3#	
02690	16	01512	-1514	02 075		TFM	SDECCD-2 ,SDECCD#	
02702	15	00698	00000	02 080		TDM	SBSWCH#	
02714	17	09404	-2726	02 090		BTM	CSORN,*&12#	
02726	26	02749	10794	02 100		TF	*&23,PUTETB&6#	
02730	31	12847	00000	02 110		TR	INST&7#	
02750	45	02774	17175	02 120		BNR	*&24,CHI&2#	
02762	16	12846	-3914	02 130		TFM	INST&6,COMPLT#	
02774	27	13926	13925	02 140		BT	PUT2,PUT2-1#	
02786	12	10794	-0009	02 150		SM	PUTETB&6,9#	
02798	49	02602	00000	02 160		B	IC2#	
02806				02 170		DCRG	*-3#	
02806	J7	03938	-2818	02 180	IOINST	BTM	SWC,LSUBS-1,07#	
02819		17		02 190	LSUBS	DAC	17,LOAD SUBROUTINESa#	
02852	31	17172	16681	02 200	FORMAT	TR	CHI-1,PHI-1#	
02864	26	02881	08276	02 210		TF	*&17,SMTLUI&10#	
02876	11	00004	000-6	02 220		AM	4,6,10#	
02888	26	02905	08276	02 230		TF	*&17,SMTLUI&10#	
02900	15	00005	0000K	02 240		TDM	5,2,11#	
02912	11	16220	-0006	02 250		AM	BRINSTE&6,6#	
02924	27	14762	14761	02 260		BT	BGO&12,BGO&11#	
02936	16	03145	000J7	02 270		TFM	SWLP&1,17,10#	
02948	16	03630	J6688	02 280		TFM	TRANSE&18,PHI&6#	
02960	31	16679	04509	02 290		TR	PHI-3,FMTSP-10#	
02972	16	03575	00000	02 300		TFM	WIDTH ,80 ,10#	
02984	31	17172	17174	02 310	FSCAN	TR	CHI-1,CHI&1#	
02996	45	03028	17173	02 320		BNR	*&32,CHI#	
03008	16	00892	-3994	02 330		TFM	BRC&6 ,CONFMT#	
03020	49	00546	00000	02 340		B	BEGIN&84#	
03028				02 350		DCRG	*-3#	
03028	14	17173	000K3	02 360		CM	CHI,23,10#	
03040	46	02984	01200	02 370		BE	FSCAN#	
03052	14	17173	000-0	02 380		CM	CHI,,10#	
03064	46	02984	01200	02 390		BE	FSCAN#	
03076	14	17173	000K4	02 400		CM	CHI,24,10#	
03088	47	03144	01200	02 410		BNE	SWLP#	
03100	16	03635	-2726	02 420		TFM	TRANSE&23,LTPAR#	
03112	16	03654	-2984	02 430		TFM	TRNSBR&6,FSCAN#	
03124	16	03145	000M1	02 440		TFM	SWLP&1,41,10#	
03136	49	03612	00000	02 450		B	TRANS#	
03144				02 460		DCRG	*-3#	
03144	17	11356	0P171	02 470	SWLP	BTM	ERROR,7171,8#	
03156	47	03742	C1100	02 480		BNH	PUNCT#	
03168	14	17173	000M0	02 490		CM	CHI,40,10#	
03180	47	04046	01100	02 500		BNH	CHCHI&12#	
03192	14	17173	00009	02 510		CM	CHI,69,10#	
03204	46	04182	01100	02 520		BH	HOLL#	
03216	25	03631	17173	02 530		TD	TRANSE&19,CHI#	

LOCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	6
03228	16	03563	00-00	02 540		TFM	EFIND,,9#		
03240	14	17173	000M1	02 550		CM	CHI ,41 ,10#		
03252	46	03360	01200	02 560		BE	TIER#		
03264	14	17173	000M4	02 570		CM	CHI,44,10#		
03276	47	04046	01300	02 580		BL	CHCHI&12#		
03288	46	03360	01200	02 590		BE	TIER#		
03300	14	17173	000M9	02 600		CM	CHI,49,10#		
03312	46	03360	01200	02 610		BE	TIER#		
03324	16	03563	000-0	02 620		TFM	EFIND,,10#		
03336	14	17173	000M6	02 630		CM	CHI,46,10#		
03348	46	04046	01100	02 640		BH	CHCHI&12#		
03360	31	17172	17174	02 650	TIER	TR	CHI-1,CHI&1#		
03372	17	09178	000-0	02 660		BTM	CFXN,00,10#		
03384	17	03658	000-0	02 670		BTM	WIDTST,,10#		
03396	26	04079	17143	02 680		TF	RPFMT&21 ,SYM#		
03408	16	03635	000-0	02 690		TFM	TRANS&23,00,10#		
03420	44	03552	03562	02 700		BNF	PRETRN,EFIND-1#		
03432	27	04034	04033	02 710		BT	CHCHI ,CHCHI-1#		
03444	14	17173	000-3	02 720		CM	CHI,03,10#		
03456	47	04046	01200	02 730		BNE	CHCHI&12#		
03468	31	17172	17174	02 740		TR	CHI-1,CHI&1#		
03480	27	04034	04033	02 750		BT	CHCHI ,CHCHI-1#		
03492	14	17173	00009	02 760		CM	CHI,69,10#		
03504	47	04046	01100	02 770		BNH	CHCHI&12#		
03516	17	09178	000-0	02 780		BTM	CFXN,,10#		
03528	32	17142	00000	02 790		SF	SYM-1#		
03540	26	03635	17143	02 800		TF	TRANS&23,SYM#		
03552	33	03632	00000	02 810	PRETRN	CF	TRANS&20#		
03563		2		02 820	EFIND	DS	2,##		
03564	33	03634	00000	02 830		CF	TRANS&22#		
03576	32	03635	00000	02 840		SF	TRANS&23#		
03588	32	03631	00000	02 850		SF	TRANS&19#		
03600	16	03654	-2996	02 860		TFM	TRNSBR&6,FSCAN&12#		
03612	11	03630	000-5	02 870	TRANS	AM	*&18,5,10#		
03624	16	16688	-0000	02 880		TFM	PHI&6#		
03636	21	16681	03623	02 890		A	PHI-1,TRANS&11#		
03648	49	00000	00000	02 900	TRNSBR	B	#		
03658				02 910		DORG	*-1#		
03658	32	17142	00000	02 920	WIDTST	SF	SYM-1#		
03670	26	03633	17143	02 930		TF	TRANS&21,SYM#		
03682	22	03575	17143	02 940		S	WIDTH,SYM#		
03694	47	03730	01300	02 950		BN	*&36#		
03706	14	17143	000-0	02 960		CM	SYM,,10#		
03718	46	09378	01100	02 970		BH	CSORN-26#		
03730	17	11356	0P172	02 980		BTM	ERROR,7172,8#		
03742	14	17173	000K1	02 990	PUNCT	C*	CHI,21,10#		
03754	47	03798	01200	03 000		BNE	*&44#		
03766	16	03635	-3298	03 010		TFM	TRANS&23,SLASH#		
03778	16	03654	-2972	03 020		TFM	TRNSBR&6,FSCAN-12#		
03790	49	03612	00000	03 030		B	TRANS#		
03798				03 040		DORG	*-3#		
03798	46	02984	01100	03 050		BH	FSCAN#		
03810	14	17173	000-4	03 060		CM	CHI,04,10#		
03822	47	04046	01200	03 070		BNE	CHCHI&12#		
03834	16	03635	-3574	03 080		TFM	TRANS&23,RTPAR#		

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	7
03846	16	03654	-3866	03 090		TFM	TRNSBR&6,FINISH‡		
03858	49	03612	00000	03 100		B	TRANS‡		
03866				03 110		DORG	*-3‡		
03866	16	03896	J6682	03 120	FINISH	TFM	*&30,PHI‡		
03878	21	03896	16681	03 130		A	*&18,PHI-1‡		
03890	31	00000	16219	03 140		TR	,BRINST&5‡		
03902	25	03925	16681	03 150		TD	*&23,PHI-1‡		
03914	43	03938	00210	03 160		BD	*&24,210‡		
03926	11	16681	000-1	03 170		AM	PHI-1,1,10‡		
03938	26	16688	16065	03 180		TF	PHI&6,L‡		
03950	21	16688	16681	03 190		A	PHI&6,PHI-1‡		
03962	27	14486	16681	03 200		BT	PUTPHI,PHI-1‡		
03974	16	00892	-0894	03 210		TFM	BRC&6 ,BRC&8‡		
03986	49	00462	00000	03 220		B	BEGIN‡		
03994				03 230		DORG	*-3‡		
03994	43	04014	17183	03 240	CONFMT	BD	*&20 ,CHI&10‡		
04006	49	04046	00000	03 250		B	CHCHI&12‡		
04014				03 260		DORG	*-3‡		
04014	31	17172	17184	03 270		TR	CHI-1 ,CHI&11‡		
04026	49	029R6	00000	03 280		B	FSCAN&12 , ,5‡		
04034				03 290		DORG	*-3‡		
04034	45	09378	17173	03 300	CHCHI	BNR	CSORN-26 ,CHI‡		
04046	17	11356	0P171	03 310		BTM	ERROR ,7171 ,8‡		
04058	16	03611	-4126	03 320	RPFMT	TFM	TRANS-1 ,RPT1‡		
04070	32	17142	00000	03 330		SF	SYM-1‡		
04082	26	04081	17143	03 340		TF	*-1 ,SYM‡		
04094	49	02996	00000	03 350		B	FSCAN&12‡		
04102				03 360		DORG	*-3‡		
04102	22	03575	04079	03 370	RPT2	S	WIDTH ,RPFMT&21‡		
04114	47	03730	01300	03 380		BN	PUNCT-12‡		
04126	16	03654	-4102	03 390	RPT1	TFM	TRNSBR&6 ,RPT2‡		
04138	16	03611	-2996	03 400		TFM	TRANS-1 ,FSCAN&12‡		
04150	12	04081	000-1	03 410		SM	RPFMT&23 ,1 ,10‡		
04162	46	03612	01100	03 420		BH	TRANS‡		
04174	49	02996	00000	03 430		B	FSCAN&12‡		
04182				03 440		DORG	*-3‡		
03575				03 450	WIDTH	DS	,EFIND&12‡		
04182	17	09178	000-0	03 460	HOLL	BTM	CFXN,,10‡		
04194	27	04034	04033	03 470		BT	CHCHI ,CHCHI-1‡		
04206	14	17173	00007	03 480		CM	CHI,67,10‡		
04218	46	04322	01200	03 490		BE	*&104‡		
04230	14	17173	000M8	03 500		CM	CHI,48,10‡		
04242	47	04058	01200	03 510		BNE	RPFMT‡		
04254	17	03658	000-0	03 520		BTM	WIDTST , ,10‡		
04266	16	03635	-3690	03 530		TFM	TRANS&23,HTYPE‡		
04278	16	04413	-4434	03 540		TFM	HOLL1&11,HCONT2‡		
04290	31	17172	17174	03 550		TR	CHI-1,CHI&1‡		
04302	16	03654	-4366	03 560		TFM	TRNSBR&6,HCONT1‡		
04314	49	03612	00000	03 570		B	TRANS‡		
04322				03 580		DORG	*-3‡		
04322	17	03658	000-0	03 590		BTM	WIDTST , ,10‡		
04334	16	03635	-3654	03 600		TFM	TRANS&23 ,XTYPE‡		
04346	16	04413	-4490	03 610		TFM	HOLL1&11 ,HCONT4&24‡		
04358	49	04302	00000	03 620		B	*-56‡		
04366				03 630		DORG	*-3‡		

LCCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	8
04366	16	03623	000-2	03	640	HCONT1	TFM	TRANS&11,2,10‡			
04378	32	17142	C0000	03	650		SF	SYM-1‡			
04390	26	03635	17143	03	660		TF	TRANS&23,SYM‡			
04402	16	03654	-4434	03	670	HOLL1	TFM	TRNSBR&6,HCONT2‡			
04414	49	03612	C0000	03	680		B	TRANS‡			
04422				03	690		DORG	*-3‡			
04422	31	17172	17174	03	700	HCONT3	TR	CHI-1,CHI&1‡			
04434	16	03654	-4466	03	710	HCONT2	TFM	TRNSBR&6,HCONT4‡			
04446	26	03635	17173	03	720		TF	TRANS&23,CHI‡			
04458	49	03612	C00C0	03	730		B	TRANS‡			
04466				03	740		DORG	*-3‡			
04466	12	17143	000-1	03	750	HCONT4	SM	SYM,1,10‡			
04478	46	04422	01100	03	760		BP	HCONT3‡			
04490	16	03623	000-5	03	770		TFM	TRANS&11,5,10‡			
04502	49	02984	C0000	03	780		B	FSCAN‡			
04509				03	790		DORG	*-4‡			
04519		11		03	800	FMTSP	DC	11,74900000a‡			
04520	15	00699	CC004	03	810	DIM	TDM	DMSWCH,4‡			
04532	31	17172	17190	03	820		TR	CHI-1,CHI&17‡			
04544	49	09532	00000	03	830		B	CS‡			
04552				03	840		DORG	*-3‡			
04552	31	17172	17184	03	850	COMM	TR	CHI-1,CHI&11‡			
04564	15	00699	0000M	03	860		TDM	DMSWCH,4,11‡			
04576	49	09532	C0000	03	870		B	CS‡			
04584				03	880		DORG	*-3‡			
04584	31	17172	17178	03	890	IF	TR	CHI-1,CHI&5‡			
04596	16	16902	000M9	03	900		TFM	PHI&220,49,10‡			
04608	16	11453	C00M9	03	910		TFM	OMM1,49,10‡			
04620	15	00697	00001	03	920		TDM	FSTSW,1‡			
04632	32	00702	C0000	03	930		SF	IFSWCH‡			
04644	49	11456	00000	03	940		B	ASCAN&12‡			
04652				03	950		DORG	*-3‡			
04652	33	17142	00000	03	960		CF	SYM-1‡			
04664	33	17140	00000	03	970		CF	SYM-3‡			
04676	33	17138	00000	03	980		CF	SYM-5‡			
04688	33	17136	00000	03	990		CF	SYM-7‡			
04700	24	17143	04745	04	000		C	SYM,SENSE&8‡			
04712	46	04756	01200	04	010		BE	IFSS‡			
04724	17	11356	0-076	04	020	ER6	BTM	ERROR,76,8‡			
04737		10		04	040	SENSE	DAC	10,SENSE‡			
04756	31	00000	05261	04	050	IFSS	TR	OUT,IFSSRC‡			
04768	14	17185	00009	04	060		CM	CHI&12,69,10‡			
04780	47	04840	01100	04	070		BNH	*&60‡			
04792	25	00009	17185	04	080		TD	OUT&9,CHI&12‡			
04804	31	17172	17188	04	090		TR	CHI-1,CHI&15‡			
04816	14	17173	00009	04	100		CM	CHI,69,10‡			
04828	46	04852	01100	04	110		BH	*&24‡			
04840	17	11356	0-077	04	120	ER7	BTM	ERROR,77,8‡			
04852	16	C6020	-0005	04	130		TFM	KK&6,OUT&5‡			
04864	16	05151	000K0	04	140		TFM	THAT&11,20,10‡			
04876	49	05068	CC000	04	150		B	ELEVEN&12‡			
04884				04	160		DORG	*-3‡			
04884	26	04907	10794	04	170	TEN	TF	*&23,PUTETB&6‡			
04896	31	12831	C0000	04	180		TR	INST1&7‡			
04908	26	12830	16213	04	190		TF	INST1&6,TFFAC‡			

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	9
04920	31	12840	16254	04	200		TR	INST2,RVINST#			
04932	44	04952	12837	04	210		BNF	*&20,INST1&13#			
04944	49	04964	00000	04	220		B	*&20#			
04952				04	230		DORG	*-3#			
04952	27	13906	13905	04	240		BT	PUT1,PUT1-1#			
04964	44	04988	12838	04	250		BNF	*&24,INST1&14#			
04976	27	13926	13925	04	260		BT	PUT2,PUT2-1#			
04988	43	05032	12838	04	270		BD	*&44,INST1&14#			
05000	31	00000	05172	04	280		TR	OUT ,IFRCFL#			
05012	21	00006	16065	04	290		A	OUT&6 ,L#			
05024	49	05044	00000	04	300		D	*&20#			
05032				04	310		DORG	*-3#			
05032	31	00000	05216	04	320		TR	OUT ,IFRCFX#			
05044	16	06020	-0041	04	330		TFM	KK&6 ,OUT&41#			
05056	31	J7172	17174	04	340	ELEVEN	TR	CHI-1,CHI&1,2#			
05068	17	06002	-5080	04	350		BTM	STATNO,*&12#			
05080	14	06020	-0041	04	360		CM	KK&6 ,OUT&41#			
05092	47	05116	01200	04	370		BNE	*&24#			
05104	16	06020	-0005	04	380		TFM	KK&6 ,OUT&5#			
05116	11	06020	000J2	04	390		AF	KK&6,12,10#			
05128	45	05056	17175	04	400		BNR	ELEVEN,CHI&2#			
05140	17	14452	000M4	04	410	THAT	BTM	PUTX,44,10#			
05152	16	05151	000M4	04	420		TFM	*-1,44,10#			
05164	49	00462	00000	04	430		B	BEGIN#			
05172				04	440		DCRG	*-3#			
05172	43	-0024	00053	04	450	IFRCFL	BD	24,FAC-7,2#			
05184	49	00000	00000	04	460		B	#			
05196	44	00000	00060	04	470		BNF	,FAC#			
05208	49	00000	00000	04	480		B	#			
05216				04	490		DCRG	*-3#			
05216	14	00060	0-000	04	500	IFRCFX	CM	FAC,,8#			
05228	46	00000	01200	04	510		BE	#			
05240	46	00000	01100	04	520		BH	#			
05252	49	00000	00000	04	530		B	#			
05260				04	540		DORG	*-3#			
05260		1		04	550		DC	1,2#			
05261		1		04	560	IFSSRC	DC	1,4#			
05272		11		04	570		DC	11,60000000000#			
05281		9		04	580		DC	9,490000000#			
05282	31	17172	17176	04	590	DO	TR	CHI-1,CHI&3#			
05294	17	09178	-5306	04	600		BTM	CFXN,*&12#			
05306	26	05323	08276	04	610		TF	*&17,SMTLU1&10#			
05318	12	00004	000L6	04	620		SM	4,36,10#			
05330	14	17173	000K3	04	630		CM	CHI,23,10#			
05342	47	05366	01200	04	640		BNE	*&24#			
05353		1		04	650		DC	1,2,##			
05354	17	11356	0-078	04	660		BTM	ERROR,78,8#			
05366	17	09404	-5378	04	670		BTM	CSORN,*&12#			
05378	K6	00011	05389	04	680		TF	OUT&11 ,*&11 ,0#			
05390	26	00006	08357	04	690		TF	OUT&6 ,SMCNT#			
05402	26	05689	08357	04	700		TF	DSADD ,SMCNT#			
05414	16	05704	0-001	04	710		TFM	DSADD&15,1,8#			
05426	16	05528	-5689	04	720		TFM	KAY&6,DSADD#			
05438	31	17172	17174	04	730	ELL	TR	CHI-1,CHI&1#			
05450	14	17173	000P0	04	740		CM	CHI,70,10#			

LOCTN	OP	P/L	O	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	10
05462	46	05486	C1300	04 750		BNL	*824‡		
05474	17	09404	-5510	04 760		BTM	CSORN,*836‡		
05486	17	09178	000-0	04 770		BTM	CFXN,,10‡		
05498	26	08357	17143	04 780		TF	SMCNT,SYM‡		
05510	11	05528	-0005	04 790		AM	*818,5‡		
05522	26	00000	08357	04 800	KAY	TF	,SMCNT‡		
05534	45	05438	17175	04 810		BNR	ELL,CHI&2‡		
05546	26	00011	05694	04 820		TF	OUT&11 ,DSADO&5‡		
05558	44	05582	00008	04 830		BNF	*824 ,OUT&8‡		
05570	15	00000	0000J	04 840		TCM	OUT ,1 ,11‡		
05582	17	14452	000J2	04 850		BTM	PUTX,12,10‡		
05594	26	05694	16065	04 860		TF	DSADO&5,L‡		
05606	26	05641	05648	04 862		TF	*835 ,EMM&6‡		
05618	11	05641	000J9	04 864		AM	*823 ,19 ,10‡		
05630	45	11338	00000	04 866		BNR	NCSPCE‡		
05642	31	00000	05685	04 870	EMM	TR	,DSADO-4‡		
05654	11	05648	-0020	04 880		AM	*-6,20‡		
05666	26	08357	16512	04 890		TF	SMCNT,MEMCAP-1‡		
05678	49	00462	00000	04 900		B	BEGIN‡		
05685				04 910		DORG	*-4‡		
05689		00005	-0000	04 920	DSADC	DSA	0,0,0,0‡		
05694		00005	-0000						
05699		00005	-0000						
05704		00005	-0000						
05705		1		04 930		DC	1,2‡		
05706	31	17172	17180	04 940	GOTO	TR	CHI-1,CHI&7‡		
05718	14	17173	000K4	04 950		CM	CHI,24,10‡		
05730	46	05798	01200	04 960		BE	COMPUT‡		
05742	31	00000	07131	04 970		TR	OUT ,GGG‡		
05754	17	09178	-5766	04 980		BTM	CFXN,*812‡		
05766	26	00005	08356	04 990		TF	OUT&5 ,SMCNT-1‡		
05778	17	14452	000-8	05 000		BTM	PUTX,8,10‡		
05790	49	00462	00000	05 010		B	BEGIN‡		
05798				05 020		DORG	*-3‡		
05798	16	06020	J6753	05 030	COMPUT	TFM	KK&6,PHI&71‡		
05810	31	16679	07068	05 040		TR	PHI-3,GOTORC-3‡		
05822	15	00698	00001	05 050		TDM	SBSWCH,1‡		
05834	31	17172	17174	05 060		TR	CHI-1,CHI&1‡		
05846	17	06002	-5858	05 070		BTM	STATNO,*812‡		
05858	11	16681	000-4	05 080		AM	PHI -1,4,10‡		
05870	11	06020	000-4	05 090		AM	KK&6,4,10‡		
05882	43	05822	17172	05 100		BD	COMPUT&24,CHI-1‡		
05894	21	16717	16065	05 110		A	PHI&35,L‡		
05906	21	16724	16065	05 120		A	42&PHI,L‡		
05918	21	16736	16065	05 130		A	54&PHI,L‡		
05930	31	17172	17176	05 140		TR	CHI-1,CHI&3‡		
05942	17	09404	-5954	05 150		BTM	CSORN,*812‡		
05954	15	00698	00000	05 160		TDM	SBSWCH,0‡		
05966	26	16688	08357	05 170		TF	PHI&6,SMCNT‡		
05978	27	14486	16681	05 180		BT	PUTPHI,PHI-1‡		
05990	49	00462	00000	05 190		B	BEGIN‡		
06002	17	09178	-6014	05 200	STATNO	BTM	CFXN,*812‡		
06014	26	00000	08356	05 210	KK	TF	,SMCNT-1‡		
06026	26	06048	08276	05 220		TF	*822,SMTLUI&10‡		
06038	44	06070	00005	05 230		BNF	*832,5‡		

LOCTN	OP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	11
06050	26	06068	06001	05	240		TF	*&18,STATNO-1#		
06062	49	00000	00000	05	250		B	#		
06069				05	260		DORG	*-4#		
06070	26	06092	08276	05	270		TF	*&22,SMTLU1&10#		
06082	44	06102	00004	05	280		BNF	*&20,4#		
06094	49	06050	00000	05	290		B	KK&36#		
06102				05	300		DORG	*-3#		
06102	26	06119	08276	05	310		TF	*&17,SMTLU1&10#		
06114	16	00005	-0090	05	320		TFM	5,90#		
06126	49	06050	00000	05	330		B	KK&36#		
06134				05	340		DORG	*-3#		
06134	17	06566	-6146	05	350	BEGPRO	BTM	GETNO,*&12#		
06146	31	00000	06682	05	360		TR	OUT ,BEREC#		
06158	21	00005	08356	05	370		A	OUT&5 ,SMCNT-1#		
06170	17	14452	000J6	05	380		BTM	PUTX,16,10#		
06182	26	06199	08276	05	390		TF	*&17,SMTLU1&10#		
06194	26	00004	16065	05	400		TF	4,L#		
06206	26	00088	08357	05	410		TF	88,SMCNT#		
06218	26	16220	16065	05	420		TF	BRINST&6,L#		
06230	33	16216	00000	05	430		CF	BRINSTE2#		
06242	31	00089	16276	05	440		TR	89,CRAM-3#		
06254	31	00091	16214	05	450		TR	91,BRINST#		
06266	31	00098	16277	05	460		TR	98,CRAM-2#		
06278	27	14798	14797	05	470		BT	COMGO,COMGO-1#		
06290	21	00006	16065	05	480		A	OUT&6 ,L#		
06302	26	00010	08356	05	490		TF	OUT&10 ,SMCNT-1#		
06314	17	14452	000J2	05	500		BTM	PUTX,12,10#		
06326	49	00462	00000	05	510		B	BEGIN#		
06334				05	520		DORG	*-3#		
06334	32	06354	00000	05	530	ENDPRO	SF	XETURN#		
06346	49	06366	00000	05	540		B	XETURN&12#		
06354				05	550		DORG	*-3#		
06354	33	06354	00000	05	560	XETURN	CF	XETURN#		
06366	17	06566	-6378	05	570		BTM	GETNO,*&12#		
06378	31	00000	06690	05	580		TR	OUT ,BEREC&8#		
06390	26	06412	08276	05	590		TF	*&22,SMTLU1&10#		
06402	21	00006	00004	05	600		A	OUT&6 ,4#		
06414	17	14452	000-8	05	610		BTM	PUTX,8,10#		
06426	44	00462	06354	05	620		BNF	BEGIN,XETURN#		
06438	26	16071	08357	05	630		TF	LODER,SMCNT#		
06450	12	16071	000J0	05	640		SM	LODER,10,10#		
06462	26	16220	16065	05	650		TF	BRINST&6,L#		
06474	27	14750	14749	05	660		BT	BGO,BGO-1#		
06486	49	00462	00000	05	670		B	BEGIN#		
06494				05	680		DORG	*-3#		
06494	17	06566	-6506	05	690	EXPROC	BTM	GETNO,*&12#		
06506	31	00000	06711	05	700		TR	OUT ,EXREC#		
06518	26	00005	08356	05	710		TF	OUT&5 ,SMCNT-1#		
06530	21	00011	16065	05	720		A	OUT&11 ,L#		
06542	17	14452	000J2	05	730		BTM	PUTX,12,10#		
06554	49	06724	00000	05	740		B	TESTDO#		
06566	31	17172	17174	05	750	GETNO	TR	CHI-1,CHI&1#		
06578	14	17173	00009	05	760		CM	CHI,69,10#		
06590	47	06566	01100	05	770		BNH	*-24#		
06602	17	09178	-6614	05	780		BTM	CFXN,*&12#		

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	12
06614	26	06655	08276	05 790		TF	*&41,SMTLUI&10#		
06626	26	06660	08276	05 800		TF	*&34,SMTLUI&10#		
06638	12	06655	000-1	05 810		SM	*&17,1,10#		
06650	26	00009	00009	05 820		TF	9,9#		
06662	26	06680	06565	05 830		TF	*&18,GETNO-1#		
06674	49	98765	00000	05 840		B	98765#		
06681				05 850		DORG	*-4#		
06682	49	-00J0	00000	05 860	BEREC	B	10,,25#		
06690				05 870		DORG	*-3#		
06690	49	-000Q	00000	05 880		B	8,,26#		
06698				05 890		DORG	*-3#		
06698	26	-000K	00001	05 900		TF	2,1,26#		
06710		1		05 910		DC	1,2#		
06711		1		05 920	EXREC	DC	1,1#		
06717		6		05 930		DC	6,700002#		
06723		6		05 940		DC	6,000122#		
06724	44	03974	00701	05 950	TESTDO	BNF	CONFMT-20 ,DOSWCH#		
06736	31	00000	07031	05 960		TR	OUT ,DORCRD#		
06748	12	05648	-0020	05 970		SM	EMME&6,20#		
06760	26	06783	05648	05 980		TF	*&23,EMME&6#		
06772	31	00040	00000	05 990		TR	OUT&40#		
06784	26	06802	06783	06 000		TF	*&18,*-1#		
06796	15	00000	00000	06 010		TDM	#		
06807		1		06 020		DC	1,2,*#		
06808	11	06802	-0010	06 030		AM	*-6,10#		
06820	26	06838	06802	06 040		TF	*&18,*-18#		
06832	26	00000	16279	06 050		TF	,CRAM#		
06844	11	06838	-0010	06 060		AM	*-6,10#		
06856	26	06874	06838	06 070		TF	*&18,*-18#		
06868	26	00000	16279	06 080		TF	,CRAM#		
06880	26	00006	00044	06 090		TF	OUT&6 ,OUT&44#		
06892	26	00011	00059	06 100		TF	OUT&11 ,OUT&59#		
06904	26	00018	00044	06 110		TF	OUT&18 ,OUT&44#		
06916	26	00023	00054	06 120		TF	OUT&23 ,OUT&54#		
06928	26	00030	00049	06 130		TF	OUT&30 ,OUT&49#		
06940	44	06964	00007	06 140		BNF	*&24 ,OUT&7#		
06952	15	00000	00002	06 150		TDM	OUT ,2#		
06964	44	06988	00019	06 160		BNF	*&24 ,OUT&19#		
06976	15	00012	00002	06 170		TDM	OUT&12 ,2#		
06988	17	14452	000L6	06 180		BTM	PUTX,36,10#		
07000	11	01153	000L6	06 190		AM	SLOT ,36,10#		
07012	47	06736	01200	06 200		BNE	TESTDO&12#		
07024	49	03974	00000	06 210		B	CONFMT-20#		
07031				06 220		DORG	*-4#		
07031		1		06 230	DORCRD	DC	1,1#		
07042		11		06 240		DC	11,10000000000#		
07054		12		06 250		DC	12,140000000000#		
07067		13		06 260		DC	13,4700000011002#		
07070		3		06 270		DC	3,68#		
07071		1		06 280	GOTORC	DC	1,1#		
07080		9		06 290		DC	9,300009000#		
07082		2		06 300		DC	2,04#		
07094		12		06 310		DC	12,320009500000#		
07101		7		06 320		DC	7,1100099#		
07106		5		06 330		DC	5,00067#		

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	13
07118		12		06 340		DC	12,260005900099#			
07130		12		06 350		DC	12,260006500000#			
07131		1		06 360	GGG	DC	1,4#			
07139		8		06 370		DC	8,90000000#			
06724				06 380	CONTIN	DS	,TEST00#			
07140	16	12825	000M8	06 390	PAUSE	TFM	INST1&1,48	,10#		
07152	49	07284	00000	06 420		B	ENDX-32#			
07160				06 430		DORG	*-3#			
07160	31	17172	17180	06 450	STGP	TR	CHI-1,CHI&7#			
07172	26	12831	C7159	06 460		TF	INST1&7,CONTRL-1#			
07184	49	07224	C0000	06 470		B	CONTRL&24#			
07192				06 480		DORG	*-3#			
07192	J7	C2452	-0000	06 490		BTM	STOPSR,	,07#		
07200				06 500		DCRG	*-3#			
07200	31	17172	17186	06 510	CONTRL	TR	CHI-1,CHI&13#			
07212	16	12825	C00L4	06 520		TFM	INST1&1,34,10#			
07224	17	09178	C00-0	06 550		BTM	CFXN,,10#			
07236	26	12835	17143	06 560		TF	INST1&11,SYM#			
07248	33	12832	C0000	06 570		CF	INST1&8#			
07260	45	07284	17173	06 580		BNR	*&24,CHI#			
07272	16	12835	-0000	06 590		TFM	INST1&11#			
07284	31	12836	16275	06 595		TR	INST1&12,CRAM-4#			
07296	27	13906	13905	06 600		BT	PUT1,PUT1-1#			
07308	49	06724	C0000	06 610		B	TEST00#			
07316				06 620		DORG	*-3#			
07316	49	02562	C0000	06 630	ENDX	B	ENDSR#			
07323				06 640		DCRG	*-4#			
07323		1		06 650		DC	1,@#			
07324	31	00000	07316	06 660	END	TR	OUT	,ENDX#		
07336	17	14452	C00-8	06 670		BTM	PUTX,8,10#			
07348	16	14686	-7368	06 680		TFM	DUMP&54,*&20#			
07360	49	14632	C0000	06 690		B	DUMP#			
07368				06 700		DORG	*-3#			
07368	16	14686	J4522	06 710		TFM	DUMP&54,PUTPHI&36#			
07380	45	07400	16599	06 720		BNR	*&20,IMAGE#			
07392	49	07424	C0000	06 730		B	*&32#			
07400				06 740		DCRG	*-3#			
07400	43	07424	C0459	06 750		BD	*&24,SKPPCH#			
07412	38	16599	C0400	06 760		WNCD	IMAGE#			
07424	26	16530	16065	06 770		TF	BUFBAS&6,L#			
07436	16	17143	C0R99	06 780		TFM	SYM,999,9#			
07448	16	09403	-7468	06 790		TFM	CSORN-1,*&20#			
07460	49	08210	C0000	06 800		B	SMTLU#			
07468				06 810		DORG	*-3#			
07468	26	16535	C8357	06 820		TF	BUFBAS&11,SMCNT#			
07480	26	16540	C8277	06 830		TF	BUFBAS&16,SMTLU1&11#			
07492	31	16541	16086	06 840		TR	BUFBAS&17,USED0FS#			
07504	31	16591	16508	06 850		TR	BUFBAS&67,MEMCAP-5#			
07516	26	07821	16518	06 875	PSTAB	TF	FIN&11	,FCTEND#		
07528	11	08357	C00-1	06 885		AM	SMCNT	,1	,10#	
07540	16	07671	-8357	06 895		TFM	AD&11	,SMCNT#		
07552	46	07834	C0200	06 905		BC2	EXIT#			
07564	43	07834	C0459	06 910		BD	EXIT	,SKPPCH#		
07576	26	07594	C8277	06 915		TF	ADR&6	,SMTLU1&11#		
07588	26	C0000	C7725	06 925	ADR	TF		,BLKST#		

LOC TN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	14
07600	26	07773	07594	06 935		TF	CKF&11	,*-6‡		
07612	11	07773	000-2	06 945		AM	CKF&11	,2		,10‡
07624	16	07620	000-6	06 955		TFM	ADR&32	,6		,10‡
07636	26	07666	08277	06 965		TF	*&30	,SMTLU1&11‡		
07648	12	07666	000-4	06 975		SM	*&18	,4		,10‡
07660	26	00000	08357	06 985	AD	TF		,SMCNT‡		
07672	12	07666	000-5	06 995		SM	*-6	,5		,10‡
07684	26	07702	07666	07 005		TF	*&18	,*-18‡		
07696	38	00000	00400	07 015		WNCD	‡			
07708	49	07762	-0000	07 025		B	CKF	,		,7‡
07716				07 035		DORG	*-3‡			
07725		10		07 045	BLKST	DNB	10‡			
07726	11	07773	000J0	07 055		AM	CKF&11	,10		,10‡
07738	12	07620	000-1	07 065		SM	ADR&32	,1		,10‡
07750	47	07786	01100	07 075		BNH	*&36‡			
07762	44	07726	00000	07 085	CKF	BNF	*-36‡			
07774	16	07671	-7719	07 095		TFM	AD&11	,BLKST-6‡		
07786	11	08277	000P0	07 105		AM	SMTLU1&11	,70		,10‡
07798	11	08357	000P0	07 115		AM	SMCNT	,70		,10‡
07810	14	08277	-0000	07 125	FIN	CM	SMTLU1&11‡			
07822	47	07564	01300	07 135		BN	ADR-24‡			
07834	43	07986	00459	07 410	EXIT	BD	MCON7-24,SKPPCH‡			
07846	46	07926	00300	07 420		BC3	LCOP‡			
07858	31	00402	16526	07 430		TR	402,BUFBAS&2‡			
07870	49	07882	-0152	07 440		B	STOPER,152,7‡			
07882	34	00000	00102	07 450	STOPER	RCTY	‡			
07894	39	02819	00100	07 470		WATY	LSUBS‡			
07906	36	00000	00500	07 480		RNCD	‡			
07918	49	00000	00000	07 490		B	‡			
07925		1		07 500		DC	1,2,*-4‡			
07926				07 510		DORG	*-3‡			
07926	15	16574	0000J	07 520	LOOP	TDM	BUFBAS&50,1,11‡			
07938	16	16525	-0402	07 530		TFM	BUFBAS&1,402‡			
07950	38	16521	00400	07 540		WNCD	LOAD-2‡			
07962	38	02813	00400	07 550		WNCD	LSUBS-6‡			
07974	38	07877	00400	07 560		WNCD	STOPER-5‡			
07986	34	00000	00102	07 570		RCTY	‡			
07998	39	16441	00100	07 580		WATY	ECC‡			
08010	26	08028	16518	07 590	MCON7	TF	*&18,FCTEND‡			
08022	26	00000	16279	07 600		TF	,CRAM‡			
08034	26	08087	08027	07 610		TF	*&53,*-7‡			
08046	12	08028	000J0	07 620		SM	*-18,10,10‡			
08058	14	08028	J7344	07 630		CM	*-30,LAST&12‡			
08070	46	08022	01100	07 640		BH	*-48‡			
08082	15	00008	00000	07 650		TDM	8‡			
08094	26	05648	08028	07 660		TF	EMM&6,MCON7&18‡			
08106	22	16135	16135	07 670		S	USED FS&49,USED FS&49‡			
08118	34	K0000	20102	07 680		K	20000	,20102		,2‡
08125				07 685	INCREM	DS		,*-4‡		
08130	15	15921	00001	07 687		TDM	TRACE&1	,1‡		
08142	39	16481	00100	07 690		WATY	LSTM‡			
08154	41	N1000	00000	07 700		NCP	51000	,		,2‡
08165				07 705	F1	DS		,**		
08166	15	08155	00008	07 710		TDM	*-11,8‡			
08178	38	16280	00400	07 740		WNCD	LROUT‡			

LCCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	15
08190	38	16360	00400	07	750		WNCB	LROUT2#			
08202	49	00402	00000	07	760		B	INITL#			
08210				07	770		DORG	*-3#			
08210	26	08357	16512	07	780	SMTLU	TF	SMCNT, MEMCAP-1#			
08222	26	08276	16511	07	790		TF	SMTLU1&10, MEMCAP-2#			
08234	49	08266	00000	07	800		B	SMTLU1#			
08242				07	810		DORG	*-3#			
08242	12	08356	000-1	07	820	SMLOOP	SM	SMCNT-1, 1, 10#			
08254	12	08276	000-1	07	830		SM	SMTLU1&10, 1, 10#			
08266	26	17153	00009	07	840	SMTLU1	TF	COMP, 9#			
08278	44	08310	17151	07	850		BNF	*&32, COMP-2#			
08290	44	08242	17141	07	860		BNF	SMLOOP, SYM-2#			
08302	49	08526	00000	07	870		B	SMTST#			
08310				07	880		DORG	*-3#			
08310	44	08358	17149	07	890		BNF	SMNOT, COMP-4#			
08322	26	08356	17152	07	900		TF	SMCNT-1, COMP-1#			
08334	15	17149	00000	07	910		TDM	COMP-4, 0#			
08346	49	08242	R9999	07	920		B	SMLOOP, 99999, 7#			
08357				07	930	SMCNT	DS	, #			
08358	45	08526	17153	07	940	SMNOT	BNR	SMTST, COMP#			
08370	45	11338	17152	07	950		BNR	NOSPCE, COMP-1#			
08382	26	08399	08276	07	960		TF	*&17, SMTLU1&10#			
08394	26	00009	17143	07	970		TF	9, SYM#			
08406	44	08478	17143	07	980		BNF	MOON3, SYM#			
08418	33	17143	00000	07	990		CF	SYM#			
08430	15	17144	00000	08	000		TDM	SYM&1#			
08441		1		08	010		DC	1, 2, #			
08442	31	00089	17134	08	020		TR	89, SYM-9#			
08454	26	00088	08357	08	030		TF	88, SMCNT#			
08466	27	14798	14797	08	040		BT	COMGO, COMGO-1#			
08478	43	08794	00699	08	050	MOON3	BD	DMM, DMSWCH#			
08490	14	17173	000K4	08	070		CM	CHI, 24, 10#			
08502	47	11262	01200	08	080		BNE	PUTETA-12#			
08514	17	11356	0-072	08	090		BTM	ERROR, 72, 8#			
08526	24	17143	17153	08	100	SMTST	C	SYM, COMP#			
08538	46	08242	C1400	08	110		BV	SMLOOP#			
08550	47	08242	01200	08	120		BNE	SMLOOP#			
08562	24	17153	17143	08	130		C	COMP, SYM#			
08574	46	08242	C1400	08	140		BV	SMLOOP#			
08586	31	17145	10829	08	150		TR	COMP-8, ETAC-7#			
08598	24	08277	16518	08	160		C	SMTLU1&11, FCTEND#			
08610	47	11238	01100	08	170		BNH	PUTETA-36#			
08622	25	08644	08356	08	180		TD	*&22, SMCNT-1#			
08634	43	08658	00200	08	190		BD	*&24, 200#			
08646	11	08356	000-1	08	200		AM	SMCNT-1, 1, 10#			
08658	16	08712	J6035	08	210		TFM	*&54, USED FS-51#			
08670	26	08705	08356	08	220		TF	*&35, SMCNT-1#			
08682	32	08704	00000	08	230		SF	*&22#			
08694	11	08712	-0000	08	240		AM	*&18, #			
08706	15	16035	00001	08	250		TDM	USED FS-51, 1#			
08718	15	08357	00000	08	260		TDM	SMCNT, 0#			
08730	16	17173	000M6	08	270		TFM	CHI, 46, 10#			
08742	15	11527	00000	08	280		TDM	FXORFL#			
08754	16	09403	-8774	08	290		TFM	CSORN-1, *&20#			
08766	49	11274	00000	08	300		B	PUTETA#			

LOC	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS	AND	REMARKS	PAGE	16
08774				08	310		DORG	*-3#				
08774	15	00697	00001	08	320		TDM	FSTSW,1#				
08786	49	12512	00000	08	330		B	TFSAVE#				
08793				08	340		DORG	*-4#				
08794	26	09053	08357	08	350	DMM	TF	DIMONT,SMCNT#				
08806	14	17173	000K4	08	351		CM	CHI ,24 ,10#				
08818	46	08850	01200	08	352		BE	*#32#				
08830	44	09122	00699	08	354		BNF	DIMC-32 ,DMSWCH#				
08842	49	09054	00000	08	356		B	DIMB&12#				
08850				08	358		DORG	*-3#				
08850	12	08276	000-1	08	360		SM	SMTLU1&10,1,10#				
08862	26	08927	08276	08	370		TF	DIMA&5,SMTLU1&10#				
08874	26	09047	08276	08	380		TF	DIMB&5,SMTLU1&10#				
08886	11	09052	000-1	08	390		AM	DIMONT-1,1,10#				
08898	31	17170	17172	08	400		TR	CHI-3,CHI-1#				
08910	17	09178	000-0	08	410		BTM	CFXN,0,10#				
08922	26	19994	17143	08	420	DIMA	TF	19994,SYM#				
08934	31	17170	17172	08	430		TR	CHI-3,CHI-1#				
08946	14	17171	000-4	08	440		CM	CHI-2,4,10#				
08958	46	09154	01200	08	450		BE	DIMC#				
08970	26	17153	17143	08	460		TF	SYM&10,SYM#				
08982	17	09178	000-0	08	470		BTM	CFXN,,10#				
08994	23	17153	17143	08	480		M	SYM&10,SYM#				
09006	32	00096	00000	08	490		SF	96#				
09018	31	17170	17172	08	500		TR	CHI-3,CHI-1#				
09030	22	09052	00099	08	510		S	DIMONT-1,99#				
09042	16	19999	-0000	08	520	DIMB	TFM	19999,#				
09053				08	530	DIMONT	DS	,#				
09054	45	09086	17175	08	540		BNR	*#32,CHI&2#				
09066	15	00699	00000	08	550		TDM	DMSWCH#				
09078	49	00462	00000	08	560		B	BEGIN#				
09086				08	570		DORG	*-3#				
09086	14	17173	000K3	08	580		CM	CHI,23,10#				
09098	31	17170	17172	08	590		TR	CHI-3,CHI-1#				
09110	46	09134	01200	08	600		BE	*#24#				
09122	17	11356	0-079	08	610		BTM	ERROR,79,8#				
09134	45	09532	17175	08	620		BNR	CS,CHI&2#				
09146	49	09122	00000	08	630		B	*-24#				
09154				08	640		DORG	*-3#				
09154	22	09052	17143	08	650	DIMC	S	DIMONT-1,SYM#				
09166	49	09042	00000	08	660		B	DIMB#				
09178	16	17139	0-000	08	670	CFXN	TFM	SYM-4,,8#				
09190	16	09220	J7139	08	680		TFM	*#30,SYM-4#				
09202	11	09220	000-1	08	690		AM	*#18,1,10#				
09214	25	17140	17173	08	700		TD	SYM-3,CHI#				
09226	31	17170	17172	08	710		TR	CHI-3,CHI-1#				
09238	45	09258	17173	08	720		BNR	*#20,CHI#				
09250	49	09306	00000	08	730		B	*#56#				
09258				08	740		DORG	*-3#				
09258	14	17173	000-0	08	750		CM	CHI,,10#				
09270	46	09226	01200	08	760		BE	*-44#				
09282	14	17173	00009	08	770		CM	CHI,69,10#				
09294	46	09202	01100	08	780		BH	CFXN&24#				
09306	14	09220	J7143	08	790		CM	CFXN&42,SYM#				
09318	46	10392	01100	08	800		BH	EXCESS#				

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND	REMARKS	PAGE	17
09330	26	09353	09220	08 810		TF	*823,CFXN&42#				
09342	26	17143	00000	08 820		TF	SYM#				
09354	32	17140	00000	08 830		SF	SYM-3#				
09366	44	09380	09176	08 840		BNF	*814,CFXN-2#				
09378	42	00000	00000	08 850		BB	#				
09380				08 860		DORG	*-9#				
09380	26	09403	09177	08 870		TF	CSORN-1,CFXN-1#				
09392	49	08210	00000	08 880		B	SMTLU#				
09404	14	17173	000-3	08 890	CSORN	CM	CHI,3,10#				
09416	15	11527	00000	08 900		TDM	FXORFL#				
09428	46	09780	01200	08 910		BE	NUMBER#				
09440	14	17173	000P0	08 920		CM	CHI,70,10#				
09452	46	09780	01300	08 930		BNL	NUMBER#				
09464	14	17173	000M8	08 940		CM	CHI,48,10#				
09476	46	09496	01100	08 950		BH	*820#				
09488	49	09532	00000	08 960		B	CS#				
09496				08 970		DORG	*-3#				
09496	14	17173	000N5	08 980		CM	CHI,55,10#				
09508	46	09532	01100	08 990		BH	CS#				
09520	15	11527	00002	09 000		TDM	FXORFL,2#				
09532	16	09562	J7135	09 010	CS	TFM	SALT&6,SYM-8#				
09544	26	17144	11419	09 020		TF	SYM&1,ZERO9#				
09556	26	17135	17173	09 030	SALT	TF	SYM-8,CHI#				
09568	31	17170	17172	09 040		TR	CHI-3,CHI-1#				
09580	11	09562	000-2	09 050		AM	SALT&6,2,10#				
09592	14	17173	000M0	09 060		CM	CHI,40,10#				
09604	46	10460	01300	09 070		BNL	SYMCHK#				
09616	33	17142	00000	09 080		CF	SYM-1#				
09628	33	17140	00000	09 090		CF	SYM-3#				
09640	33	17138	00000	09 100		CF	SYM-5#				
09652	33	17136	00000	09 110		CF	SYM-7#				
09664	49	08210	00000	09 120		B	SMTLU#				
09672				09 130		DORG	*-3#				
09672	14	09938	J7140	09 140	FXNUMB	CM	NUMB1&6 ,SYM-3#				
09684	15	11527	00002	09 150		TDM	FXORFL,2#				
09696	46	10392	01100	09 160		BH	EXCESS#				
09708	16	17135	C-000	09 170		TFM	SYM-8 , ,8#				
09720	26	09743	09938	09 180		TF	*823,NUMB1&6#				
09732	26	17144	00000	09 190		TF	SYM&1#				
09744	32	17143	00000	09 200		SF	SYM#				
09756	32	17140	00000	09 210		SF	SYM-3#				
09768	49	08210	00000	09 220		B	SMTLU#				
09780	26	17143	08165	09 230	NUMBER	TF	SYM ,F1#				
09792	16	09779	J0048	09 240		TFM	NUMBER-1,NUMB3#				
09804	16	09938	J7136	09 250		TFM	NUMB1&6 ,SYM-7#				
09816	14	17173	000P0	09 260		CM	CHI,70,10#				
09828	47	09860	01200	09 270		BNE	*832#				
09840	31	17172	17174	09 280		TR	CHI-1,CHI&1#				
09852	49	09816	00000	09 290		B	*-36#				
09860				09 300		DORG	*-3#				
09860	14	17173	000-3	09 310	NUMB	CM	CHI,3,10#				
09872	46	09988	01200	09 320		BE	FLNUMB#				
09884	14	17173	00009	09 330		CM	CHI,69,10#				
09896	47	09672	01100	09 340		BNH	FXNUMB#				
09908	14	09938	J7143	09 350		CM	NUMB1&6,SYM#				

09920	46	09944	01100	09	360		BH	NUMB1&12#	
09932	25	00000	17173	09	370	NUMB1	TD	,CHI#	
09944	31	17172	17174	09	380		TR	CHI-1,CHI&1#	
09956	11	09938	-0001	09	390		AM	NUMB1&6,1#	
09968	J1	17135	CC0-1	09	400	NUMB5	AM	SYM-8 ,1 ,010#	
09980	49	09860	CC000	09	410		B	NUMB#	
09988				09	420		DORG	*-3#	
09988	26	10150	09938	09	430	FLNUMB	TF	NUMB2&6,NUMB1&6#	
10000	14	17135	CC0N1	09	440		CM	SYM-8 ,51 ,10#	
10012	46	10036	C1200	09	450		BE	*&24#	
10024	16	09779	JC156	09	460		TFM	NUMBER-1,NUMB2&12#	
10036	26	10090	09779	09	470		TF	VARBR&6,NUMBER-1#	
10048	12	17135	CC0-1	09	480	NUMB3	SM	SYM-8 ,1 ,10#	
10060	31	17172	17174	09	490		TR	CHI-1,CHI&1#	
10072	14	17173	CC0P0	09	500		CM	CHI,70,10#	
10084	46	00000	01200	09	510	VARBR	BE	#	
10096	47	10176	C1100	09	520		BNH	CMPAR#	
10108	16	10090	JC156	09	530		TFM	VARBR&6,NUMB2&12#	
10120	14	10150	J7143	09	540		CM	NUMB2&6 ,SYM#	
10132	46	10156	01100	09	550		BH	NUMB2&12#	
10144	25	00000	17173	09	560	NUMB2	TD	,CHI#	
10156	11	10150	-0001	09	570		AM	NUMB2&6,1#	
10168	49	10060	CC000	09	580		B	NUMB3&12#	
10176				09	590		DCRG	*-3#	
10176	14	17173	CC0M5	09	600	CMPAR	CM	CHI,45,10#	
10188	47	10368	01200	09	610		BNE	PLUS&12#	
10200	26	10366	C9978	09	620		TF	PLUS&10,NUMB5&10#	
10212	14	17175	CC0K0	09	630		CM	CHI&2,20,10#	
10224	47	10260	01300	09	640		BL	*&36#	
10236	47	10272	C1200	09	650		BNE	*&36#	
10248	15	10357	CC002	09	660		TDM	PLUS&1,2#	
10260	31	17172	17174	09	670		TR	CHI-1,CHI&1#	
10272	25	10367	17175	09	680		TD	PLUS&11,CHI&2#	
10284	31	17172	17176	09	690		TR	CHI-1,CHI&3#	
10296	14	17173	CC009	09	700		CM	CHI,69,10#	
10308	47	10356	01100	09	710		BNH	PLUS#	
10320	22	10366	10367	09	720		S	PLUS&10,PLUS&11#	
10332	25	10367	17173	09	730		TD	PLUS&11,CHI#	
10344	31	17172	17174	09	740		TR	CHI-1,CHI&1#	
10356	11	17135	-0000	09	750	PLUS	AM	SYM-8#	
10368	46	10392	C1400	09	760		BV	EXCESS#	
10380	44	10404	17135	09	770		BNF	*&24 ,SYM-8#	
10392	17	11356	0-073	09	780	EXCESS	BTM	ERROR ,73 ,8#	
10404	15	11527	CC000	09	790		TDM	FXORFL,0#	
10416	32	17143	CC000	09	800		SF	SYM#	
10428	43	08210	17136	09	810		BD	SMTLU,SYM-7#	
10440	16	17135	CC0-0	09	820		TFM	SYM-8 , ,10#	
10452	49	08210	00000	09	830		P	SMTLU#	
10460				09	840		DORG	*-3#	
10460	14	09562	J7145	09	860	SYMCHK	CM	SALT&6,SYM&2#	
10472	47	09556	C1200	09	870		BNE	SALT#	
10484	44	04724	CC702	09	880		BNF	ER6 ,IFSWCH#	
10496	49	04652	CC000	09	890		B	IF&68#	
10504				09	900		DORG	*-3#	
10504	26	10538	CC276	09	920	SCRIPT	TF	*&34,SMTLU1&10#	

10516	12	10539	000J0	09	930		SM	*&23,10,10‡	
10528	44	08514	00005	09	940		BNF	SMTST-12,5‡	
10540	26	10562	10538	09	950		TF	*&22,*-2‡	
10552	44	10572	00006	09	960		BNF	*&20,6‡	
10564	49	08514	00000	09	970		B	SMTST-12‡	
10572				09	980		DORG	*-3‡	
10572	15	00698	00002	09	990		TDM	SBSWCH,2‡	
10584	31	10819	10828	10	000		TR	ETAN,ETAC-8‡	
10596	26	10823	08357	10	010		TF	ETAN&4,SMCNT‡	
10608	11	10822	000-1	10	020		AM	ETAN&3,1,10‡	
10620	26	10654	08276	10	030		TF	*&34,SMTLUI&10‡	
10632	12	10654	000-1	10	040		SM	*&22,1,10‡	
10644	26	00004	00004	10	050		TF	OUT&4 ,4‡	
10656	17	11014	J0668	10	060		BTM	COLECT,*&12‡	
10668	31	00005	16067	10	070		TR	OUT&5 ,SYMBSB-4‡	
10680	22	10822	11217	10	080		S	ETAN&3,NOMB‡	
10692	14	17173	000K3	10	090		CM	CHI,23,10‡	
10704	46	10838	01200	10	100		BE	TWODIM‡	
10716	44	10930	00009	10	110	QUERY	BNF	GORE ,OUT&9‡	
10728	31	17172	17174	10	120		TR	CHI-1,CHI&1‡	
10740	15	00698	00000	10	130		TDM	SBSWCH‡	
10752	25	10826	11527	10	140		TD	ETAN&7,FXORFL‡	
10764	43	11306	00700	10	150		BD	PETA,FLAGSW‡	
10776	11	10794	000-9	10	160		AM	*&18,9,10‡	
10788	31	00000	10819	10	170	PUTETB	TR	,ETAN‡	
10800	26	10818	09403	10	180		TF	*&18,CSORN-1‡	
10812	49	98765	00000	10	190		B	98765‡	
10819				10	200	ETAN	DS	,*-4‡	
10827		4		10	210		DS	4‡	
10836		9		10	220	ETAC	DC	9,0‡	
10838	17	11014	J0850	10	230	TWODIM	BTM	COLECT,*&12‡	
10850	31	00010	16067	10	240		TR	OUT&10 ,SYMBSB-4‡	
10862	23	00004	11217	10	250		M	OUT&4 ,NOMB‡	
10874	32	00096	00000	10	260		SF	96‡	
10886	22	10822	00099	10	270		S	ETAN&3,99‡	
10898	21	10822	00004	10	280		A	ETAN&3 ,OUT&4‡	
10910	44	10930	00014	10	290		BNF	GORE ,OUT&14‡	
10922	49	10716	00000	10	300		B	QUERY‡	
10930				10	310		DORG	*-3‡	
10930	11	11317	000-1	10	320	GORE	AM	SUBN,1,10‡	
10942	26	10825	11317	10	330		TF	ETAN&6,SUBN‡	
10954	13	11317	000J5	10	340		MM	SUBN,15,10‡	
10966	16	10996	J7133	10	350		TFM	*&30,TOP&1‡	
10978	22	10996	00099	10	360		S	*&18,99‡	
10990	31	00000	00001	10	370		TR	,OUT&1‡	
11002	49	10728	00000	10	380		B	QUERY&12‡	
11014	15	11207	00003	10	390	COLECT	TDM	FAGR&1,3‡	
11026	16	16071	-000-	10	400		TFM	SYMBSB,0,711‡	
11038	16	11217	0-000	10	410		TFM	NOMB,,8‡	
11050	31	17172	17174	10	420		TR	CHI-1,CHI&1‡	
11062	14	17173	00009	10	430		CM	CHI,69,10‡	
11074	46	11182	01100	10	440		BH	FAGR-24‡	
11086	17	09532	000-2	10	450		BTM	CS,2,10‡	
11098	26	16071	08357	10	460		TF	SYMBSB,SMCNT‡	
11110	14	17173	000J0	10	470		CM	CHI,10,10‡	

LOCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND	REMARKS	PAGE	20
11122	46	11170	01200	10 480		BE	*848#				
11134	14	17173	000K0	10 490		CM	CHI,20,10#				
11146	47	11218	01200	10 500		BNE	FAGR&12#				
11158	15	11207	00002	10 510		TDM	FAGR&1,2#				
11170	31	17172	17174	10 520		TR	CHI-1,CHI&1#				
11182	17	09178	000-0	10 530		BTM	CFXN,,10#				
11194	26	11217	17143	10 540		TF	NOMB,SYM#				
11206	33	11217	00000	10 550	FAGR	CF	NOMB#				
11218	26	11236	11013	10 560		TF	*818,COLECT-1#				
11230	49	00000	00000	10 570		B	#				
11238				10 580		DORG	*-3#				
11217				10 590	NOMB	DS	,FAGR&11#				
11238	14	17173	000K4	10 600		CM	CHI,24,10#				
11250	46	10504	01242	10 610		BE	SCRIPT,42#				
11262	43	11260	00698	10 620		BD	*-2,SBSWCH#				
11274	31	10819	10828	10 630	PUTETA	TR	ETAN,ETAC-8#				
11286	26	10823	08357	10 640		TF	ETAN&4,SMCNT#				
11298	49	10752	00000	10 650		B	QUERY&36#				
11306				10 660		DORG	*-3#				
11306	32	10826	00000	10 670	PETA	SF	ETAN&7#				
11317		2		10 675	SUBN	DC	2 ,0 ,**				
11318	15	00700	00000	10 680		TDM	FLAGSW,0#				
11330	49	10776	00000	10 690		B	PUTETB-12#				
11338				10 700		DORG	*-3#				
11338	17	11356	0-074	10 720	NOSPC	BTM	ERROR,74,8#				
11354		5		10 730		DS	5#				
11356	26	11441	11355	10 740	ERROR	TF	ERRMSS&20,ERROR-1#				
11368	39	11421	00100	10 750		WATY	ERRMSS#				
11380	15	00459	0000J	10 760		TDM	SKPPCH,1,11#				
11392	15	00839	00001	10 765		TDM	TYST&1 ,1#				
11404	49	03974	00000	10 770		B	CONFMT-20#				
11411				10 780		DORG	*-4#				
11419		9		10 785	ZERO9	DC	9 ,0#				
11421		12		10 790	ERRMSS	DAC	12,ERROR NO. @#				
11444	16	11453	000-0	10 830	ASCAN	TFM	OMM1,00,10#				
11453		2		10 835	OMM1	DC	2 , *-2#				
11456	16	15041	00-00	10 840		TFM	ACC,,9#				
11468	16	14950	J6902	10 850		TFM	PUTOMH&6,PHI&220#				
11480	16	10794	J6694	10 860		TFM	PUTETB&6,PHI&12#				
11492	45	11764	17175	10 870	S	BNR	SSA,CHI&2#				
11504	14	11453	000L3	10 880		CM	OMM1,33,10#				
11516	46	11588	01200	10 890		BE	SSB#				
11527		1		10 895	FXORFL	DS	1 ,**				
11528	14	11453	000KM	10 900		CM	OMM1,-24,10#				
11540	46	11576	01200	10 910		BE	*836#				
11552	14	11453	000K4	10 920		CM	OMM1,24,10#				
11564	47	12380	01200	10 930		BNE	SS#				
11576	17	11356	0-071	10 940	ER1	BTM	ERROR ,71 ,8#				
11588	17	12862	000-0	10 950	SSB	BTM	CODE,,10#				
11600	44	15744	00696	10 960		BNF	FOF ,EQSW#				
11612	43	11680	12838	10 970		BD	*868 ,INST1&14#				
11624	43	11660	12854	10 980		BD	*836 ,INST2&14#				
11636	44	11700	12836	10 990	EQ2	BNF	EQ3 ,INST1&12#				
11648	44	11732	12852	11 000		BNF	EQ4 ,INST2&12#				
11660	33	00696	00000	11 010		CF	EQSW#				

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND	REMARKS	PAGE	21
11672	49	15744	00000	11 020		B	FCF#				
11680				11 030		DORG	*-3#				
11680	43	11636	12854	11 040		BD	EQ2		,INST2&14#		
11692	49	11660	00000	11 050		B	*-32#				
11700				11 060		DORG	*-3#				
11700	31	12826	12831	11 070	EQ3	TR	INST1&2		,INST1&7#		
11712	31	12831	12847	11 080		TR	INST1&7		,INST2&7#		
11724	49	15972	00000	11 090		B	ZOT&12#				
11732				11 100		DORG	*-3#				
11732	26	12830	12835	11 110	EQ4	TF	INST1&6		,INST1&11#		
11744	26	12835	12851	11 120		TF	INST1&11		,INST2&11#		
11756	49	15960	00000	11 130		B	ZOT#				
11764				11 140		DORG	*-3#				
11764	14	17173	000M0	11 150	SSA	CM	CHI,40,10#				
11776	47	11812	01100	11 160		BNH	*&36#				
11788	15	00697	00000	11 170		TDM	FSTSW#				
11800	17	09404	J1492	11 180		BTM	CSORN,S#				
11812	14	17173	000L3	11 190		CM	CHI		,33		,10#
11824	46	11848	01200	11 200		BE	*&24#				
11836	33	00696	00000	11 210		CF	EQSW#				
11848	14	17173	000J0	11 220		CM	CHI,10,10#				
11860	46	12072	01200	11 230		BE	SS001#				
11872	14	17173	000K0	11 240		CM	CHI,20,10#				
11884	46	12060	01200	11 250		BE	SS4#				
11896	15	00697	00000	11 260		TDM	FSTSW#				
11908	14	17173	000-4	11 270		CM	CHI,4,10#				
11920	46	12224	01200	11 280		BE	SSCA1#				
11932	14	17173	000K1	11 290		CM	CHI,21,10#				
11944	46	12428	01200	11 300		BE	SS1#				
11956	14	17173	000J4	11 310		CM	CHI,14,10#				
11968	46	12136	01200	11 320		BE	SS3#				
11980	14	17173	000K4	11 330		CM	CHI,24,10#				
11992	46	12192	01200	11 340		BE	SS5#				
12004	14	17173	000L3	11 350		CM	CHI,33,10#				
12016	46	12500	01200	11 360		BE	SS6#				
12028	14	17173	000-3	11 370		CM	CHI,3,10#				
12040	46	11788	01200	11 380		BE	SSA&24#				
12052	49	11576	00000	11 390		B	ER1#				
12060				11 400		DORG	*-3#				
12060	15	00700	00005	11 410	SS4	TDM	FLAGSW,5#				
12072	43	12104	00697	11 420	SSC01	BD	*&32,FSTSW#				
12084	15	00700	00000	11 430		TDM	FLAGSW,0#				
12096	49	12380	00000	11 440		B	SS#				
12104				11 450		DORG	*-3#				
12104	15	00697	00000	11 460		TDM	FSTSW,0#				
12116	31	17172	17174	11 470		TR	CHI-1,CHI&1#				
12128	49	11492	00000	11 480		B	S#				
12136				11 490		DORG	*-3#				
12136	14	17175	000J4	11 500	SS3	CM	CHI&2,14,10#				
12148	47	12428	01200	11 510		PNE	SS1#				
12160	31	17170	17172	11 520		TR	CHI-3,CHI-1#				
12172	15	00700	00005	11 530		TDM	FLAGSW,5#				
12184	49	12476	00000	11 540		B	SS2#				
12192				11 550		DORG	*-3#				
12192	15	00697	00001	11 560	SS5	TDM	FSTSW,1#				

LCCTN	GP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	22
12204	11	15041	000-1	11 570		AM	ACC,1,10‡		
12216	49	14920	00000	11 580		B	PUTOMG‡		
12224				11 590		DORG	*-3‡		
12224	14	11453	000L3	11 600	SSCA1	CM	OMM1,33,10‡		
12236	46	11576	01200	11 610		BE	ER1‡		
12248	44	12784	00702	11 620		BNF	SSC ,IFSWCH‡		
12260	14	17175	000K3	11 630		CM	CHI&2,23,10‡		
12272	46	04840	01200	11 640		BE	ER7‡		
12284	14	11453	000K4	11 650	SSC	CM	OMM1,24,10‡		
12296	46	12764	01200	11 660		BE	SSCA‡		
12308	14	11453	000KM	11 670		CM	OMM1,-24,10‡		
12320	46	12672	01200	11 680		BE	SSCB‡		
12332	14	11453	000M6	11 690		CM	OMM1,46,10‡		
12344	46	15392	01200	11 700		BE	CFCT‡		
12356	14	11453	000M9	11 710		CM	OMM1,49,10‡		
12368	46	04884	01200	11 720		BE	TEN‡		
12380	14	11453	000J0	11 730	SS	CM	OMM1,10,10‡		
12392	46	13090	01200	11 740		BE	CADD‡		
12404	14	11453	000K0	11 750		CM	OMM1,20,10‡		
12416	46	13374	01200	11 760		BE	CSUB‡		
12428	14	11453	000K1	11 770	SS1	CM	OMM1,21,10‡		
12440	46	13470	01200	11 780		BE	CDIV‡		
12452	14	11453	000J4	11 790		CM	OMM1,14,10‡		
12464	46	13450	01200	11 800		BE	CMULT‡		
12476	14	11453	000JM	11 810	SS2	CM	OMM1,-14,10‡		
12488	46	15020	01200	11 820		BE	CEXP‡		
12500	15	00697	00001	11 830	SS6	TDM	FSTSW,1‡		
12512	15	12825	00006	11 840	TFSAVE	TDM	INST1&1,6‡		
12524	26	12559	10794	11 850		TF	*&35,PUTETB&6‡		
12536	12	12559	000-9	11 860		SM	*&23,9,10‡		
12548	31	12826	00000	11 870		TR	INST1&2‡		
12560	15	12836	00000	11 880		TDM	INST1&12,0‡		
12572	44	14920	12832	11 890		BNF	PUTOMG,INST1&8‡		
12584	44	12604	12834	11 900		BNF	*&20,INST1&10‡		
12596	49	14920	00000	11 910		B	PUTOMG‡		
12604				11 920		DORG	*-3‡		
12604	16	12835	-0060	11 930		TFM	INST1&11 ,FAC‡		
12616	27	13906	13905	11 940		BT	PUT1,PUT1-1‡		
12628	26	12658	12559	11 950		TF	*&30,TFSAVE&47‡		
12640	11	12658	000-8	11 960		AM	*&18,8,10‡		
12652	32	00000	00000	11 970		SF	‡		
12664	49	12204	00000	11 980		B	SS5&12‡		
12672				11 990		DORG	*-3‡		
12672	26	12707	10794	12 000	SSCB	TF	*&35,PUTETB&6‡		
12684	26	12758	10794	12 010		TF	*&74,PUTETB&6‡		
12696	31	12831	00000	12 020		TR	INST1&7,‡		
12708	44	12740	12838	12 030		BNF	*&32,INST1&14‡		
12720	33	12838	00000	12 040		CF	INST1&14‡		
12732	49	12752	00000	12 050		B	*&20‡		
12740				12 060		DORG	*-3‡		
12740	32	12838	00000	12 070		SF	INST1&14‡		
12752	31	00000	12831	12 080		TR	,INST1&7‡		
12764	31	17172	17174	12 090	SSCA	TR	CHI-1,CHI&1‡		
12776	12	14950	000-2	12 100		SM	PUTOMH&6,2,10‡		
12788	26	12311	14950	12 110		TF	*&23,PUTOMH&6‡		

LOC TN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	23
12800	26	11453	00000	12 120		TF	OMM1,+		
12812	49	11492	00000	12 130		B	S+		
12824	26	00060	00000	12 140	INST1	TF	FAC+		
12839		4		12 150		DC	4,a+		
12840	27	00480	00000	12 170	INST2	BT	FAD+		
12855		4		12 180		DC	4,a+		
12860		5		12 190		DS	5+		
12862	26	12830	16213	12 200	CODE	TF	INST1&6,TFFAC+		
12874	16	12841	000K7	12 210		TFM	INST2&1,27,10+		
12886	26	12945	10794	12 220		TF	CODA&11,PUTETB&6+		
12898	26	12921	10794	12 230		TF	*&23,PUTETB&6+		
12910	31	12847	00000	12 240		TR	INST2&7+		
12922	12	12945	000-9	12 250		SM	*&23,9,10+		
12934	31	12831	00000	12 260	CODA	TR	INST1&7+		
12946	43	12972	12854	12 270		BD	*&26,INST2&14+		
12958	43	13058	12838	12 280		BD	CODC,INST1&14+		
12970	42	00000	00000	12 290		BB	+		
12972				12 300		DORG	*-9+		
12972	43	13044	12838	12 310		BD	CODD,INST1&14+		
12984	14	11453	000JM	12 320		CM	OMM1,-14,10+		
12996	46	16020	01200	12 330		BE	FXEXP+		
13008	14	11453	000L3	12 340		CM	OMM1,33,10+		
13020	46	15708	01200	12 350		BE	FLOAT+		
13032	17	11356	0-075	12 360	CODF	BTM	ERROR,75,8+		
13044	11	13605	000M0	12 370	CODD	AM	OP,40,10+		
13056	42	00000	00000	12 380		BB	+		
13058				12 390		DORG	*-9+		
13058	14	11453	000L3	12 400	CODC	CM	OMM1,33,10+		
13070	46	15688	01200	12 410		BE	FIX+		
13082	49	13032	00000	12 420		B	CODF+		
13090				12 430		DORG	*-3+		
13090	16	13605	J6141	12 440	CADD	TFM	OP,AFAD+		
13102	17	12862	000-0	12 450		BTM	CODE,,10+		
13114	44	13234	12838	12 460		BNF	CADDH,INST1&14+		
13126	44	13322	12854	12 470		BNF	CADDK,INST2&14+		
13138	15	00700	00003	12 480		TDM	FLAGSW,3+		
13150	44	13194	12853	12 490		BNF	CADDB,INST2&13+		
13162	31	12847	12831	12 500	CADDI	TR	INST2&7,INST1&7+		
13174	16	13607	000MJ	12 510	CADDC	TFM	COMMON&1,41,1011+		
13186	49	13594	00000	12 520		B	C+		
13194				12 530		DORG	*-3+		
13194	44	13214	12837	12 540	CADDB	BNF	CADD,INST1&13+		
13206	49	13174	00000	12 550		B	CADDC+		
13214				12 560		DORG	*-3+		
13214	16	13607	000KP	12 570	CADD	TFM	COMMON&1,27,1011+		
13226	49	13594	00000	12 580		B	C+		
13234				12 590		DORG	*-3+		
13234	44	13302	12854	12 600	CADDH	BNF	CADDJ&12,INST2&14+		
13246	44	13290	12853	12 610		BNF	CADDJ,INST2&13+		
13258	15	00700	00004	12 620		TDM	FLAGSW,4+		
13270	11	13605	000-5	12 630		AM	OP,5,10+		
13282	49	13162	00000	12 640		B	CADDI+		
13290				12 650		DORG	*-3+		
13290	11	13605	000-5	12 660	CADDJ	AM	OP,5,10+		
13302	15	00700	00000	12 670		TDM	FLAGSW,+		

LCCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE 24
13314	49	13150	00000	12 680		B	CADDI-12‡	
13322				12 690		DORG	*-3‡	
13322	44	13342	12853	12 700	CADDK	BNF	CADDL, INST2&13‡	
13334	49	13290	00000	12 710		B	CADDJ‡	
13342				12 720		DORG	*-3‡	
13342	15	00700	00004	12 730	CADDL	TDM	FLAGSW, 4‡	
13354	11	13605	000-5	12 740		AM	OP, 5, 10‡	
13366	49	13194	00000	12 750		B	CADDB‡	
13374				12 760		DORG	*-3‡	
13374	16	13605	J6141	12 770	CSUB	TFM	OP, AFAD‡	
13386	17	12862	000-0	12 780		BTM	CODE, , 10‡	
13398	44	13430	12854	12 790		BNF	CSUBA, INST2&14‡	
13410	33	12854	00000	12 800		CF	INST2&14‡	
13422	49	13114	00000	12 810		B	CADDE&24‡	
13430				12 820		DORG	*-3‡	
13430	32	12854	00000	12 830	CSUBA	SF	INST2&14‡	
13442	49	13114	00000	12 840		B	CADDE&24‡	
13450				12 850		DORG	*-3‡	
13450	16	13605	J6151	12 860	CMULT	TFM	OP, AFMP‡	
13462	49	13482	00000	12 870		B	CDIV&12‡	
13470				12 880		DORG	*-3‡	
13470	16	13605	J6161	12 890	CDIV	TFM	OP, AFDV‡	
13482	17	12862	-0000	12 900		BTM	CODE‡	
13494	44	13562	12838	12 910		BNF	CMDA, INST1&14‡	
13506	44	13574	12854	12 920		BNF	CMDA&12, INST2&14‡	
13518	15	00700	00000	12 930		TDM	FLAGSW‡	
13530	44	13194	12853	12 940	CMDB	BNF	CADDB, INST2&13‡	
13542	11	13605	000-5	12 950		AM	OP, 5, 10‡	
13554	49	13162	00000	12 960		B	CADDI‡	
13562				12 970		DORG	*-3‡	
13562	44	13518	12854	12 980	CMDA	BNF	CMDB-12, INST2&14‡	
13574	15	00700	00005	12 990		TDM	FLAGSW, 5‡	
13586	49	13530	00000	13 000		B	CMDB‡	
13594				13 010		DORG	*-3‡	
13594	26	12846	00000	13 020	C	TF	INST2&6‡	
13606	41	13906	13905	13 030	COMMON	NCP	PUT1, PUT1-1‡	
13618	44	13642	13607	13 040		BNF	*&24, COMMON&1‡	
13630	27	13926	13925	13 050		BT	PUT2, PUT2-1‡	
13642	12	10794	000J8	13 060		SM	PUTETB&6, 18, 10‡	
13654	26	17143	15041	13 070		TF	SYM, ACC‡	
13666	16	09403	J3686	13 080		TFM	CSORN-1, *&20‡	
13678	49	08210	00000	13 090		B	SMTLU‡	
13686				13 100		DORG	*-3‡	
13686	26	13716	10794	13 110		TF	*&30, PUTETB&6‡	
13698	11	13716	000-6	13 120		AM	*&18, 6, 10‡	
13710	32	00000	00000	13 130		SF	‡	
13722	12	14950	000-2	13 140		SM	PUTOMH&6, 2, 10‡	
13734	26	13757	14950	13 150		TF	*&23, PUTOMH&6‡	
13746	26	11453	00000	13 160		TF	OMM1‡	
13758	14	17173	000-4	13 170		CM	CHI, 4, 10‡	
13770	46	12284	01200	13 180		BE	SSC‡	
13782	45	13802	17175	13 190		BNR	*&20, CHI&2‡	
13794	49	11504	00000	13 200		B	S&12‡	
13802				13 210		DORG	*-3‡	
13802	14	17175	000J4	13 220		CM	CHI&2, 14, 10‡	

LOCTN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	25
13814	46	12160	01200	13 230		BE	SS3&24‡		
13826	14	11453	000K4	13 240		CM	OMM1,24,10‡		
13838	46	14920	01200	13 250		BE	PUTOMG‡		
13850	14	11453	000KM	13 260		CM	OMM1,-24,10‡		
13862	46	14920	01200	13 270		BE	PUTOMG‡		
13874	14	11453	000L3	13 280		CM	OMM1,33,10‡		
13886	46	14920	01200	13 290		BE	PUTOMG‡		
13898	49	114R2	00000	13 300		B	S,,5‡		
13906				13 310		DORG	*-3‡		
				13 320			*OUTPUT ROUTINES‡		
13906	16	13961	J2824	13 330	PUT1	TFM	PUT2&35,INST1‡		
13918	49	139L8	00000	13 340		B	PUT2&12,,5‡		
13926				13 350		DORG	*-3‡		
13926	16	13961	J2840	13 360	PUT2	TFM	PUT2&35,INST2‡		
13938	31	00000	14688	13 370		TR	OUT ,SUBI‡		
13950	31	00060	00000	13 380		TR	OUT&60‡		
13962	43	14018	00072	13 390		BD	*&56 ,OUT&72‡		
13974	43	14018	00073	13 400		BD	*&44 ,OUT&73‡		
13986	16	14451	000J2	13 410		TFM	PUTX-1,12,10‡		
13998	31	00000	00060	13 420		TR	OUT ,OUT&60‡		
14010	49	14452	00000	13 430		B	PUTX‡		
14018				13 440		DORG	*-3‡		
14018	44	13986	00072	13 450		BNF	*-32 ,OUT&72‡		
14030	33	00073	00000	13 460		CF	OUT&73‡		
14042	13	00073	000J5	13 470		MM	OUT&73 ,15 ,10‡		
14054	16	14089	J7133	13 480		TFM	*&35,TOP&1‡		
14066	22	14089	00099	13 490		S	*&23,99‡		
14078	31	00081	00000	13 500		TR	OUT&81‡		
14090	26	00047	00071	13 510		TF	OUT&47 ,OUT&71‡		
14102	44	14126	14460	13 520		BNF	*&24 ,PUTX&8‡		
14114	26	00047	00066	13 530		TF	OUT&47 ,OUT&66‡		
14126	45	14254	00090	13 540		BNR	BL2 ,OUT&90‡		
14138	26	00059	00089	13 550	BL1	TF	OUT&59 ,OUT&89‡		
14150	31	00000	00036	13 560		TR	OUT ,OUT&36‡		
14162	26	00006	16065	13 570		TF	OUT&6 ,L‡		
14174	11	00006	-0035	13 580		AM	OUT&6 ,35‡		
14186	44	14210	14460	13 590		BNF	*&24 ,PUTX&8‡		
14198	12	00006	000-5	13 600		SM	OUT&6 ,5 ,10‡		
14210	26	00018	00006	13 610		TF	OUT&18 ,OUT&6‡		
14222	12	00018	000-1	13 620		SM	OUT&18 ,1 ,10‡		
14234	16	14451	000L6	13 630		TFM	PUTX-1,36,10‡		
14246	49	14452	00000	13 640		B	PUTX‡		
14254				13 650		DORG	*-3‡		
14254	44	14274	00094	13 660	BL2	BNF	*&20 ,OUT&94‡		
14266	49	14138	00000	13 670		B	BL1‡		
14274				13 680		DCRG	*-3‡		
14274	16	14451	000P2	13 690		TFM	PUTX-1,72,10‡		
14286	21	00042	16065	13 700		A	OUT&42 ,L‡		
14298	21	00054	16065	13 710		A	OUT&54 ,L‡		
14310	26	00006	00094	13 720		TF	OUT&6 ,OUT&94‡		
14322	26	00011	00084	13 730		TF	OUT&11 ,OUT&84‡		
14334	26	00035	00089	13 740		TF	OUT&35 ,OUT&89‡		
14346	44	14382	14460	13 750		BNF	*&36 ,PUTX&8‡		
14358	12	00042	000-5	13 760		SM	OUT&42 ,5 ,10‡		
14370	12	00054	000-5	13 770		SM	OUT&54 ,5 ,10‡		

LCCTN	CP	P/L	G	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	26
14382	44	14452	00035	13 780		BNF	PUTX	,OUT&35‡		
14394	12	C0042	-0012	13 790		SM	OUT&42	,12‡		
14406	12	C0054	-0012	13 800		SM	OUT&54	,12‡		
14418	31	C0024	C0036	13 810		TR	OUT&24	,OUT&36‡		
14430	16	14451	C0000	13 820		TFM	PUTX-1,60,10‡			
14442	49	14452	C0000	13 830		B	PUTX‡			
14452				13 840		DORG	*-1‡			
14452	33	14452	C0000	13 850	PUTX	CF	*‡			
14464	26	14485	14451	13 860		TF	PUTPHI-1,PUTX-1‡			
14476	49	14498	C0000	13 870		B	PUTPHI&12‡			
14486				13 880		DORG	*-1‡			
14486	32	14452	00000	13 890	PUTPHI	SF	PUTX‡			
14498	14	14564	J6599	13 900		CM	PUTTD&6,BUFBAS&75‡			
14510	46	14632	01300	13 910		BNL	DUMP‡			
14522	44	14558	14452	13 920		BNF	*&36,PUTX‡			
14534	25	C0000	16682	13 930		TD	OUT	,PHI‡		
14546	31	16682	16683	13 940		TR	PHI,PHI&1‡			
14558	25	J6524	00000	13 950	PUTTD	TD	BUFBAS	,OUT	,2‡	
14570	31	00000	00001	13 960		TR	OUT	,OUT&1‡		
14582	11	16065	-0001	13 970		AM	L,1‡			
14594	11	14564	-0001	13 980		AM	PUTTD&6,1‡			
14606	12	14485	C00-1	13 990		SM	PUTPHI-1,1,10‡			
14618	46	14498	01100	14 000		BP	PUTPHI&12‡			
14630	42	00000	C0000	14 010		BB	‡			
14632				14 020		DORG	*-9‡			
14632	16	14564	J6524	14 030	DUMP	TFM	PUTTD&6,BUFBAS‡			
14644	43	14668	CC459	14 040		BD	*&24,SKPPCH‡			
14656	38	16519	00400	14 050		WNCD	LOAD-4‡			
14668	26	16523	16065	14 060		TF	LOAD,L‡			
14680	49	14522	C0000	14 070		B	PUTPHI&36‡			
14688				14 080		DORG	*-3‡			
14688	13	-0000	-0000	14 090	SURI	MM	,,27‡			
14700	32	00096	C0000	14 100		SF	96‡			
14712	21	-0099	-0000	14 110		A	99,,27‡			
14724	16	-0071	-0000	14 120		TFM	71,,27‡			
14736	22	-0070	-0099	14 130		S	70,99,27‡			
14748		1		14 140		DC	1,2‡			
14750	33	16216	C00-0	14 150	BGC	CF	BRINST&2,,10‡			
14762	31	C0089	16214	14 160		TR	89,BRINST‡			
14774	31	C0096	16275	14 170		TR	96,CRAM-4‡			
14786	26	C0088	16071	14 180		TF	88,LCDER‡			
14798	33	C0084	C0000	14 190	COMGC	CF	84‡			
14810	14	14888	J6674	14 200		CM	GCER&6	,IMAGE&75‡		
14822	47	14882	C1300	14 210		BL	GCER‡			
14834	43	14858	C0459	14 220		BC	*&24,SKPPCH‡			
14846	38	16599	C0400	14 230		WNCD	IMAGE‡			
14858	16	14888	J6599	14 240		TFM	GCER&6,IMAGE‡			
14870	15	16599	C0000	14 250		TDM	IMAGE‡			
14881		1		14 260		DC	1,2,,‡			
14882	31	J6599	C0084	14 270	GOER	TR	IMAGE	,84	,2‡	
14894	15	C0079	C0000	14 280		TDM	79‡			
14905		1		14 290		DC	1,2,,‡			
14906	11	14888	-0015	14 300		AM	*-18	,15‡		
14918	42	C0000	C0000	14 310		BB	‡			
14920				14 320		DORG	*-9‡			

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	27
14920	43	14988	00700	14 330	PUTOMG	BD	*&68,FLAGSW#		
14932	11	14950	-0002	14 340		AM	*&18,2#		
14944	26	00000	17173	14 350	PUTOMH	TF	,CHI#		
14956	26	11453	17173	14 360		TF	OMM1,CHI#		
14968	31	17172	17174	14 370		TR	CHI-1,CHI&1#		
14980	49	11492	00000	14 380		B	S#		
14988				14 390		DORG	*-3#		
14988	32	17173	00000	14 400		SF	CHI#		
15000	15	00700	00000	14 410		TDM	FLAGSW#		
15012	49	14932	00000	14 420		B	PUTOMG&12#		
15019				14 430		DORG	*-4#		
13605		5		14 440	OP	DS	5,C&11#		
15020	16	13605	J6171	14 460	CEXP	TFM	OP,AFXP#		
15032	17	12862	000-0	14 470		BTM	CODE,,10#		
15041		3		14 475	ACC	DS	3 ,*-2#		
15044	15	16130	00001	14 480		TDM	USED FS&44 ,1#		
15056	15	16128	00001	14 490		TDM	USED FS&42,1#		
15068	44	15092	12854	14 500		BNF	*&24,INST2&14#		
15080	11	13605	000-5	14 510		AM	OP,5,10#		
15092	44	15220	12853	14 520		BNF	CEXPA,INST2&13#		
15104	31	15376	12831	14 530		TR	TEMP,INST1&7#		
15116	16	12838	0-000	14 540		TFM	INST1&14,,8#		
15128	26	12830	12851	14 550		TF	INST1&6 ,INST2&11#		
15140	16	12835	-0060	14 560		TFM	INST1&11 ,FAC#		
15152	27	13906	13905	14 570		BT	PUT1,PUT1-1#		
15164	31	12831	15376	14 580		TR	INST1&7,TEMP#		
15176	26	12830	16213	14 590		TF	INST1&6,TFFAC#		
15188	44	15296	12837	14 600		BNF	CEXPB,INST1&13#		
15200	27	13906	13905	14 610		BT	PUT1,PUT1-1#		
15212	49	15232	00000	14 620		B	CEXPA&12#		
15220				14 630		DORG	*-3#		
15220	44	15296	12837	14 640	CEXPA	BNF	CEXPB,INST1&13#		
15232	44	15276	12838	14 650		BNF	CEXPC,INST1&14#		
15244	26	12835	16265	14 660		TF	INST1&11,RVINST&11#		
15256	16	13607	000KP	14 670	CEXPD	TFM	COMMON&1,27,1011#		
15268	49	13594	00000	14 680		B	C#		
15276				14 690		DORG	*-3#		
15276	16	13607	000MJ	14 700	CEXPC	TFM	COMMON&1,41,1011#		
15288	49	13594	00000	14 710		B	C#		
15296				14 720		DORG	*-3#		
15296	44	15256	12838	14 730	CEXPB	BNF	CEXPD,INST1&14#		
15308	31	15376	12840	14 740		TR	TEMP,INST2#		
15320	26	12852	16266	14 750		TF	INST2&12,RVINST&12#		
15332	27	13906	13905	14 760		BT	PUT1,PUT1-1#		
15344	27	13926	13925	14 770		BT	PUT2,PUT2-1#		
15356	31	12840	15376	14 780		TR	INST2,TEMP#		
15368	49	15276	00000	14 790		B	CEXPC#		
15376				14 800		DORG	*-3#		
15376		1		14 810	TEMP	DS	1#		
15391		15		14 820		DS	15#		
15392	17	12862	000-C	14 830	CFCT	BTM	CODE,,10#		
15404	26	12846	12835	14 840		TF	INST2&6,INST1&11#		
15416	31	17170	17172	14 850		TR	CHI-3,CHI-1#		
15428	44	15520	12854	14 860		BNF	CFCTA,INST2&14#		
15440	44	15576	12853	14 870		BNF	CFCTB,INST2&13#		

LOCTN	CP	P/L	Q	PG	LN	LABEL	MNEM	OPERANDS AND REMARKS	PAGE	28
15452	44	15476	12838	14	880		BNF	*&24, INST1&14#		
15464	15	00700	00002	14	890		TDM	FLAGSW,2#		
15476	16	13607	000KP	14	900		TFM	COMMON&1,27,1011#		
15488	31	12824	16254	14	910		TR	INST1,RVINST#		
15500	16	12851	-0060	14	920		TFM	INST2&11,FAC#		
15512	49	13606	00000	14	930		B	COMMON#		
15520				14	940		DORG	*-3#		
15520	44	15644	12853	14	950	CFCTA	BNF	CFCTC, INST2&13#		
15532	16	13607	000MJ	14	960		TFM	COMMON&1,41,1011#		
15544	44	15500	12838	14	970		BNF	CFCTA-20, INST1&14#		
15556	15	00700	00002	14	980		TDM	FLAGSW,2#		
15568	49	15500	00000	14	990		B	CFCTA-20#		
15576				15	000		DORG	*-3#		
15576	44	15600	12838	15	010	CFCTB	BNF	*&24, INST1&14#		
15588	15	00700	00002	15	020		TDM	FLAGSW,2#		
15600	26	12830	16213	15	030		TF	INST1&6, TFFAC#		
15612	31	12831	12847	15	040		TR	INST1&7, INST2&7#		
15624	27	13906	13905	15	050		BT	PUT1, PUT1-1#		
15636	49	15476	00000	15	060		B	CFCT&84#		
15644				15	070		DORG	*-3#		
15644	16	13607	000MJ	15	080	CFCTC	TFM	COMMON&1,41,1011#		
15656	44	13606	12838	15	090		BNF	COMMON, INST1&14#		
15668	15	00700	00002	15	100		TDM	FLAGSW,2#		
15680	49	13606	00000	15	110		B	COMMON#		
15687				15	120		DORG	*-4#		
15688	16	15779	J6222	15	130	FIX	TFM	TWAGSE&11, FIX2#		
15700	49	15720	00000	15	140		B	*&20#		
15708				15	150		DORG	*-3#		
15708	16	15779	J6238	15	160	FLOAT	TFM	TWAGSE&11, FLOAT2#		
15720	16	15813	000K7	15	170		TFM	SSBCDE&13,27,10#		
15732	33	00696	00000	15	180		CF	EQSW#		
15744	31	15376	12831	15	190	FOF	TR	TEMP, INST1&7#		
15756	31	12831	12847	15	200		TR	INST1&7, INST2&7#		
15768	31	12840	16222	15	210	TWAGS	TR	INST2, FIX2#		
15780	44	15800	12837	15	220		BNF	*&20, INST1&13#		
15792	49	15812	00000	15	230		B	*&20#		
15800				15	240		DORG	*-3#		
15800	27	13906	13905	15	250	SSBCD	BT	PUT1, PUT1-1#		
15812	41	13926	13925	15	260		NOP	PUT2, PUT2-1#		
15824	44	15860	12838	15	270		BNF	*&36, INST1&14#		
15836	31	12840	16254	15	280		TR	INST2, RVINST#		
15848	27	13926	13925	15	290		BT	PUT2, PUT2-1#		
15860	31	12831	15376	15	300		TR	INST1&7, TEMP#		
15872	31	16011	12831	15	305		TR	TRAREC&1 , INST1&7#		
15884	26	12830	12835	15	310		TF	INST1&6 , INST1&11#		
15896	16	12835	-0060	15	320		TFM	INST1&11 , FAC#		
15908	16	15813	000M1	15	330		TFM	SSBCDE&13 ,41 ,10#		
15920	41	15940	00696	15	350	TRACE	NOP	*&20 ,EQSW#		
15932	49	15960	00000	15	360		B	ZOT#		
15940				15	370		DORG	*-3#		
15940	31	12824	16004	15	380		TR	INST1 ,TRAREC-6#		
15952	49	15972	00000	15	390		B	ZOT&12#		
15960				15	400		DORG	*-3#		
15960	32	14460	00000	15	410	ZOT	SF	PUTX&8#		
15972	27	13906	13905	15	420		BT	PUT1 ,PUT1-1#		

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	29
15984	33	14460	CC000	15 430		CF	PUTX&8#			
15996	49	06724	CC000	15 450		B	TESTDO#			
16004				15 460		DCRG	*-3#			
16005		2		15 470		DC	2,17#			
16010		00005	-2586	15 480	TRAREC	DSA	TRACX#			
16015		5		15 490		DC	5,-90500#			
16019		4		15 500		DC	4,a#			
16020	16	13605	J6055	15 510	FXEXP	TFM	CP,*&35#			
16032	15	11527	CC000	15 520		TDM	FXORFL#			
16044	49	15068	-2000	15 530		B	CXP&48,FAXI,7#			
16060		00005	-190	15 540		DSA	FAXIN#			
16065		5		15 550	L	DS	5#			
16065		1		15 560		DC	1,a#			
16071		5		15 570	LODER	DS	5#			
16072		1		15 580		DC	1,a#			
02452				15 590	STOPSR	DS		,2452#		
02562				15 600	ENDSR	DS		,2562#		
02586				15 610	TRACX	DS		,2586#		
02000				15 620	FAXI	DS		,2000#		
01964				15 630	FAXIN	DS		,1964#		
03914				15 640	COMPLT	DS		,3914	,	,LAST#
02834				15 650	RATY	DS		,2834#		
02798				15 660	RACD	DS		,2798#		
02882				15 670	WACD	DS		,2882#		
02918				15 680	WATYSC	DS		,2918#		
02954				15 690	WATY	DS		,2954	,	,WATYE
03938				15 700	SWC	DS		,3938	,	,NUMBE
02726				15 710	LTPAR	DS		,2726#		
03574				15 720	RTPAR	DS		,3574#		
03690				15 730	HTYPE	DS		,3690#		
03654				15 740	XTYPE	DS		,3654#		
03298				15 750	SLASH	DS		,3298#		
00696				15 770	EQSW	DS		,BA&2#		
00697				15 780	FSTSW	DS		,BA&3#		
00698				15 790	SBSWCH	DS		,BA&4#		
00699				15 800	DMSWCH	DS		,BA&5#		
00700				15 810	FLAGSW	DS		,BA&6#		
00701				15 820	DOSWCH	DS		,BA&7#		
00702				15 830	IFSWCH	DS		,BA&8#		
16075		6		15 860	FRMSCT	DAC	6,FORMAT#			
16086		1		15 870	USED FS	DC	1,0#			
16135		49		15 880		DC	49,0#			
16136		1		15 890		DC	1,a#			
02298				15 900	FIX1	DS		,2298#		
02392				15 910	FLOAT1	DS		,2392#		
00060				15 920	FAC	DS		,60#		
00480				15 930	FAD	DS		,480#		
16141		5		15 940	AFAD	DC	5	,480#		
16146		5		15 950	AFSB	DC	5	,420#		
16151		5		15 960	AFMP	DC	5	,1128#		
16156		5		15 970		DC	5	,1128#		
16161		5		15 980	AFDV	DC	5	,1382#		
16166		5		15 990	AFDVR	DC	5	,1346#		
16171		5		16 000	AFXP	DC	5	,2188#		
16176		5		16 010	FAXBN	DC	5	,2152#		

LOC TN	OP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	30
16181		5		16 020	FXA	DC	5	,1614#		
16186		5		16 030	FXS	DC	5	,1590#		
16191		5		16 040	FXM	DC	5	,1644#		
16196		5		16 050		DC	5	,1644#		
16201		5		16 060	FXD	DC	5	,1722#		
16206		5		16 070	FXDR	DC	5	,1686#		
01816				16 080	RVSGN	DS	0	,1816#		
16213		7		16 090	TFFAC	DC	7	,2600060#		
16214	M9	00000	00000	16 110	BRINST	B		,,0#		
16221		1		16 120		DC	1,@,*-4#			
16222				16 130		DORG	*-3#			
16222	K7	02298	C2297	16 140	FIX2	BT	FIX1, FIX1-1,0#			
16237		4		16 150		DC	4,@#			
16238	K7	02392	C2391	16 160	FLOAT2	BT	FLOAT1, FLOAT1-1,0#			
16253		4		16 170		DC	4,@#			
16254	K7	01816	01815	16 180	RVINST	BT	RVSGN, RVSGN-1,0#			
16269		4		16 190		DC	4,@#			
16278		9		16 200		DC	9,@#			
16279		1		16 210	GRAM	DC	1,@#			
16280	15	--240	00000	16 350	LRCUT	TDM	240	,		,23#
16291		1		16 360		DC	1,@,**#			
16292	36	00080	00500	16 370		RNCD	80#			
16304	49	00104	00000	16 380		B	104#			
16312				16 390		DORG	*-3#			
16312	44	00092	00161	16 400		BNF	92			,161#
16324	49	00104	00000	16 410		B	104#			
16336	26	00074	00164	16 420		TF	74			,164#
16348	26	00000	00174	16 430		TF				,174#
16360	31	-0160	00175	16 440	LROUT2	TR	160			,175 ,2#
16372	45	00056	00160	16 450		BNR	56			,160#
16384	36	00160	00500	16 460		RNCD	160#			
16396	44	00032	00160	16 470		BNF	32,160#			
16408	26	00146	00164	16 480		TF	146,164#			
16420	31	00000	00165	16 490		TR	,165#			
16432	49	00104	00000	16 500		B	104,60000,7#			
16440				16 510		DORG	*-3#			
16441		20		16 520	EOC	DAC	20, PROCESSING COMPLETE			@#
16481		6		16 530	LSTM	DAC	6			,START@#
16493		8		16 540	OVERL	DAC	8, OVERLAP			@#
00000				16 550	OUT	DS				,0#
16513		6		16 570	MEMCAP	DC	6,19999			@#
16518		5		16 580	FCTEND	DS	5#			
16523		5		16 590	LOAD	DS	5#			
16524		1		16 600	BUFBAS	DS	1#			
16598		74		16 610		DS	74#			
16599		1		16 620	IMAGE	DS	1#			
16678		79		16 630		DS	79#			
16682		4		16 640	PHI	DS	4#			
17142		460		16 650		DS	460#			
17143		1		16 660	SYM	DS	1#			
17153		10		16 670	CCMP	DS	10#			
17155		1		16 672		DAS	1#			
17171		16		16 680		DC	16			,507070700000#
17173		80		16 690	CHI	DAS	80#			
17332	11	17359	000K0	16 980	LAST	AM	*827,20,10#			

17344	15	00000	00000	16	990		TDM	#	
17354		1		17	000		DC	1,2,*-1#	
17356	31	J9999	17353	17	010		TR	19999,*-3,2#	
17368	45	17332	00000	17	020		BNR	LAST#	
17380	26	16512	17362	17	030		TF	MEMCAP-1,*-18#	
17392	26	16518	16512	17	040		TF	FCTEND, MEMCAP-1#	
17404	37	17789	00500	17	050		RACD	CCD#	
17416	25	17768	17789	17	060		TD	NO-3, CCD#	
17428	25	17769	17791	17	070		TD	NO-2, CCD&2#	
17440	25	17770	17793	17	080		TD	NO-1, CCD&4#	
17452	25	17771	17795	17	090		TD	NO, CCD&6#	
17464	31	17788	17796	17	100	TRY	TR	CCD-1, CCD&7#	
17476	14	17771	-0000	17	110		CM	NO#	
17488	46	17700	01200	17	120		BE	CHIGO#	
17500	45	17524	17797	17	130		BNR	*&24, CCD&8#	
17512	37	17789	00500	17	140		RACD	CCD#	
17524	16	17959	00-00	17	150		TFM	CCC&8,,9#	
17536	26	17957	17795	17	160		TF	CCC&6, CCD&6#	
17548	26	17566	16518	17	170		TF	*&18, FCTEND#	
17560	26	00000	17959	17	180		TF	, CCC&8#	
17572	12	16518	000J0	17	190		SM	FCTEND, 10, 10#	
17584	16	17619	J7948	17	200		TFM	*&35, CCC-3#	
17596	11	17619	000-2	17	210		AM	*&23, 2, 10#	
17608	43	17596	17950	17	220		BD	*-12, CCC-1#	
17620	26	17638	17619	17	230		TF	*&18,*-1#	
17632	31	00000	17774	17	240		TR	, FRECK#	
17644	26	17662	16518	17	250		TF	*&18, FCTEND#	
17656	26	00000	17959	17	260		TF	, CCC&8#	
17668	12	16518	000J0	17	270		SM	FCTEND, 10, 10#	
17680	12	17771	000-1	17	280		SM	NO, 1, 10#	
17692	49	17464	00000	17	290		B	TRY#	
17700				17	300		DORG	*-3#	
17700	16	J7173	000-0	17	310	CHIGO	TFM	CHI,, 210#	
17711		1		17	320		DC	1,2,*#	
17712	11	17706	000-2	17	330		AM	*-6, 2, 10#	
17724	14	17706	J7332	17	340		CM	*-18 , LAST#	
17736	47	17700	01300	17	350		BL	CHIGO#	
17748	15	00079	00000	17	360		TDM	OUT&79#	
17759		1		17	370		DC	1,2,*#	
17760	49	08010	00000	17	380		B	MOON7#	
17767				17	390		DORG	*-4#	
17771		5		17	400	NO	DC	5,0#	
17772		1		17	410		DS	1#	
17774	46	00000	00000	17	420	FRECK	BI	#	
17786		1		17	430		DC	1,2#	
17789		4		17	440	CCD	DAC	4, AAAA#	
17797		4		17	450		DAC	4, AAAA#	
17805		4		17	460		DAC	4, AAAA#	
17813		4		17	470		DAC	4, AAAA#	
17821		4		17	480		DAC	4, AAAA#	
17829		4		17	490		DAC	4, AAAA#	
17837		4		17	500		DAC	4, AAAA#	
17845		4		17	510		DAC	4, AAAA#	
17853		4		17	520		DAC	4, AAAA#	
17861		4		17	530		DAC	4, AAAA#	

LCCTN	CP	P/L	Q	PG LN	LABEL	MNEM	OPERANDS	AND REMARKS	PAGE	32
17869		4		17 540		DAC	4,AAAA#			
17877		4		17 550		DAC	4,AAAA#			
17885		4		17 560		DAC	4,AAAA#			
17893		4		17 570		DAC	4,AAAA#			
17901		4		17 580		DAC	4,AAAA#			
17909		4		17 590		DAC	4,AAAA#			
17917		4		17 600		DAC	4,AAAA#			
17925		4		17 610		DAC	4,AAAA#			
17933		4		17 620		DAC	4,AAAA#			
17941		4		17 630		DAC	4,AAAA#			
16071				17 640	SYMBSB	DS	,LODER#			
17949		1		17 650		DAC	1,a#			
17132				17 660	TOP	DS	,PHI&450#			
17951		6		17 670	CCC	DAC	6,AAAAAA#			
17344				17 680		DEND	LAST&12#			

		04340	04340	04400	04590	04590	04630	04730	04730	04740	04810
		04940	04940	04950	05060	05060	05100	05140	05140	05750	05750
		05760	06450	06450	06510	06510	06580	08070	08270	08351	08400
		08400	08430	08430	08440	08500	08500	08540	08580	08590	08590
		08620	08700	08710	08710	08720	08750	08770	08890	08920	08940
		08980	09030	09040	09040	09060	09260	09280	09280	09310	09330
		09370	09380	09380	09490	09490	09500	09560	09600	09630	09670
		09670	09680	09690	09690	09700	09730	09740	09740	10090	10120
		10120	10420	10420	10430	10470	10490	10520	10520	10600	10870
		11150	11190	11220	11240	11270	11290	11310	11330	11350	11370
		11470	11470	11500	11520	11520	11630	12090	12090	13170	13190
		13220	14350	14360	14370	14370	14400	14850	14850	17310	
17310	CHIGO	17120	17350								
07085	CKF	06935	06945	07025	07055						
12980	CMOA	12910	12920								
12940	CMDB	12980	13000								
09600	CMPAR	09520									
12860	CMULT	11800									
12260	CODA	12220									
12400	CCDC	12280									
12370	CCDD	12310									
12200	CCDE	10950	12450	12780	12900	14470	14830				
12360	CCDF	12420									
14190	CCMGD	05470	05470	08040	08040						
03850	CCMM	01390									
16670	CCMP	07840	07850	07890	07900	07910	07940	07950	08100	08130	08150
01591	CCNID	02060									
16210	CRAM	05440	05460	06050	06080	06595	07600	14170			
09010	CS	03830	03870	08620	08960	08990	10450				
08890	CSORN	02090	02970	03300	04670	04760	05150	06790	08290	08870	10180
		11180	13080								
12770	CSUB	11760									
12830	CSUBA	12790									
03810	DIM	01320									
08420	DIMA	08370									
08520	DIMB	08356	08380	08660							
08650	DIMC	08354	08450								
08350	DMM	03050									
04590	DC	01180									
04920	DSADO	04700	04710	04720	04820	04860	04870				
14030	DUMP	06680	06690	06710	13910						
02820	EFIND	02540	02620	02700	03450						
04730	ELI	04810									
04870	EMM	04862	05970	05930	07660						
06660	END	01530									
15600	ENDSR	06630									
06630	ENDX	06420	06660								
16520	EOC	07580									
15770	EQSW	10960	11010	11210	15180	15350					
10990	EQ2	11040									
11070	EQ3	10990									
11110	EQ4	11000									
10740	ERROR	01260	01910	02470	02980	03310	04020	04120	04660	08090	08610
		09780	10720	10740	10940	12360					
10940	ER1	01540	01592	11390	11610						
04020	ER6	09830									
04120	ER7	11640									
10220	ETAC	08150	10000	10630							
10200	ETAN	10000	10010	10020	10080	10140	10170	10270	10280	10330	10630
		10640	10670								

10870	S	11180	11480	12130	13200	13300	14380						
09030	SALT	09010	09050	09860	09870								
04040	SENSE	04000											
15750	SLASH	03010											
00730	SLOT	00680	06190										
07930	SMCNT	00030	00090	00760	01930	04690	04700	04780	04800	04890	04990		
		05170	05210	05370	05410	05490	05630	05710	06820	06885	06895		
		06985	07115	07780	07820	07900	08030	08180	08200	08220	08260		
		08350	10010	10460	10640								
07940	SMNOT	07890											
07780	SMTLU	06800	08880	09120	09220	09810	09830	13090					
08100	SMTST	07870	07940	09940	09970								
11730	SS	10930	11440										
11150	SSA	10870	11380										
10950	SSB	10890											
15250	SSBCD	15170	15330										
11650	SSC	11620	13180										
12090	SSCA	11660											
11600	SSCA1	11280											
12000	SSCB	11680											
11420	SS001	11230											
11770	SS1	11300	11510										
11810	SS2	11540											
11500	SS3	11320	13230										
11410	SS4	11250											
11560	SS5	11340	11980										
11830	SS6	11360											
06450	STOP	01470											
14090	SUBI	13370											
10675	SUBN	00080	10320	10330	10340								
15700	SWC	02180											
02470	SWLP	02270	02410	02440									
16660	SYM	02680	02790	02800	02920	02930	02940	02960	03330	03340	03650		
		03660	03750	03960	03970	03980	03990	04000	04780	06560	06780		
		07860	07970	07980	07990	08000	08020	08100	08130	08420	08460		
		08460	08480	08480	08650	08670	08680	08700	08790	08820	08830		
		09010	09020	09030	09080	09090	09100	09110	09140	09170	09190		
		09200	09210	09230	09250	09350	09400	09440	09480	09540	09750		
		09770	09800	09810	09820	09860	10540	13070					
14810	TEMP	14530	14580	14740	14780	15190	15300						
04170	TEN	11720											
16090	TFFAC	04190	12200	14590	15030								
04410	THAT	04140											
02650	TIER	02560	02590	02610									
17660	TOP	10350	13480										
15350	TRACE	01330	01562	07687									
15610	TRACX	15480											
02870	TRANS	02280	02420	02450	02530	02690	02800	02810	02830	02840	02850		
		02890	02930	03010	03030	03080	03100	03320	03400	03420	03530		
		03570	03600	03640	03660	03680	03720	03730	03770				
17100	TRY	17290											
15210	TWAGS	15130	15160										
00340	TYST	00385	10765										
09510	VARBR	09470	09530										
15670	WACD	01670											
15690	WATY	01710											
03450	WIDTH	02300	02940	03370									
15740	XTYPE	03600											
10785	ZERO9	00150	09020										
15410	ZOT	11090	11130	15360	15390								

01800	ACCEPT	01520																			
05350	BEGPRC	01336																			
00960	BLANKS	00620	00800	01596																	
16110	BRINST	00750	02250	03140	05420	05430	05450	05650	14150	14160											
16600	BUFBAS	05770	06820	06830	06840	06850	07430	07520	07530	13900	13950										
		14030																			
10390	COLECT	10060	10230	10560																	
13030	COMMON	12510	12570	13040	14670	14700	14900	14930	14960	15080	15090										
		15110																			
15640	COMPLT	02130																			
05030	COMPUT	04960	05100																		
03240	CONFMT	02330	05950	06210	10770																
06380	CONTIN	01380																			
06510	CONTRL	01400	06460	06470																	
08530	DIMONT	08350	08390	08510	08650																
15800	DMSWCH	03810	03860	08050	08354	08550															
06230	DORCRD	05960																			
15820	DOSWCH	00660	05950																		
04340	ELEVEN	00980	04150	04400																	
05530	ENDPRC	01554																			
10790	ERRMSS	10740	10750																		
09780	EXCESS	08800	09160	09760																	
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