

IDENTIFICATION

Product Code:	DEC-12-ZR7B-D
Product Name:	DIAL-MS Editor Program Description
Date Created:	December 1, 1970
Maintainer:	Software Services

LAP6-DIAL is an editor, filing system and assembler for use with the PDP-12 computer. The editor and filing portions are derived from the basic LINC program LAP6<sup>1</sup> by Mary Allen Wilkes of Washington University. The assembly portion is derived from several programs used on the PDP-8 computer including PAL-D<sup>2</sup>.

The Digital Equipment Corporation wishes to express to the author, Mary Allen Wilkes (Clark), and the Computer Research Laboratory of Washington University, St. Louis, Missouri, its appreciation for the development set forth in LAP6 as well as its thanks for permission to use parts of the LAP6 program.

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<sup>1</sup>M. A. Wilkes, LAP6 Handbook, Computer Research Laboratory Tech. Rep. No. 2, Washington University, St. Louis, May 1, 1967.

<sup>2</sup>PAL-D Assembler Programmer's Reference Manual DEC-D8-ASAA-D.

## 1.0 PROGRAM OVERVIEW

### 1.1 Introduction

The Editor is that LAP6-DIAL program that allows the user to develop, modify and edit a source program. The Editor also has the secondary function of interpreting monitor commands and dispatching calls to the rest of the DIAL system. On the scope, the Editor displays line numbers as well as an editing cursor in the form of an inverted T.

The DIAL-MS Editor is a combination of the DIAL-V2 Editor (DEC-12-ZW7A-D) and the DIAL-V2 program Add Program (DEC-12-ZW8A-D). (Add Program is merely a special overlay for the Editor and is discussed in Section 2.0.) The DIAL-MS Editor is logically and functionally the same as its DIAL-V2 counterpart, with the exception that all I/O is done through the DIAL-MS routines. All commands which reference any device, except the Working Area, have been replaced by the identical function in calls to the DIAL-MS routines; those that reference the Working Area (such as the string slides, etc.) have been left intact. However, they are preceded by a subroutine call to the routine GOODY which looks at what follows the subroutine call and does a logical transformation to the equivalent DIAL-MS call.

### 1.2 SYSTEM PARAMETERS

The system parameters are those Editor symbols that are used in the Editor and/or other system programs that define the nature and configuration of the DIAL system. These parameters are listed and explained below.

APTBLK	-	The first tape block of Add Program.
ASTBLK	-	The first tape block of the Assembler that is read in by the Editor.
A6	-	The first core location of the DSC grid table.
BB	-	The first core location of the Editor's buffer block input buffer.
BLKST	-	The core location that holds the first tape block of a source program for assembly.
B12VAL	-	Pointer to the core locations in the Editor's pointer tape block that hold the knob to switches patch for a PDP-12B.
CB	-	The first core location of the Editor's continuation block input buffer.
DELTA	-	The value that determines the maximum number of pointers that can be stored in the Editor's pointer tape block.
DIALST	-	The first tape block of the DIAL System and also the first tape block of the Editor.
DIALU	-	The tape unit that holds the resident DIAL System.
DXTBLK	-	The first tape block of Display Index.
D6	-	The first core location of the control table.
D6VAL	-	The pointer to the first core location in the Editor's pointer tape block where the control table is saved.
EXTMTP	-	The value that determines the Editor's extended tape operations.
E6	-	Pointer to the Editor's monitor command parameter table.
FCSA	-	The core location in Filecoms which the Editor references to execute calls to Filecoms.

FCTBLK	-	The first tape block of Filecoms.
FILE	-	The first tape block above the Working Area that is available for file storage.
FREE	-	The first tape block of the free area and the first tape block below the Working Area that is available for file storage.
INDEX	-	The first tape block of the index.
KBDOPR	-	The first core location of the Editor's keyboard input conversion routines.
LNHC	-	The initial horizontal coordinate for display of line numbers in the scope routines.
LOTBLK	-	The first tape block of the Loader.
MAXNUM	-	The maximum number of allowable characters on a line.
MCHC	-	The initial horizontal coordinate for display of a monitor command in the scope routines.
MCVC	-	The vertical coordinate for display of a monitor command.
MKHC	-	The horizontal coordinate for display of the marker.
PTADDR	-	The pointer to the core locations in the Editor's pointer tape block that hold the addresses of all the Editor's pointers.
PTBLK	-	The first tape block of the Editor's pointer tape block.
PTEXTIT	-	The pointer to the core locations in the Editor's pointer tape block that hold the values of the Editor's pointer upon system exit.
PTINIT	-	The pointer to the core locations in the Editor's pointer tape block that hold the initialization values for the Editor's pointers.
PT12B	-	The pointer to the core locations in the Editor where the patch for a PDP-12B will go.
PXTBLK	-	The first tape block of Print Index.

SBTBLK	-	The first tape block of Save Binary.
SPCHAR	-	The first core location of the Editor's special character table.
SPFCNS	-	The value that determines the Editor's special functions whenever an ESF is executed.
TXTHC	-	The initial horizontal coordinate for display of text in the scope subroutines.
UNITNO	-	The core location relative to which arguments are stored for the assembler.
WA	-	First tape block of Working Area.
WAEND	-	Last tape block of the Working Area.
WAUNIT	-	The tape unit that contains the Working Area.
WB	-	First core location of the Editor's Working block input buffer.
Y6	-	The last core location of the monitor command table.
Z6	-	The first core location of the monitor command table.

### 1.3 SYMBOLIC CHARACTER CODES

A number of DIAL characters are symbolically defined in the Editor. Any change in the DIAL character code itself or in the structure of tables which use the symbolic codes would require a redefinition of the following symbols.

<u>SYMBOL</u>	<u>VALUE</u>	<u>DIAL CHAR</u>	<u>DIAL CODE</u>
AM	36	Alt Mode	4036
AM1	3600	Alt Mode	4036
BF	21	Q	21
BL	27	W	27
COMA	54	,	54
COMA1	5400	,	54
CR	43	Carriage Return	43
CR1	4300	Carriage Return	43
EOF	0000	End of File	00
EOF1	0000	End of File	00

<u>SYMBOL</u>	<u>VALUE</u>	<u>DIAL CHAR</u>	<u>DIAL CODE</u>
FF	6100	1	61
FL	6200	2	62
KOM	57	/	57
KOM1	5700	/	57
LF	37	Line-Feed	37
LF1	3700	Line-Feed	37
PCODE	2000	P	20
LCODE	1400	L	14
RC	04	D	04
RL	1400	L	14
RO	37	Rubout	4037
RO1	3700	Rubout	4037
RR	22	R	22
SP	40	Space	40
SP1	4000	Space	40
TB	47	Tab	47
TB1	4700	Tab	47

#### 1.4 THE EDITOR'S TABLES

The Editor utilizes seven different tables which are explained below:

#### 1.4.1 Control Table

The control table is located in LDF 1 and covers locations D6-2 (2235) through E6-1 (2370) inclusive. the function of the table is to facilitate those routines that execute locate requests. The first two locations of the table (D6-1, D6-2) must always have zeroes in them. The rest of the control table is used for storing line numbers. The table sets up a one-to-one correspondence between line numbers and tape blocks used in the Working Area. The first core location of the control table (D6) contains the line number of the last line of input in the first tape block of the Working Area. The second location in the table contains the line number of the last line of input on the second tape block of the Working Area, Etc. For example, if lines 1-54 filled up the first tape block of the Working Area, then location D6 (2235) would contain 54. The locate routines use the information in the control table for locating line numbers and finding appropriate tape blocks.

#### 1.4.2 Grid Table

The grid table is located in LDF 1 at locations A6 (2001) through locations Z6-1 (2200) inclusive and is used for character display (DSC). Every displayable DIAL character is in the grid table. Each DIAL character is allotted two contiguous locations in the table which is exactly the number needed to display a character. For each character the two core locations contain the bit configuration required to "reproduce" it on the scope. The order in which the characters appear in the table is important because the scope routines access these grid configurations by an algorithm that relates the DIAL character codes to locations in the table. The marker appears in the first two locations, although this is not a rigid requirement. The grid configurations for A, B, C, ....., =, >, ? come next by core location pairs and in ascending DIAL code order. Note that the DIAL codes for these characters are 1, 2, 3, ....., 75, 76, 77 respectively. If the DIAL code for any character is changed then that character must be repositioned in the grid table.



### 1.4.3 Keyboard Input Conversion Table

The keyboard input conversion table runs from locations TABLE (7517) through CHAR (7534) inclusive. It holds the codes for all the special and illegal DIAL characters. The keyboard input conversion routine scans this table every time it processes a character from the keyboard. Every incoming character is stored in the next to last and last locations of the table (the tags ENDTAB and CHAR). If a given character is in the table at location P, the following format applies. The high order four bits of location P contain a micro address that is used to generate a jump instruction to a routine that is appropriate to that character. The low order eight bits of location P contain the ASCII for the given character. The low order six bits of location P+1 contain the DIAL code for the given character. Except for those characters that are special, the low order six bits of any ASCII character is the DIAL code for that character. A match between the incoming character and the keyboard table will always occur because the incoming character is always stored at the end of the table. Thus, if a special character is not selected, a "normal" one is selected by default. The special characters in the table are tab, apostrophe, line feed, left arrow, carriage return, number sign, ASR33 ALT MODE, KSR 35 ALT MODE, RUBOUT, LEFT ARROW, ESCAPE ALT MODE, and at sign, in that order. Consider the first two locations of the table:

TABLE, 1000 + 211            /TAB

0400 + 247            /APOSTROPHE

The high order four bits is the micro address for a tab, the low order 8 bits is the ASCII for tab and the low order six bits of the next word is the DIAL code for tab (47).

#### 1.4.4 Monitor Command Table

The monitor command table is located at locations Z6 (2201) through Y6 (2234) inclusive. The monitor command table has the following format:

```
X1X2
JMP DOX1X2

X3X4
JMP DOX3X4

.
.
.
.
XmXm+1
JMP DOXmXm+1
```

X<sub>i</sub>X<sub>i+1</sub> is the DIAL code for a given command and JMP DOX<sub>i</sub>X<sub>i+1</sub> is a call to a subroutine that will handle the command X<sub>i</sub>X<sub>i+1</sub>. In particular, X<sub>1</sub>X<sub>2</sub>= 0120, A=01, and P=20, the DIAL codes for A and P. The routines that decode a monitor command load the user requested command pair and the corresponding DIAL code, say YZ, into the AC. The table is then scanned for equality with the AC. If a match is found at location P of the table, then the jump instruction at location P+1 of the table is executed.

#### 1.4.5 Special Character Table

The special character table contains the DIAL codes for all those characters that can indicate a special command to the Editor. Those characters are tab, linefeed, ALT MODE, carriage return, comment, comma, rubout, 1, 2, Q, W, R, L, D. The special character table is utilized by the DIAL code interpretive routines which are called prior to a character being input to the Editor's buffers. The special character table is compared by half words to every incoming character. For a given situation, only the appropriate portion of the special character table is

compared to the incoming character. If an incoming character matches one in the special character table, then the routine that will implement the request of the special character is called. The special character table is always checked for rubout, but the characters l, 2, Q, W, which are also in the table, are only checked for if the previously typed key was an ALT MODE and input was to a fresh line.

#### 1.4.6 Monitor Command Parameter Table

The monitor command parameter table runs from location E6 (2371) to location E6+6 (2377) inclusive. Whenever a monitor command is issued, the arguments accompanying the command, if any, are stored in the parameter table. Arguments for a command are any legal combination of the following: line numbers, file name, tape block number, and tape unit number. The monitor command parameter table has the following structure:

<u>LOCATION</u>	<u>CONTENTS</u>
E6	first line number or tape block number
E6+1	second line number
E6+2 - E6+5	file name
E6+6	tape unit number

The MC parameter table also holds at locations E6 and E6+1 the load and go arguments during a Save Binary command (see DEC-12-ZW5A-D).

#### 1.4.7 Tab Table

The tab table runs from locations FLDTAB(6774) to ENDTB(7000) inclusive. The table is used by the scope routines to display tabs as a complement of eight scope spaces; it is merely a table of horizontal coordinates with each succeeding entry eight scope

spaces larger than the previous one. Whenever a tab is encountered during display, beta 1 holds the horizontal coordinates of the last displayed character. At this point the table is scanned to find the smallest entry in the table that is larger than the current horizontal coordinate; beta 1 is then reset to that value. The table is defined relative to the symbolic tags TABSET (the length of a tab) and TXTHC (the initial horizontal coordinate of the first character on a line). A scope line can be thought of as divided into three fields: the tag field, the instruction field, and the comment field. The tag field is the first eight scope spaces, the instruction field is the next sixteen and the comment field is the last sixteen (a scope line is forty scope spaces or characters long). The first entry in the tab table is the horizontal coordinate for the start of the instruction field; the next entry is the coordinate for the middle of the instruction field; the third entry is the coordinate for the start of the comment field; the fourth entry is the coordinate for the middle of the comment field; and the last entry is zero. The last entry is used as a terminator to indicate that a tab extends beyond a scope line and routines must be called to modify the vertical as well as the horizontal coordinate.

#### 1. 5 MONITOR COMMAND DECODE ROUTINES

Whenever the carriage return key is typed, the Editor sets a pointer, beta 7, to the first character of the current line, then checks that character for a line feed code (37). If the character is a line feed, the current line is a monitor command request and the Editor calls routines to decode it. The first routine it calls dispositions the type of monitor command (AS, AP, etc.). The routine looks at the second character of the command; if it is a number code for 0-7 the locate request routines are called. If the second character is not an octal numeric code and if the command has a legitimate format, the

second and third characters correspond to a word in the monitor command table (see Monitor Command Table).

If a monitor command is not a locate, the second and third characters of the current line are loaded into the Accumulator. A pointer is set to the start of the monitor command table and a counter is set to its length. The table is scanned one word at a time and checked for equality with the AC. As a matter of table structure, the jump instructions are compared to the AC, but they are of the form 6XXX or 7XXX and would never match a legitimate monitor command which is of the form 1XXX, 2XXX, or 3XXX. If the table is scanned before a match is found, the command is illegal; it is deleted and control is returned to the display routines. If a match is found, the word subsequent to the one in the table that matched is loaded into the AC, then stored at p+1; i.e., the corresponding jump instruction is planted.

All monitor commands, except EX, CL, PI, ZE and locate, require decoding of the command string - characters 3, 4, 5, ... up to carriage return of the monitor command - and setting up of the monitor parameter table prior to execution. The monitor parameter table is seven words long starting at PDP-8 location 2371 (E6+20000). The first two words are for line numbers; the next four are used for the name; and the

last one is used for the unit number. The command string decode routines initially set the words for line and unit numbers to zero, and the words for name to 7777. A check is first made for numeric codes; if they exist, they are converted to a number and stored as the first line number in the monitor command parameter table. If numeric codes in the command string are not followed by a comma, the corresponding line number word in the monitor command parameter table is reset to 0; otherwise the command string is checked and decoded for the second line number. After a second comma is encountered or a no comma condition as described above, pointers are set for the name sector of the command string and monitor command parameter table. Characters are transferred from the command string to the name sector of the parameter table. If, before a comma is encountered, a carriage return code is detected or the number of characters transferred exceeds eight, the command string is improperly formatted. The command is then deleted from the WMBLK and control is returned to the display routines. When a comma is encountered, the pointer to the monitor command parameter table is set to the unit number word. The unit number is decoded from the command string and put in the parameter table. A check is then made to see if the unit number is in the range 0 - 7. If it is, the decoding routine returns to P+2; otherwise, the command is deleted

from the WMBLK and control is returned to the display routines.

The routine to convert codes to numbers accesses the command string via the pointer beta 6. It converts codes in the command string sequentially. Each code is converted to a 3-bit octal digit and packed in one word (T4). The routine exits when the first non-octal numeric code in the command string is encountered. Arguments of more than four octal digits will be improperly converted, but no error condition will be detected.

#### 1.6 EDITOR POINTER TAPE BLOCK

Whenever the Editor is fired up from a DIAL tape, initialized by the command line feed CL, or is exited from by a monitor command, the Editor's pointers are read from or written onto the Editor's pointer tape block (320). When the pointer tape block is in core, it resides in memory block five of LINC data field 1 (2400-2777); it is divided into six sectors: pointer addresses (PTADDR), pointer initialization values (PTINIT), pointer exit values (PTEXIT), pointer PDP-12-B addresses (PT12B), PDP-12-B values (B12VAL); and control table values (D6VAL). The PTADDR sector holds the addresses of all the Editor's pointers; they are sprinkled throughout segment two. The PTINIT sector holds the values that the Editor's pointers

are to be set to upon initialization. The PTEXTIT sector holds the values of the Editor's pointers at the time of the last exit of the Editor. The PT12B sector holds the addresses of the Editor's knob subroutines. The B12VAL sector holds the patch to the knob subroutines to make them run off the right and left switches for DIAL users with a PDP-12-B. The D6VAL sector holds the control table values upon exit from the Editor. The primary purpose of the pointer tape block is to preserve the Editor's pointers upon exit without generating a core image of the Editor on the DIAL Tape.

#### 1.7 INPUT BUFFERS

The Editor's input buffers take up memory blocks 5, 6, and 7 of LDF 1 and are named respectively as the buffer memory block, working memory block, and continuation memory block. All editing and display is done with respect to these buffers. Whenever a given section of the Working Area is requested, by a locate for instance, the Editor determines where in the Working Area the requested source is located and reads the pertinent blocks into the input buffers and displays them on the scope. The last scope character is defined as the last logical character in the working memory block (unless the working memory block is empty, in which case the last scope



character is in the last half-word of the buffer MBLK). Between the last logical character of the working MBLK (depending upon the state of the art, the last logical character can be anywhere in the working MBLK) and the first logical character of the continuation MBLK, there is a gap or void (LAP-6 calls it a playground) to facilitate editing. The first logical character of the continuation MBLK is the first character that would be displayed on the scope if an ALT MODE 1 were requested.

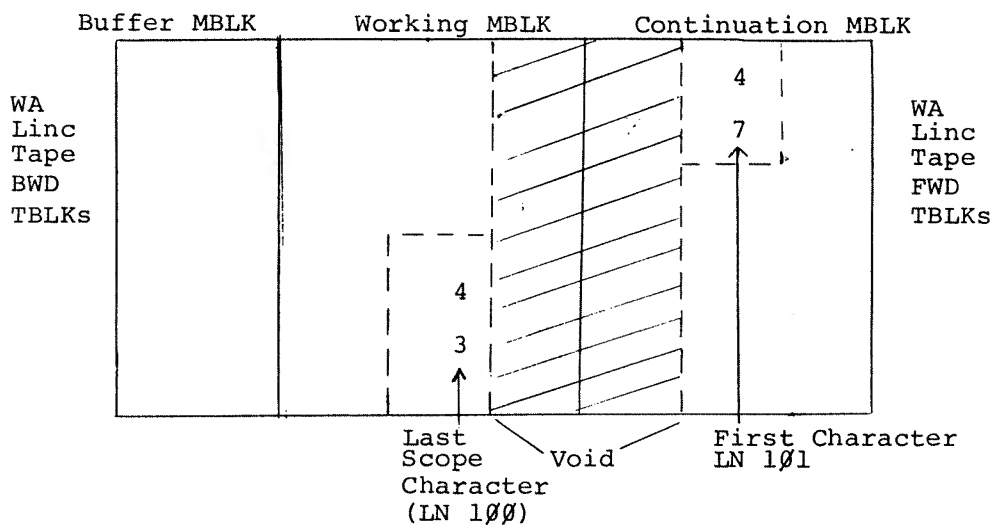


Figure A

The input buffers can be thought of as an extension in core of the Working Area. The source should be considered as continuous from the start of the Working Area (TBLK37Ø) up to the last logical character of the working MBLK and from the first logical character of the continuation block to the end of the source. The working MBLK and buffer MBLK are used for scope display and editing. The continuation MBLK is used for locate and ALT MODE requests only. If the numbers of characters in the scope display exceed the number of characters in the working MBLK, the display is continued back into the buffer MBLK. The scope display routines determine the characters to be displayed by starting from the last logical character in the working MBLK and counting back a predetermined number of characters. Since editing or input can be performed relative to any scope character, it follows that all editing is reflected by changes in the buffer MBLK or working MBLK. Addition of characters compresses the void between the working MBLK and continuation MBLK by increasing the number of characters in the buffer MBLK working MBLK area. Deletion of characters similarly expands the void area. Whenever the working MBLK becomes full, it is written out on tape along with the buffer MBLK and pointers are reset for a fresh working MBLK. The continuation MBLK is not affected. Whenever the working MBLK becomes empty, the buffer MBLK is

(core) transferred into the working MBLK and a backward TBLK (Fig. A) is read into the buffer MBLK.

The void or playground allows modification of a source without constant packing. Whenever a source id modified, the input buffers are no longer an image of their corresponding TBLKs in the Working Area and the tape is said to be in a not o.k. status. The only way to make the tape o.k. is to pack the Working Area. The Working Area as a matter of general usage is not packed but is updated by writing out the input buffers at appropriate times. When the tape is not o.k. the input buffers always contain information that must go out on tape sooner or later. As long as there is a void in the input buffers, the Working Area need only be updated TBLK by TBLK as editing proceeds. Once the source is expanded by 512 characters the playground is full and there is no more room in the input buffers for editing; the source must be packed.

The continuation MBLK is used during locate requests primarily to minimize tape transfer. When a locate forward is requested, a transfer is made character by character and line by line from the continuation MBLK to the working MBLK until the proper line is located. If the continuation block is emptied during the transfer, the next forward tape block of the Working Area is read into the continuation MBLK and

the transfer continues. For locating backwards, the same logic is employed but in this case the transfer is from the working MBLK to the continuation MBLK. Locate requests require tape transfers only when the continuation or working MBLKs become full or empty.

Subroutine GOODY is called whenever the Editor wants to read or write anything from the Working Area and is always called from segment 2. The general call is:

LIF	3	GOODY resides in segment 3.
DJR		DJR is enabled to save zero.
LDA I		The AC contains a JMP to the
JMP	.+2	tape instruction to be executed,
JMP	GOODY	Call GOODY.
RDC		The desired tape operation (read
xxxx		or write) and the block number,
YYYY		GOODY will return here with all
		7's in the AC.

GOODY looks at the block number and determines where the operation is to occur (the range is 20000-5777). Next, it decodes the block number into a DIAL-MS block number and calls DIAL-MS to perform the operation. GOODY then returns to the caller.

## 1.8 THE EDITOR'S POINTERS

The following is a description of the Editor's key pointers. Beta registers 2-6 of segment 2 are crucial and must be left entirely to the Editor.

- A. BETA 2 - holds the half word address in the input buffers of the last scope character. If the last two characters in the scope display were AB, for instance, and B2 held the value 7010 then the contents of location 3010 would be 0102 (DIAL Code for AB). The only time that B2 does not point to a HALF word address in the working MBLK is when that MBLK is empty; then it holds the address of the last half word of the buffer MBLK (6777). Beta 2 is used in all editing and LINctape routines that affect the working MBLK and there are not too many that do not affect this MBLK.

- B. BETA 3 - points to the half word address of the first character on the current line. The first character on the current line may be anywhere in the buffer or working MBLK. Beta 3 is used after a carriage return to determine if a monitor command has been requested and to set pointers to the monitor command if it was requested. Beta 3 is also used to determine whether editing is occurring above or below the current line. All input and a number of LINtape routines address this beta register.
- C. BETA 4 - points to the first logical character in the continuation memory block. It is utilized during the execution of ALT MODE and locate requests and for storing end of file during an exit.
- D. BETA 5 - points to the control table. Any access to the control table during locate requests, for instance, go through beta 5.
- E. BETA 6 - during input beta 6 is used as a counter for the number of characters on the current line. A carriage return at the end of the current line would, for example, cause beta 6 to be set to the value MAXNUM (the maximum number of characters allowable on a line). When beta 6 goes to 7777, a carriage return is automatically inserted on the current line. During execution of a monitor command, beta 6 of segment 3 is used as a pointer to the command.

The following symbols in segments two and three define core locations that are also crucial to the Editor.

- BBTBLK - the core location in segment 2 that holds the TBLK in the Working Area that corresponds to the buffer MBLK. The contents of this location always has the form 5\XXX.
- CBTBLK - the core location in segment 2 that holds the TBLK in the Working Area that corresponds to the continuation MBLK. Its contents are of the form 7\XXX.
- CURLN - the core location in segment 2 whose contents hold the current line number.
- CURPTR - the core location in segment 3 that points to the cursor character in the display routines. Each character that is displayed has its address compared with CURPTR. When a match occurs, the cursor is displayed.
- CURPT2 - the core location in segment 2 that points to the cursor character for the edit routines (it differs from CURPTR by one-half word). Beta 2 and CURPT2 are the Editor's most active pointers. All editing, input, and most LINtape routines reference this pointer.

- FIRSWD - the core location in segment 3 that points to the first character in the scope display and is used by the scope display.
- MAXBLK - the core location in segment 2 that holds the largest tape block used in the Working Area.
- MAXLN - the core location in segment 2 that holds the largest line of the source in the Working Area.
- TBLKCB - a core location in segment 2 which is conceptually identical to CBTBLK above. CBTBLK is used during read instructions and TBLKCB is used during write instructions.
- TOPPTR - located in segment 2, TOPPTR is identical to FIRSWD but is used by the editing routines as a boundary value.
- WBTBLK - the core location in segment 2 that holds the tape block in the Working Area that corresponds to the working MBLK.

## 2.0 ADD PROGRAM

Add Program is used to add a program to the Working Area starting at the current line number. A program may be retrieved from the file area by name from any unit or by block number from any unit and added to the Working Area. Line number arguments may be specified provided that the Add Program is by name; note that Add Program assumes the line number arguments are in ascending order.

The manner in which a program is added to the Editor is very similar to the manner in which the Editor accepts input from the keyboard. The only real difference is that the DIAL code interpretive subroutines are not utilized during Add Program because no special characters are being input.

When Add Program is called, it determines the first tape block of the source. All necessary information for the request is stored in the monitor command parameter table at locations E6 (2371) through E6 + 6. Add Program first looks at the name sector of the parameter table (E6 + 2 - E6 + 5). If the left half of E6 + 2 is 77, then the request is by block number. No file name should begin with question mark (DIAL code for ? = 77) because Add Program will never be able to retrieve it by name.


If a name has been requested, Add Program gets the unit number at E6 + 6 and then checks to see if that unit contains an index. A unit is said to have an index if the first ten words of the first tape block of the index area (TBLK 346) contain 5757 (//).<sup>1</sup> If no index is found, Add

<sup>1</sup>For a full description of index structure, see FILE COMMANDS, DEC-12-ZW9A-D.

Program displays "NO". If the requested unit has an index, each name in the index is compared with the requested name until a match is found. A no name match condition will cause Add Program to display "NO". If a match is found, Add Program further checks to see if the name corresponds to binary only and, if so, again displays "NO". If the name match has a source, then the starting tape block is retrieved from the index and stored at location TPWD (5553).

Add Program then checks the parameter table for line number arguments. If location E6 = location E6 + 1, Add Program assumes that the entire source has been requested and sets the line number arguments LN1 and LN2 to 1 and 7776 respectively. If E6 is not equal to E6 + 1, then LN1 is set equal to E6 and LN2 to E6 + 1. If the Add Program request is by tape block number, the requested block is at location E6 where it is retrieved by Add Program and stored at location TPWD. Once LN1 and LN2 have been set, the add program part of Add Program begins.

Add Program has its own input buffer, to wit, MBLK 2 of segment 2. During an Add Program, all LINCtape read instruction from the requested unit is executed by Add Program and placed in its input buffer (to include the index); however, the Editor does all the LINCtape instructions affecting the Working Area.

The Add Program transfer is executed in the following manner. Add Program gets the first TBLK from the requested source, and ignores the \* 20  which is at the start of every source. If LN1 is not equal to 1, Add Program



calls the routine BYPASS which scans the requested source - always checking for end of file tape block by tape block until LN1 is equal to the current line of the requested source. When this occurs, control is turned over to the subroutine F8 which transfers characters one at a time from Add Program's input buffer to the Editor's input buffers. When the Add Program input buffer becomes empty, Add Program gets the next TBLK. After each character is transferred, control is turned over to the Editor, at which time the Editor checks its input buffers to see if they are full. When the Editor's input buffers become full, the Editor writes out on the Working Area, modifying its various arguments and pointers, and returns control to Add Program when it is finished.

Before Add Program passes a character to the Editor, it checks for end of file, exiting and returning control to the Editor upon finding it. After Add Program passes a character to the Editor it checks for carriage return. If the character was not a carriage return, the input buffers are checked and transfer of the next character is initiated. If the character was a carriage return, Add Program increments by one the Editor's arguments MAXLN (the last line of the source), CURLN (the current line of the source), and its own argument LN1. LN1 is then compared for equality with LN2; if the condition is met, the transfer is terminated. It should be noted that if LN1 is greater than LN2, Add Program will add from LN1 to the end of file since equality with LN2 will never occur.

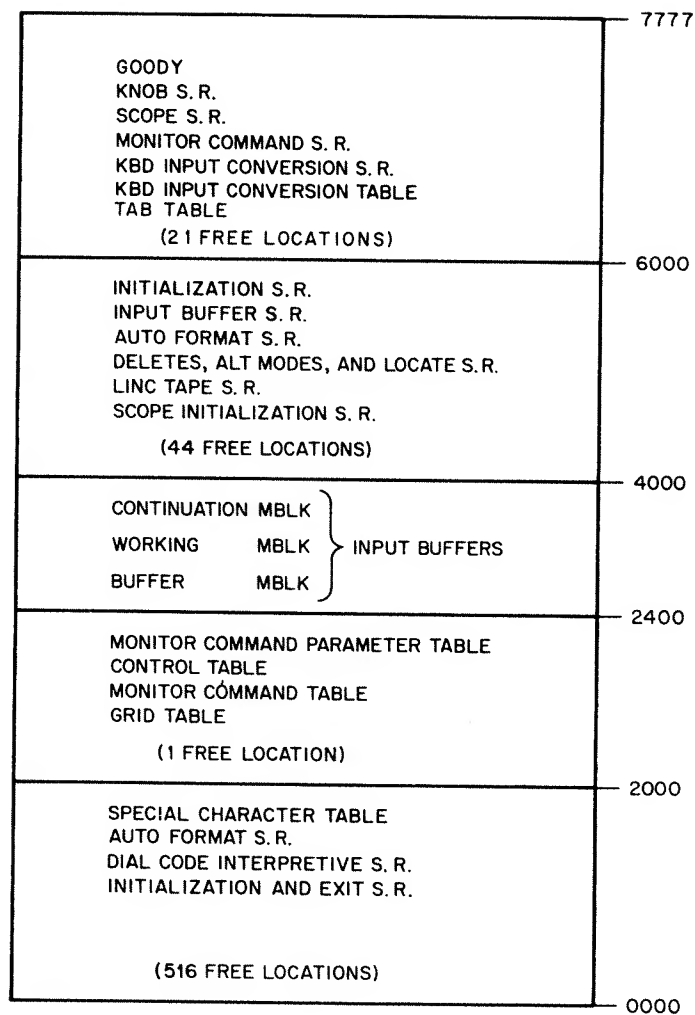
## 2.1 ENVIRONMENT

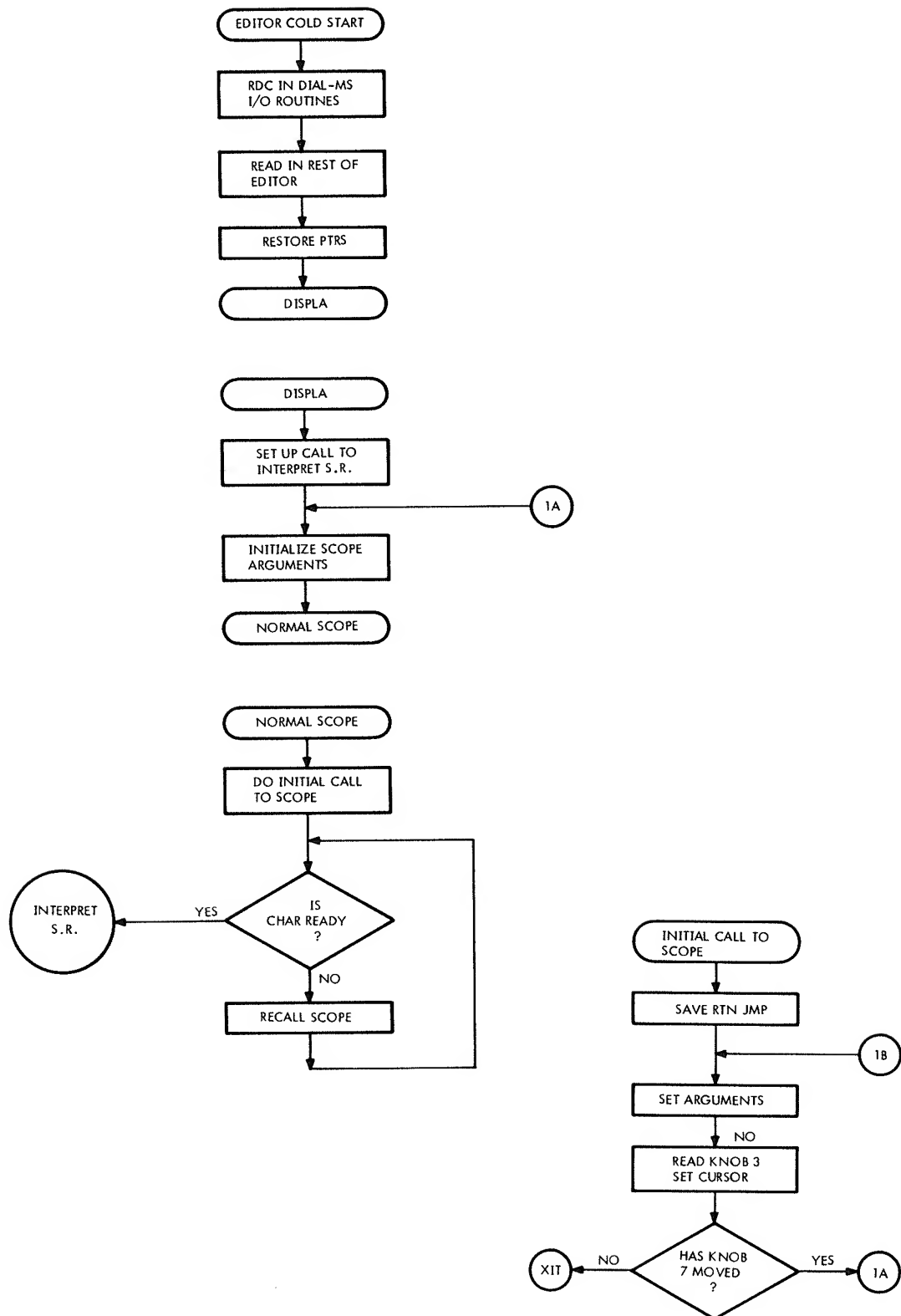
Add Program resides in tape block 321 and in locations 5400-5777 when in core. Add Program is really an Editor subroutine because it requires that the Editor's LINtape and input subroutines be resident with it and must be in MBLKs zero and one of segment two.

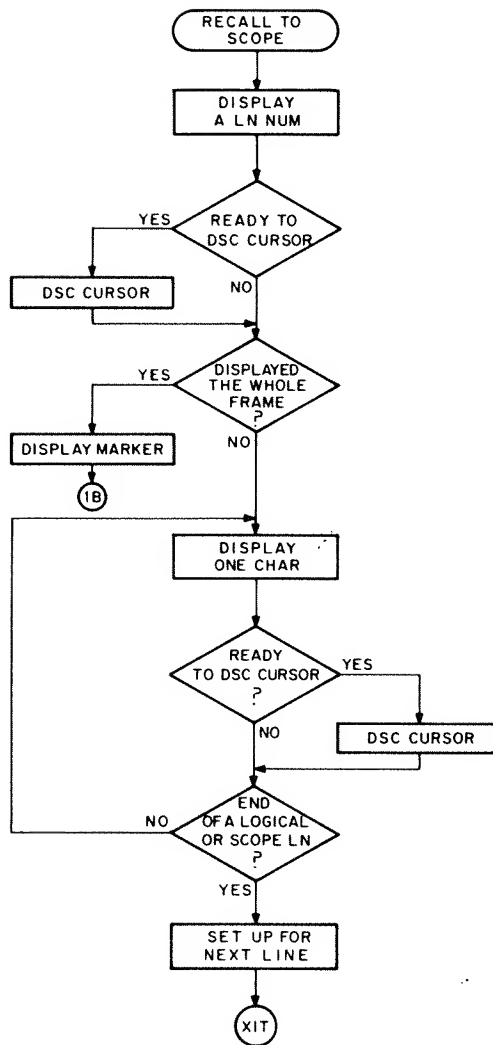
## 3.0 FLOW DIAGRAM (Attached)

## 4.0 PROGRAM LISTING (Attached)

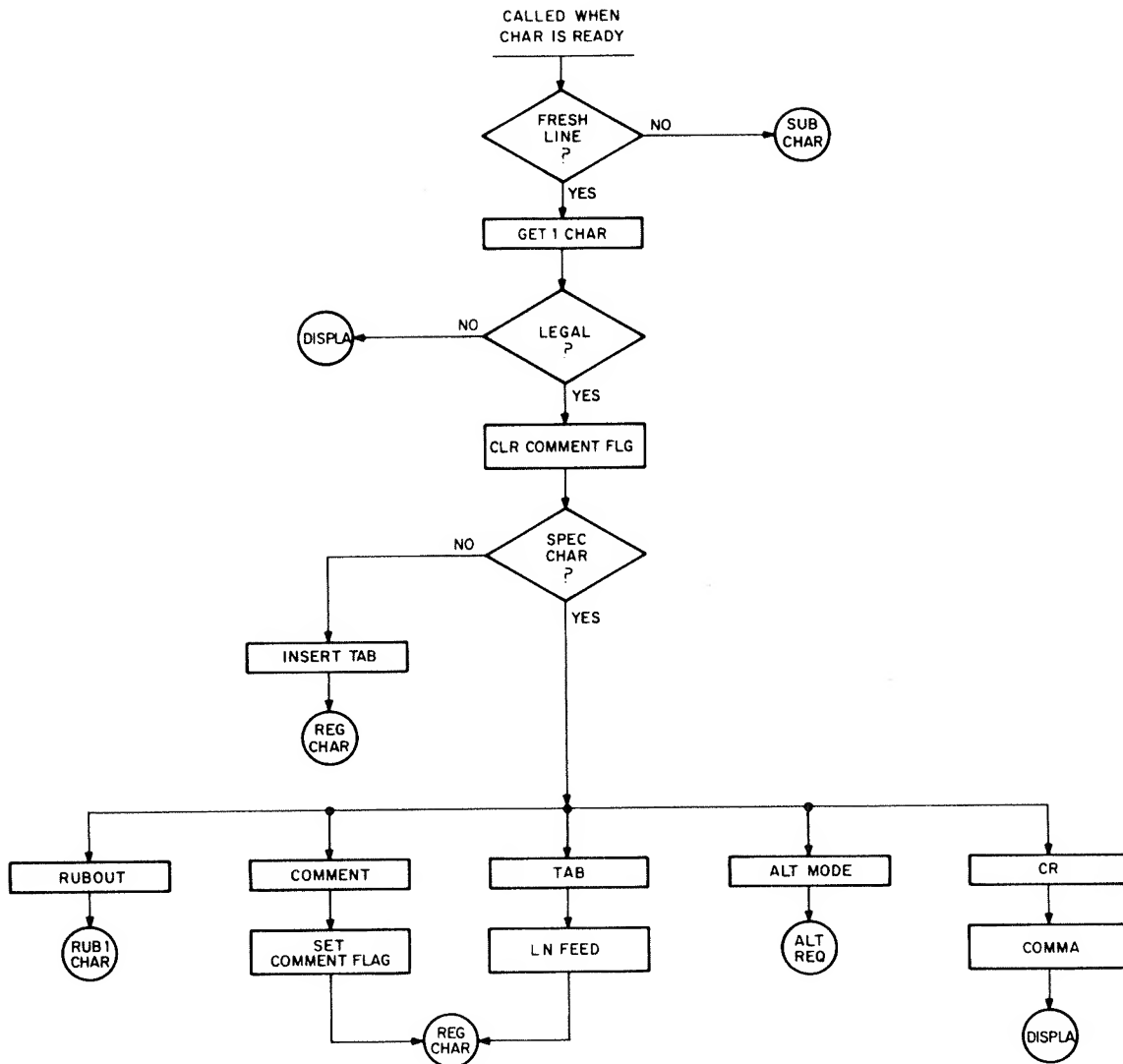
# EDITOR MEMORY MAP

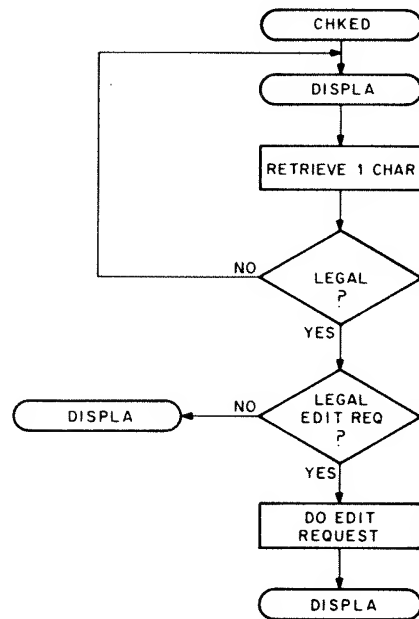
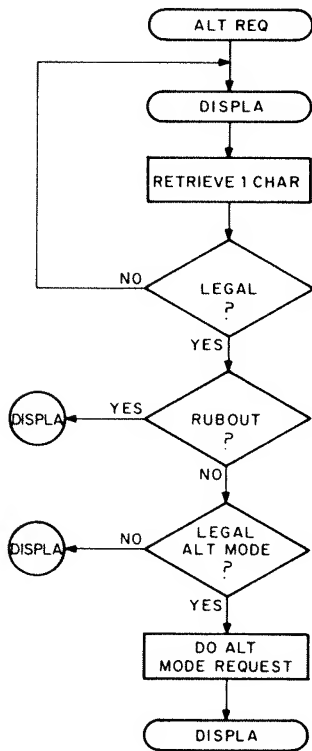
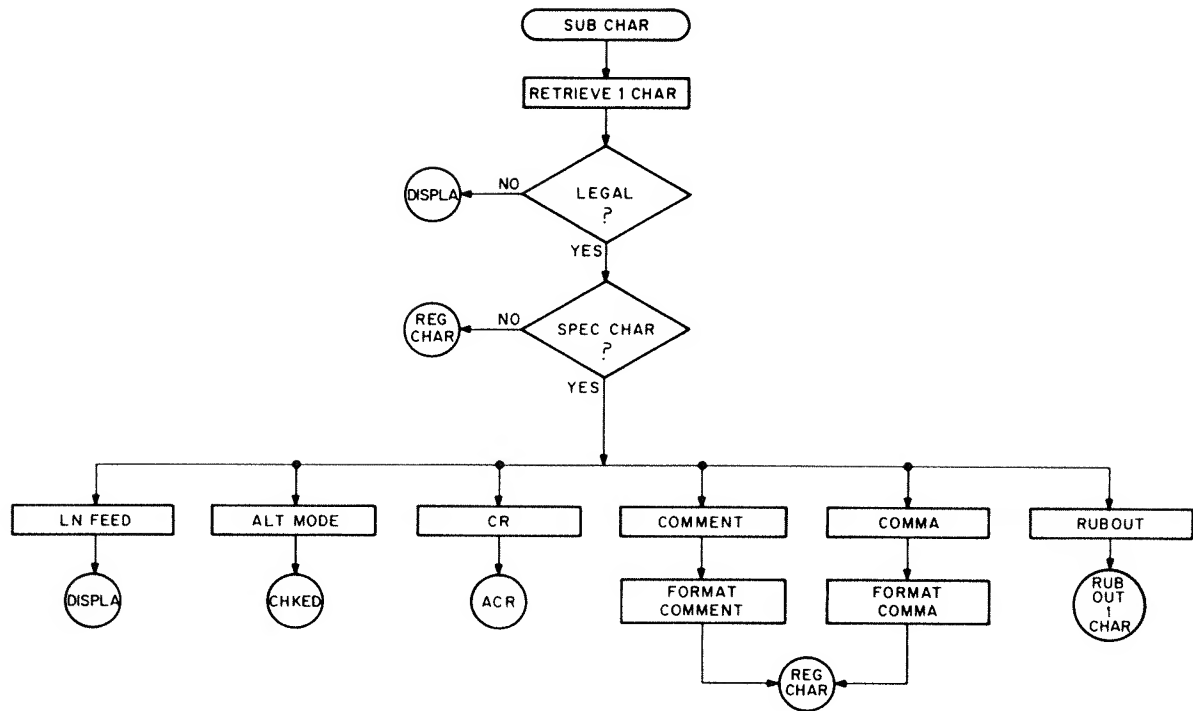


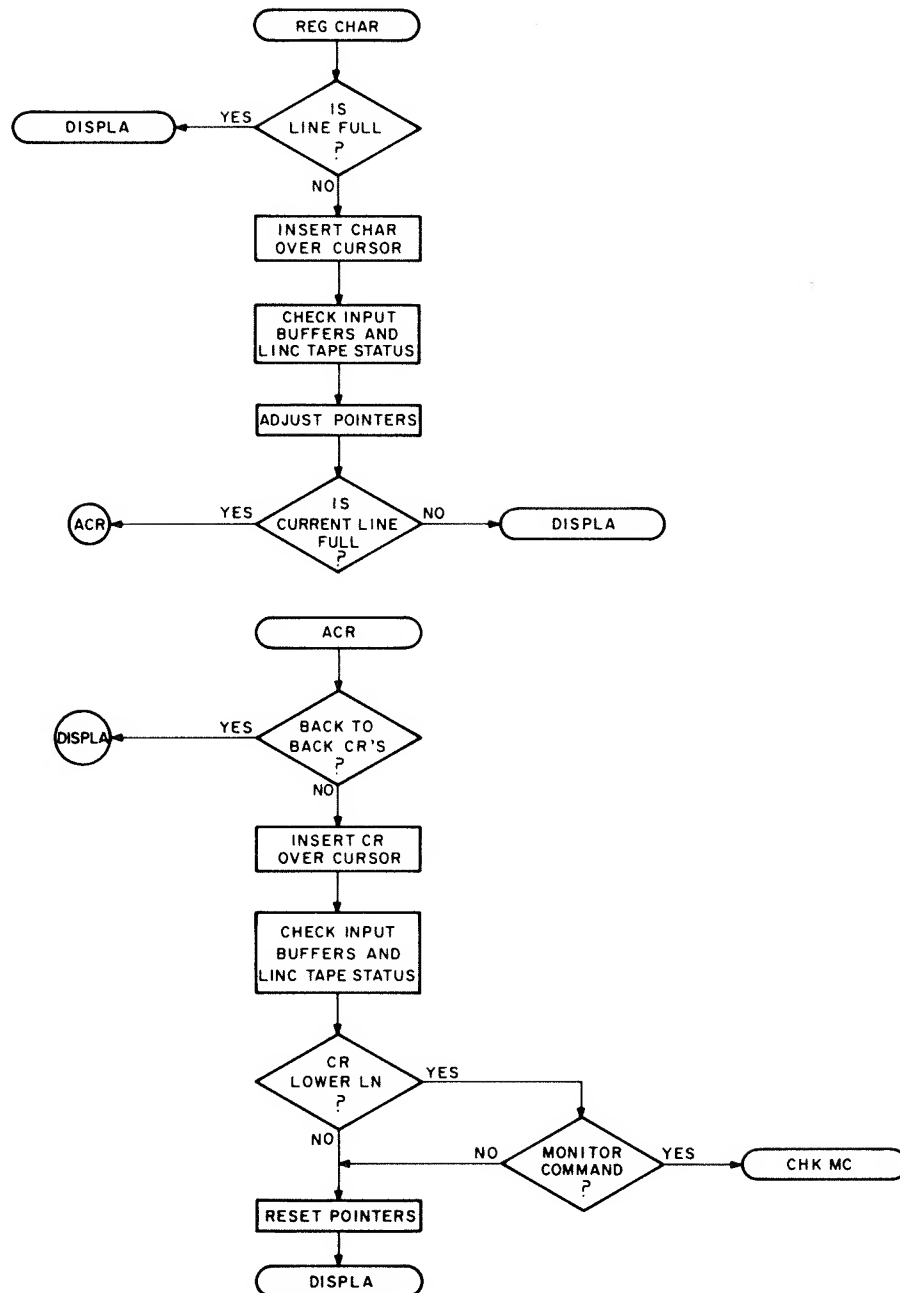




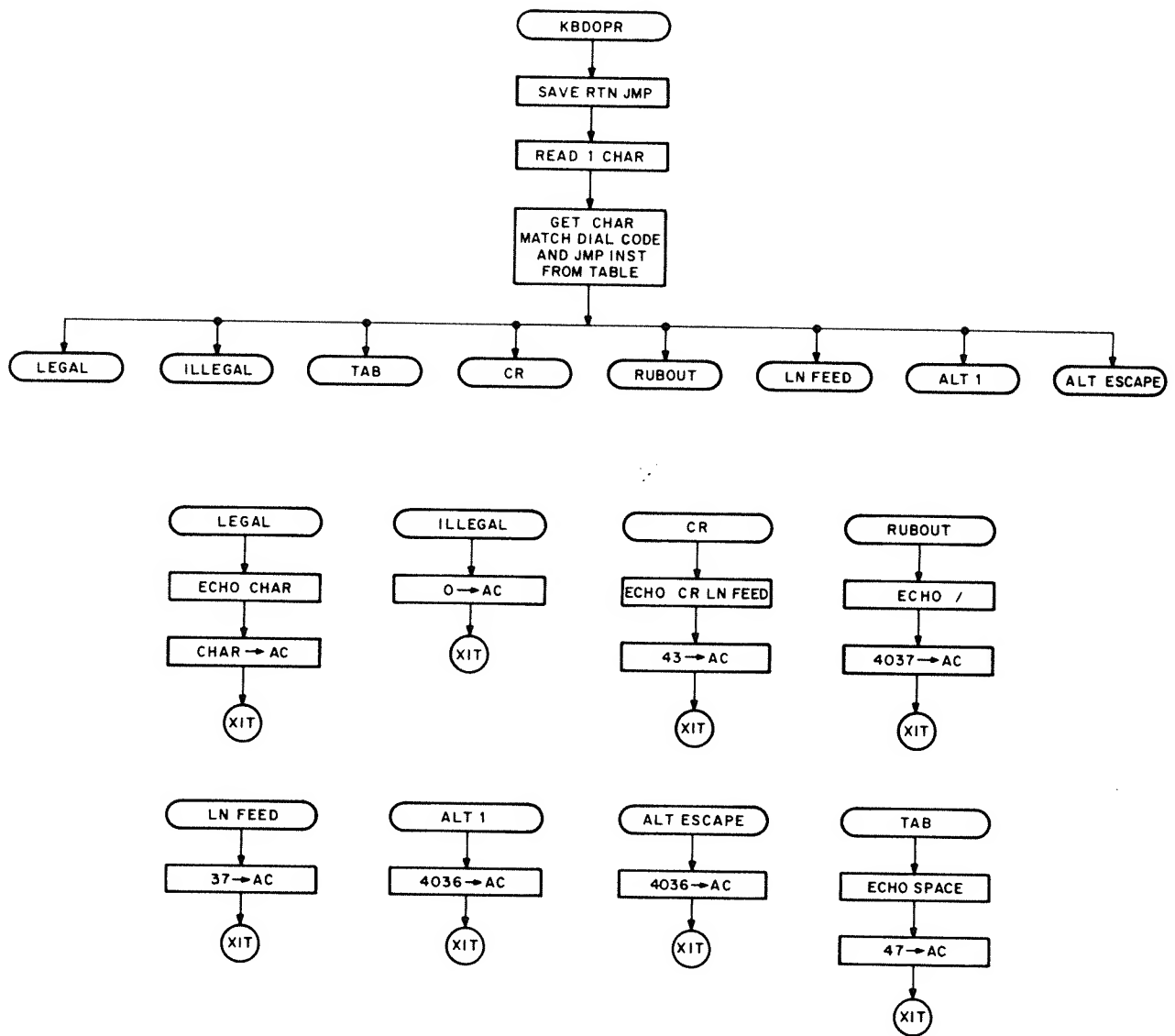
# INTERPRETIVE SUBROUTINE

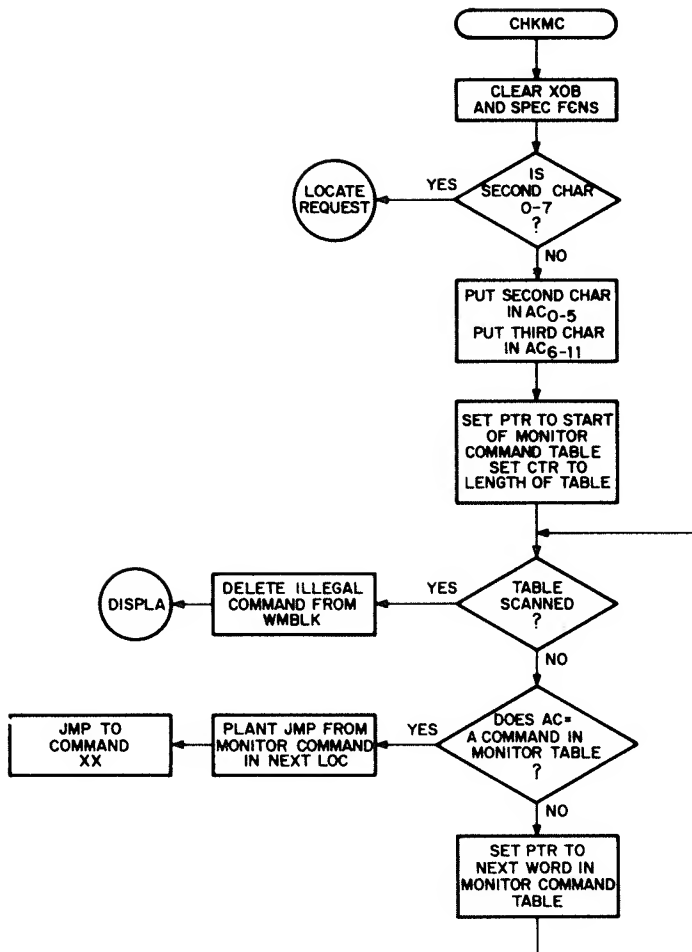


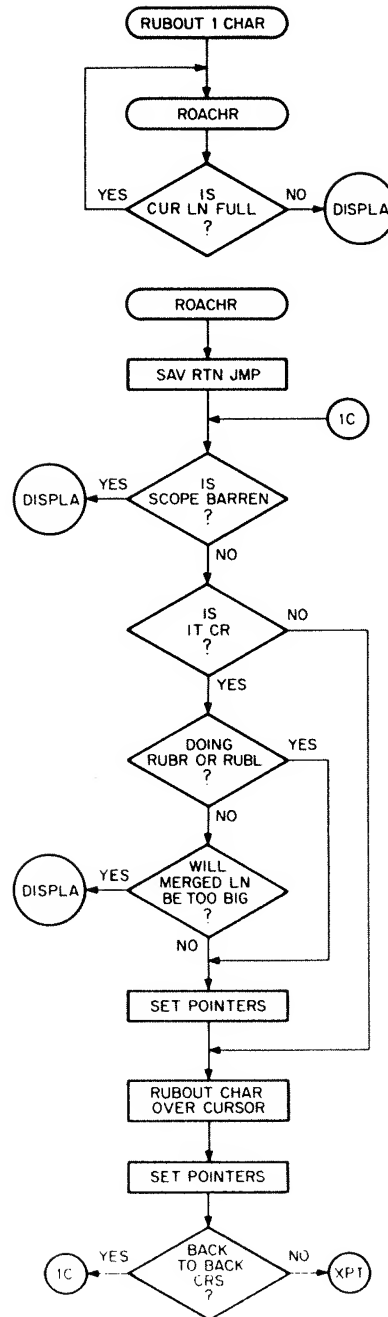
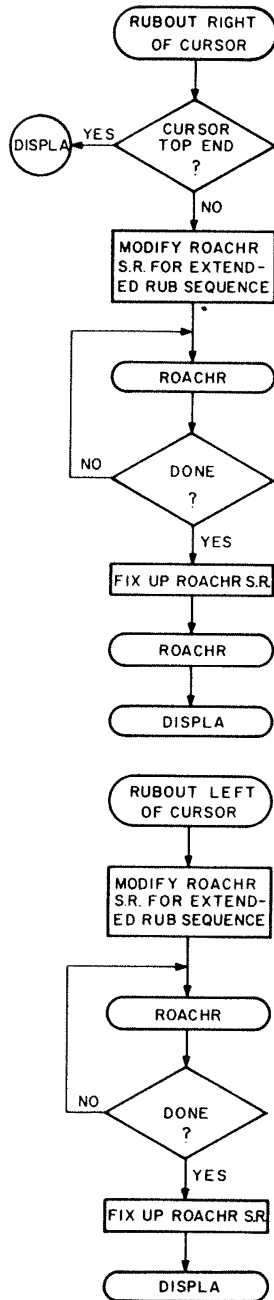


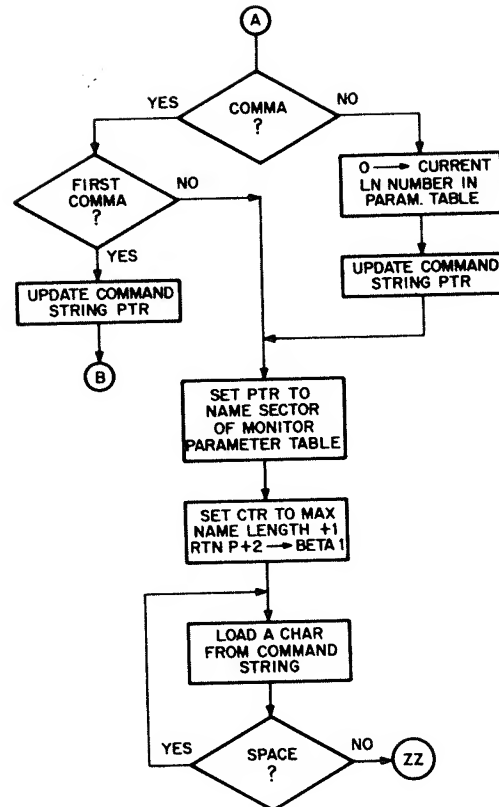
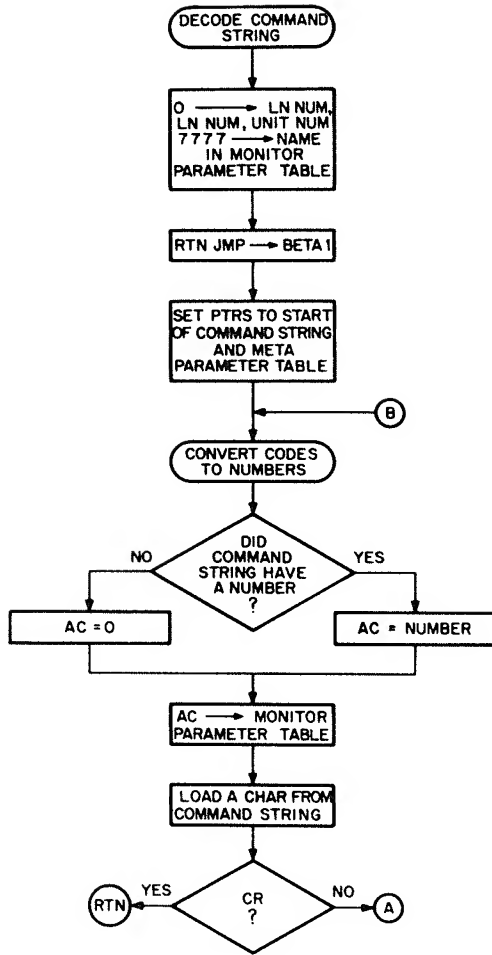


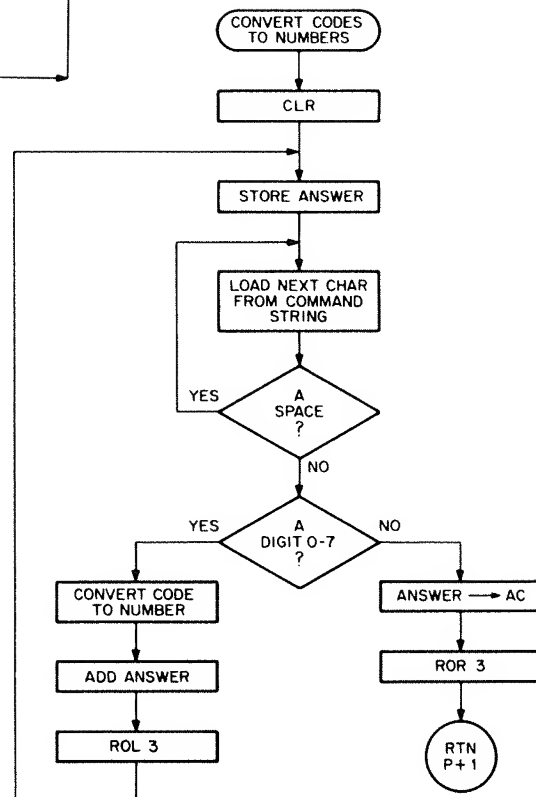
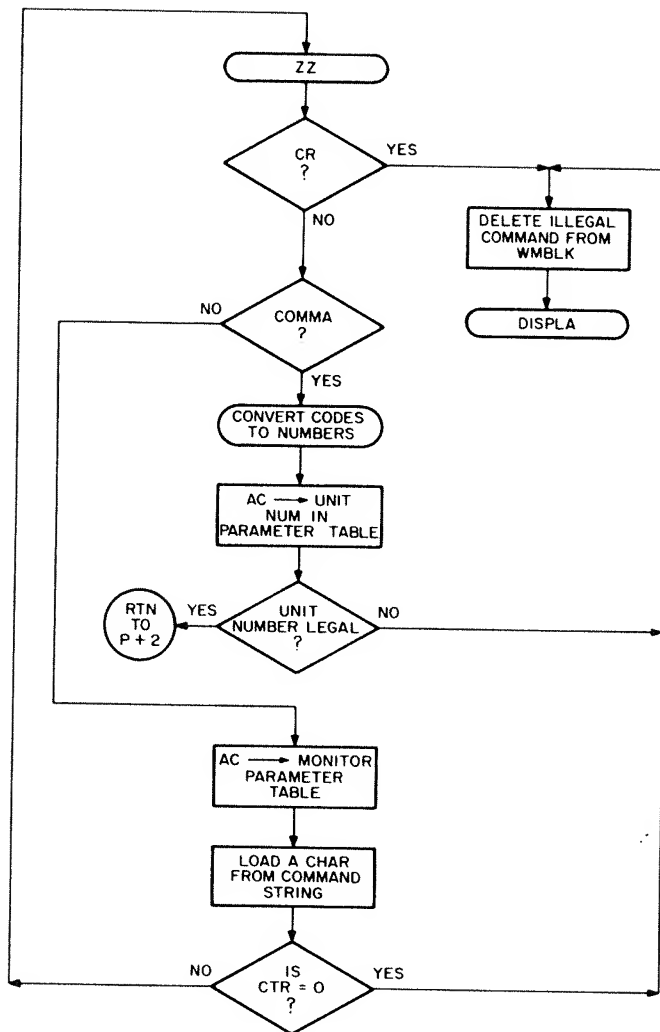


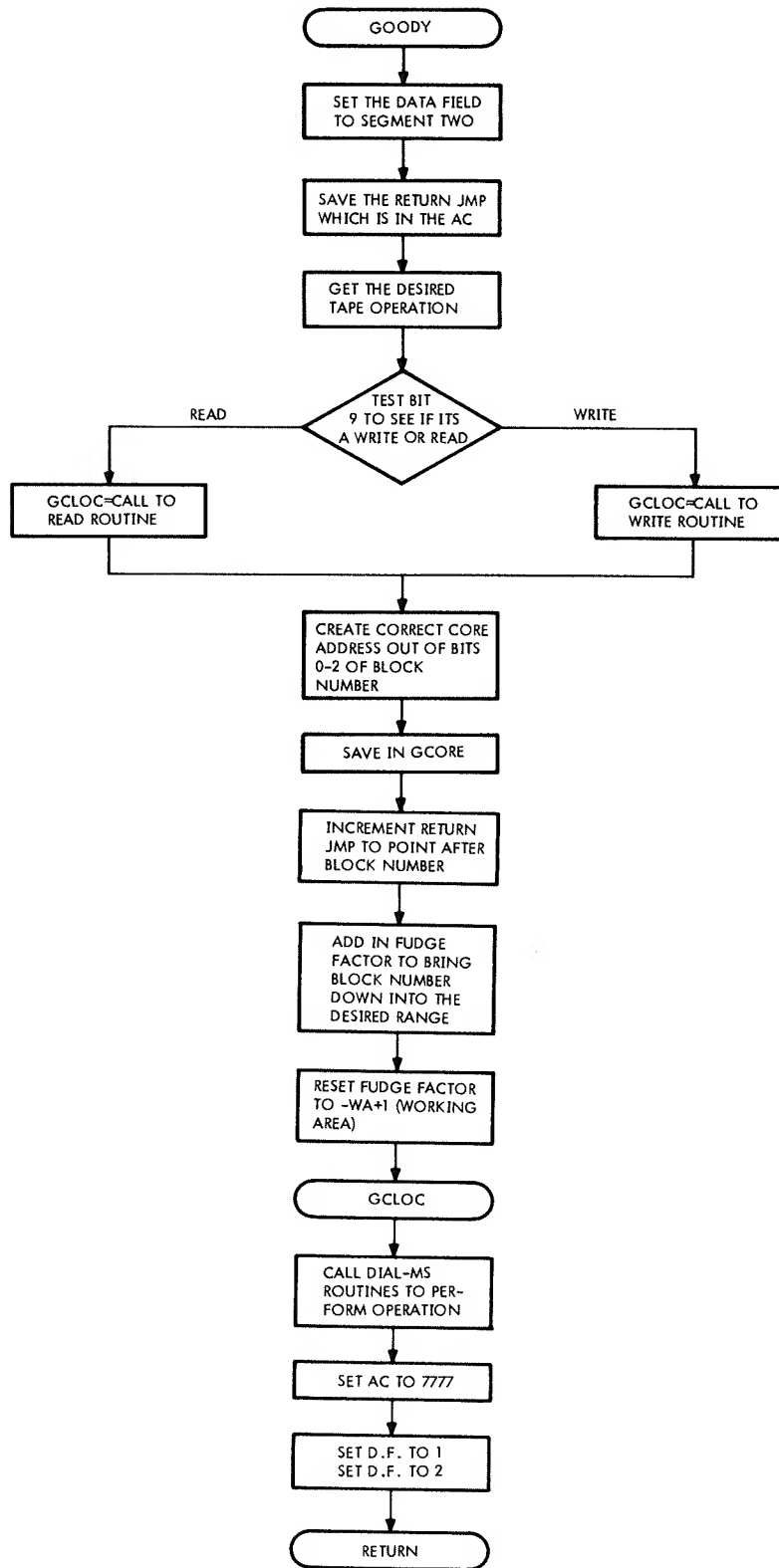


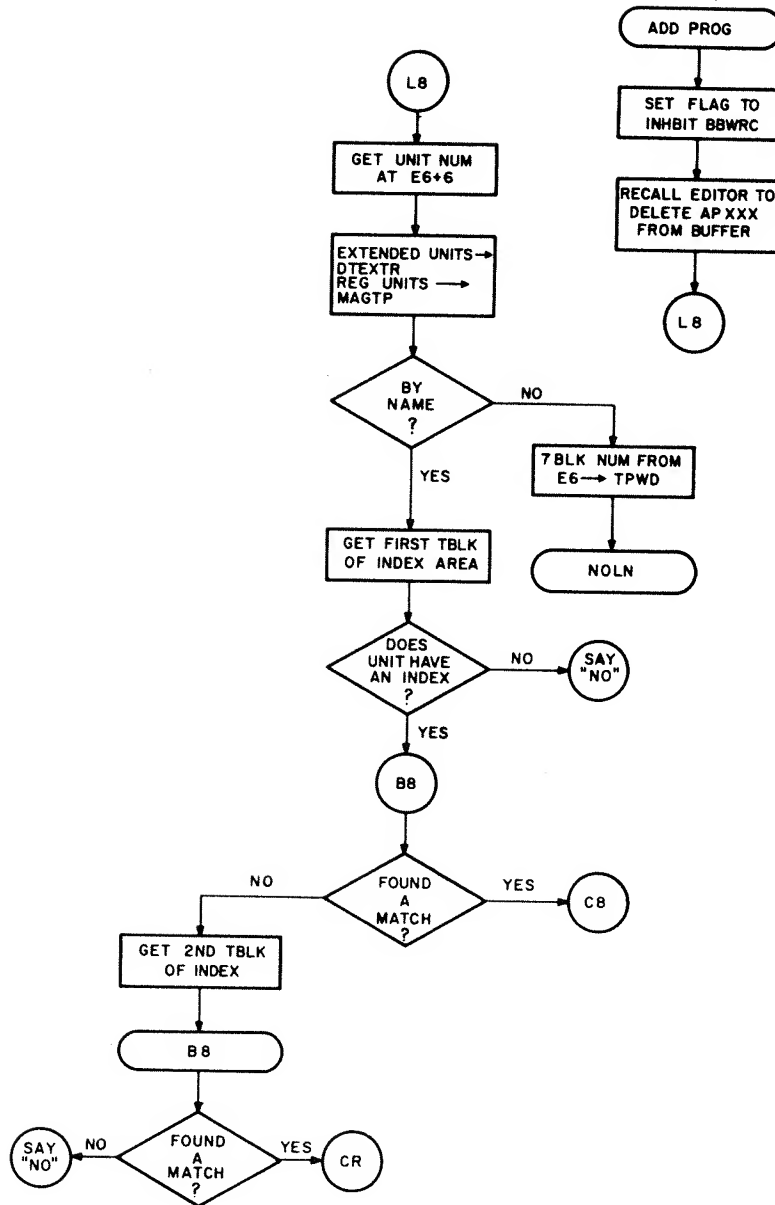


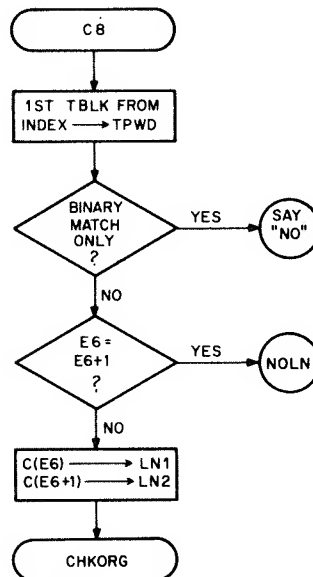
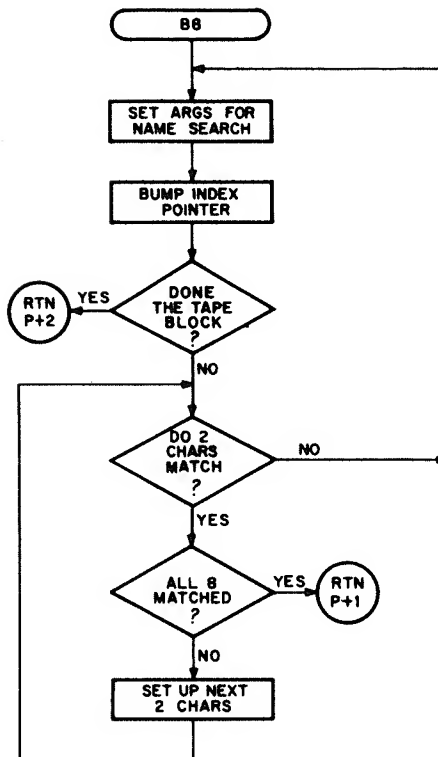




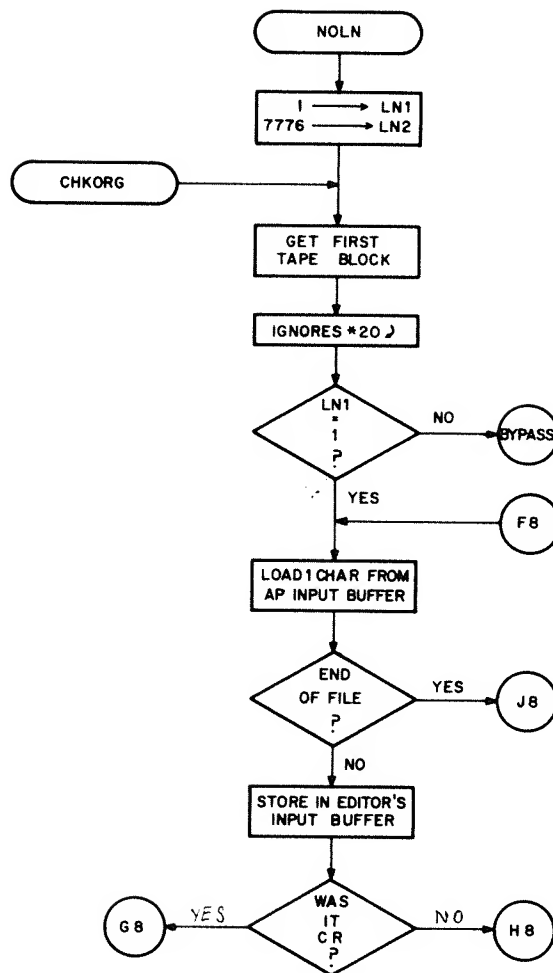


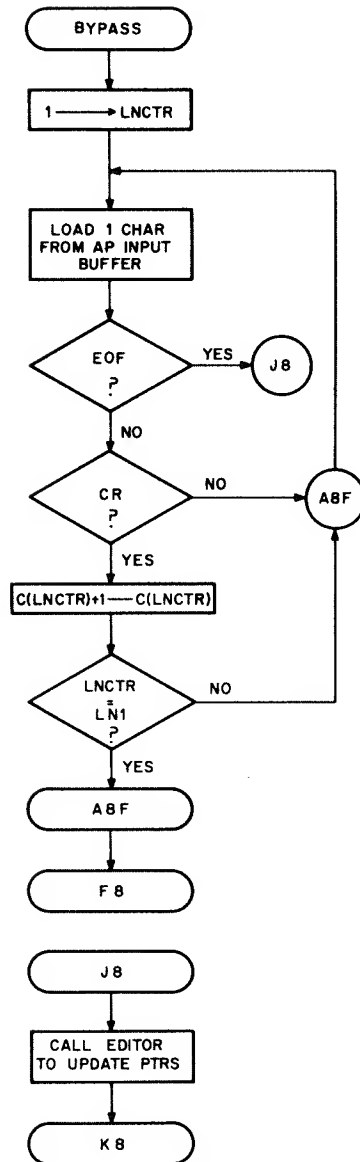


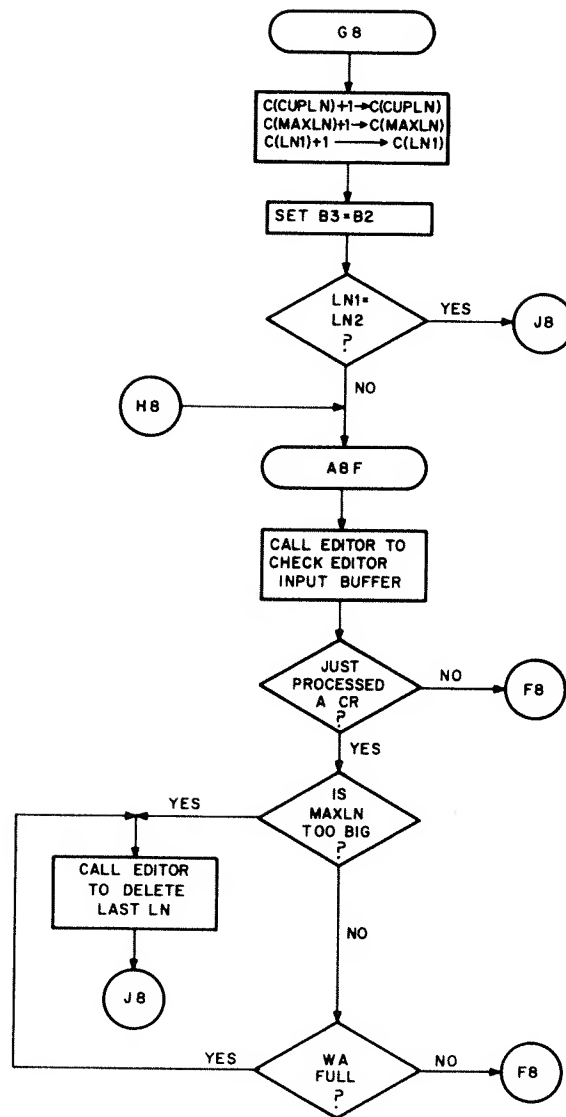


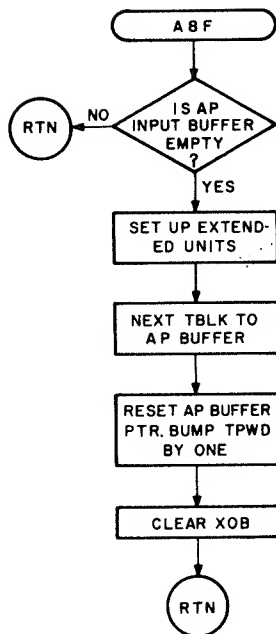












# ADD PROGRAM MEMORY MAP

EDITOR	7777
ADD PROGRAM (46 FREE LOCATIONS)	6000
ADD PROGRAM INPUT BUFFER	5400
EDITOR SUBROUTINES NEEDED FOR AP	5000
EDITOR INPUT BUFFERS NEEDED FOR AP	4000
MC PARAMETER TABLE CONTROL TABLE NEEDED FOR AP	2400
NOT USED	2000
	0000

```
0000      *20
0001      /DIAL-MS EDITOR
0002      /EDITOR
0003      /UPDATE
0004      /15 DEC 69
0005      /UPDATED TO CHAINING 5/14/70
0006      /
0007      /
0010      /          UPDATED FOR MULTIPLE RK08S 8/11/70
0011      /
0012      /
0013      /
0014      /
0015      /
0016      /
0017      /
0020      /
0021      /
0022      EJECT
```

-

0023			SEGMENT 3	
0024			LMODE	
0025			*20	
0026				/KNOB S.R.
0027	0020	0103	SAM3, SAM 3	/CURSOR
0030	0021	1120	ADA 1	
0031	0022	6777	-1000	
0032	0023	0342	SCR 2	
0033	0024	4016	STC CURVAL	
0034	0025	6000	JMP 0	
0035	0026	0107	SAM7, SAM 7	/LNS PER FRAME
0036	0027	0346	SCR 6	
0037	0030	2035	ADD P10	
0040	0031	6000	JMP 0	
0041	0032	0016	NOP	
0042	0033	0016	NOP	
0043	0034	0016	NOP	
0044	0035	0010	P10, 10	
0045	0036	1000	DSCCUR, LDA	
0046	0037	0000	0	
0047	0040	4073	STC SCPRTN	
0050	0041	0044	SET 4	
0051	0042	0014	14	
0052	0043	1324	LDH 1 4	
0053	0044	1460	SAE 1	
0054	0045	0037	LF	
0055	0046	6054	JMP BYMC	
0056	0047	1000	LDA	
0057	0050	0014	14	
0060	0051	1440	SAE	
0061	0052	0002	2	
0062	0053	6712	JMP Y5	
0063				/DISPLAY CURSOR
0064			/	
0065			/	
0066	0054	0072	BYMC, SET 1 12	/SET CURSOR POINTER TO POINT TO
0067	0055	0076	CURSOR	/GRID PATRN ADDR
0070	0056	7762	JMP JBTMT	/SET STATUS NOW OF FLICKER INDICATOR.
0071	0057	1020	LDA 1	/CURSOR VC IS BELOW
0072	0060	7767	JBM10, -10	/CURSOR LN
0073	0061	2765	ADD VCOORD	/VC OF CURSOR LN
0074	0062	1040	STA	
0075	0063	0074	CURVC	/CURSOR VC
0076	0064	1752	DSC 12	
0077	0065	1772	DSC 1 12	
0100	0066	0011	CLR	
0101	0067	4075	STC CURFLG	/SET FLAG TO 0
0102	0070	2060	ADD JBM10	/RESET HC TO INHIB GAP BETWEEN CHARACTERS.
0103	0071	1140	ADM	
0104	0072	0001	POS1, 1	
0105	0073	0000	SCPRTN, 0	/RTN
0106	0074	0000	CURVC, 0	
0107	0075	0000	CURFLG, 0	
0110	0076	7717	CURSOR, 7717	/THESE LOCS DET,
0111	0077	1777	1777	/CURSOR PATTERN
0112	0100	0000	GAPARG, 0	
0113	0101	0500	DOCL, IOB	/WAIT FOR TTY FREE BEFORE
0114			PMODE	
0115	6102	6041	TSF	/CLEARING THE WORKING AREA
0116			LMODE	
0117	0103	6101	JMP DOCL	/HANG
0120	0104	0602	LIF 2	/SET UP THE PROPER I.F.
0121	0105	6041	JMP CLWA	

0122	0106	0072	DOPI,	SET I 12	/GET PIP
0123	0107	2372		E6+1+2000	/NAME SECTOR OF
0124					/MC PARAM TABLE
0125	0110	1020		LDA I	/PUT P I P IN TABLE
0126	0111	2011		2011	/PI
0127	0112	1072		STA I 12	
0130	0113	1020		LDA I	
0131	0114	2077		2077	/P77 (77 TERMINATES
0132	0115	1072		STA I 12	/NAME)
0133	0116	1020		LDA I	/FILL OUT REST OF NAMES WITH 77S
0134	0117	7777		7777	
0135	0120	1072		STA I 12	/WORD NUMBER 3
0136	0121	1072		STA I 12	/WORD NUMBER 4
0137	0122	0647		LDF 7	/PREPARE TO PICK UP UNIT PARAMETER TABLE
0140	0123	1000		LDA	
0141	0124	7341		DSYS:2000	/GET THE DISK BITS (10 IF THERE, 7777 IF NOT)
0142	0125	0641		LDF 1	/RESET TO E6 SEGMENT
0143	0126	0470		AZE I	/IF ITS ZERO (7777) MAKE IT 0000
0144	0127	0011		CLR	/ELSE, LEAVE IT THE WAY IT IS (10)
0145	0130	1040		STA	
0146	0131	2377		E6+6+2000	/UNIT SECTOR
0147	0132	6422		JMP DOLO+2	/NOW DO AN
0150					/LO PIP,0
0151	0133	1020	DOQL,	LDA I	/HERE FOR QUICK LIST
0152	0134	7777		7777	/THIS VALUE TELLS
0153					/ASSEMBLER TO QL
0154	0135	0642		LDF 2	
0155	0136	1040		STA	
0156	0137	2774	UNITNO+2000=3		/=7777 FOR QL .NE.
0157					/7777 FOR LI
0160					/NO MATTER FOR AS
0161	0140	0641		LDF 1	
0162	0141	1040		STA	
0163	0142	2000		2000	
0164	0143	1020		LDA I	
0165	0144	5000		5000	
0166	0145	6152		JMP BYAS	
0167	0146	0011	DOLI,	CLR	
0170	0147	6135		JMP DOQL+2	
0171	0150	1020	DOAS,	LDA I	
0172	0151	5002		5002	/SA FOR AS
0173	0152	4240	BYAS,	STC LIORCV	
0174	0153	6242		JMP W2	
0175	0154	7607		JMP ECON	
0176	0155	7275		JMP CHKMT	
0177	0156	7051		JMP ERRXIT	
0200	0157	1020		LDA I	
0201	0160	0110		DISKS	
0202	0161	0642		LDF 2	
0203	0162	1040		STA	
0204	0163	2777		UNITNO+2000	
0205	0164	1020		LDA I	
0206	0165	0000		0000	/START OF THE WORKING AREA WITH REF TO 110
0207	0166	4241	RDCASH,	STC BLKST	
0210	0167	0641		LDF 1	
0211	0170	0011		CLR	
0212	0171	1440		SAE	
0213	0172	2372		2000+E6+1	
0214	0173	6177		JMP .+4	
0215	0174	1440		SAE	
0216	0175	2371		2000+E6	
0217	0176	7051		JMP ERRXIT	
0220	0177	1000		LDA	



0221	0200	2371	2000+E6
0222	0201	0642	LDF 2
0223	0202	1040	STA
0224	0203	2775	2000+UNITNO-2
0225	0204	0017	COM
0226	0205	0641	LDF 1
0227	0206	1100	ADA
0230	0207	2372	2000+E6+1
0231	0210	1200	LAM
0232	0211	2371	2000+E6
0233	0212	0452	LZE
0234	0213	7051	JMP ERRXIT
0235	0214	0642	LDF 2
0236	0215	1040	STA
0237	0216	2776	2000+UNITNO-1
0240	0217	0002	PDP
0241			Pmode
0242	6220	6212	CIF 10
0243	6221	4421	JMS 1 READ
0244	6222	0527	JBAS2
0245	6223	6212	CIF 10
0246	6224	4421	JMS 1 READ
0247	6225	0523	JBAS1
0250	6226	6141	LINC
0251			Lmode
0252	0227	0642	LDF 2
0253	0230	1000	LDA
0254	0231	0241	BLKST
0255	0232	1620	BSE 1
0256	0233	1000	1000
0257	0234	1040	STA
0260	0235	2002	2002
0261	0236	0002	PDP
0262			Pmode
0263	6237	5640	JMP 1 ,+1
0264			Lmode
0265	0240	0000	LIORCV, 0
0266	0241	0370	BLKST, WA
0267	0242	0051	W2, SET 11
0270	0243	0000	0
0271	0244	7076	JMP DECODE
0272	0245	6251	JMP ,+4
0273	0246	0602	LIF 2
0274	0247	7744	JMP T2
0275	0250	6011	JMP 11
0276	0251	0602	LIF 2
0277	0252	7744	JMP T2
0300	0253	0231	XSK 1 11
0301	0254	6011	JMP 11
0302	0255	0642	CHKMC3, LDF 2
0303	0256	0046	SET 6
0304	0257	2007	2007
0305	0260	6266	JMP CLRALL
0306	0261	0641	LDF 1
0307	0262	1326	LDH 1 6
0310	0263	6321	JMP NUMCHK
0311	0264	6270	JMP M8
0312	0265	6311	JMP LOCATE
0313			/YES DO LOC REQUEST
0314			/SEARCH MONITOR
0315			/COMMAND TABLE
0316	0266	0011	CLRALL, CLR
0317	0267	6000	JMP 0
			/CLR NO PAS AND TRAP

0320	0270	1306	M8,	LDH 6	
0321	0271	0246		ROL 6	
0322	0272	4000		STC 0	
0323	0273	1326		LDH I 6	
0324	0274	2000		ADD 0	/COMMAND XX IS IN AC
0325	0275	0061		SET I 1	
0326	0276	2200		Z6-1+2000	/PTR TO MC TABLE
0327	0277	0067		SET I 7	
0330	0300	7735		Z6-Y6-3	/LENGTH
0331	0301	0227		XSK I 7	/TABLE SCANNED ?
0332	0302	0456		SKP	/NO
0333	0303	7046		JMP XITERR	/YES DELETE
0334					/ILLEGAL COMMAND
0335	0304	1461	N1,	SAE I 1	/FOUND A MATCH ?
0336	0305	6301		JMP ,-4	/NO DO SOME MORE
0337	0306	1021		LDA I 1	/LOAD A JMP INST
0340	0307	4310		STC ,+1	
0341	0310	0000		0	/TO META
0342					/LOCATE LN XXXX
0343	0311	1020	LOCATE,	LDA I	/RESET PTR TO
0344	0312	3777		-HBIT	/START OF
0345	0313	1140		ADM	/COMMAND
0346	0314	0006	P6,	6	/STRING
0347	0315	6333		JMP P56	/CONVERT CODES
0350					/TO LN NUMBERS
0351	0316	0641		LDF 1	
0352	0317	0602		LIF 2	
0353	0320	6214		JMP LOKATE	
0354					/DIGIT CHK
0355	0321	1120	NUMCHK,	ADA I	/IS CHAR CODE
0356	0322	7710		-67	/,GT, 67
0357	0323	0471		AP0 I	/NO
0360	0324	6000		JMP 0	/YES IS NOT A NUM
0361	0325	1120		ADA I	
0362	0326	0010		10	
0363	0327	0451		AP0	/,GT, 57 ?
0364	0330	6000		JMP 0	
0365	0331	0220		XSK I 0	
0366	0332	6000		JMP 0	/YES IT IS A NUM
0367					/DECODE MONITOR
0370					/COMMAND STRING
0371	0333	0056	P56,	SET 16	/SAV RTN JMP
0372	0334	0000		0	
0373	0335	0011		CLR	/SET NUM TO 0
0374	0336	4354		STC T4	/STORE RESULT
0375	0337	1326		LDH I 6	
0376	0340	1420		SHD I	
0377	0341	4000		SP1	
0400	0342	6337		JMP ,-3	/IGNORE SPACES
0401	0343	6321		JMP NUMCHK	/DIGIT ?
0402	0344	6353		JMP T4-1	/NO EXIT
0403	0345	1306		LDH 6	
0404	0346	1560		BCL I	
0405	0347	7770		7770	/0-7 TO AC
0406	0350	2354		ADD T4	
0407	0351	0243		ROL 3	
0410	0352	6336		JMP P56+3	/DO SOME MORE
0411	0353	1020		LDA I	
0412	0354	0000	T4,	0	/NUMBER TO MOVE
0413	0355	0303		ROR 3	
0414	0356	6016		JMP 16	
0415	0357	7076	DOMC,	JMP DECODE	
0416	0360	7046		JMP XITERR	

0417	0361	7305	JMP E2	
0420	0362	0600	LIF 0	
0421	0363	7661	AAA4S3, JMP KDOMC	
0422				/ADD PROGRAM
0423	0364	0047	DOAP, SET 7	
0424	0365	0006	6	
0425	0366	1327	LDH I 7	
0426	0367	1420	SHD I	
0427	0370	4300	CR1	
0430	0371	7046	JMP XITERR	
0431	0372	7076	JMP DECODE	
0432	0373	6375	JMP ,+2	/BY BLOCK NUM
0433	0374	6400	JMP ,+4	/BY NAME
0434	0375	1000	LDA	
0435	0376	2372	E6+1+2000	/UNIT NUM
0436	0377	7177	JMP U2+3	/PUT IN UNIT
0437				/NUM WD OF PARAM TABLE
0440	0400	0002	PDP	
0441			PMODE	
0442	6401	6212	CIF 10	
0443	6402	4421	JMS I READ	
0444	6403	0533	JBAP1	
0445	6404	6141	LINC	
0446			LMODE	
0447	0405	0641	LDF 1	
0450	0406	0602	LIF 2	
0451	0407	7400	JMP 1400	
0452			/	
0453			/	
0454	0410	0002	APRTN, PDP	
0455			PMODE	
0456	6411	6212	CIF 10	
0457	6412	4421	JMS I READ	
0460	6413	0537	JBAP2	
0461	6414	6141	LINC	
0462			LMODE	
0463	0415	0641	LDF 1	
0464	0416	0602	LIF 2	
0465	0417	7042	JMP C1	/GO DISPLAY
0466				/LOAD BINARY
0467	0420	7076	DOLO, JMP DECODE	
0470	0421	0016	NOP	
0471	0422	7305	JMP E2	
0472	0423	0002	PDP	
0473			PMODE	
0474	6424	6212	CIF 10	
0475	6425	4421	JMS I READ	
0476	6426	0547	JBLO	
0477	6427	6141	LINC	
0500			LMODE	
0501	0430	0606	LIF 6	
0502	0431	6020	JMP 20	/PREPARE TO CALL THE LOADER NOW,
0503	0432	0000	CURPTR,0	/START THE LOADER GOING NOW
0504	0433	0241	SCOPE, ROL 1	
0505	0434	4620	STC LNFOR	
0506				/PRESET ONCE
0507				/PER FRAME
0510	0435	0642	LDF 2	
0511	0436	1000	LDA	
0512	0437	2010	2000+10	
0513	0440	1040	STA	
0514	0441	0602	FIRSWD	
0515	0442	0042	SET 2	

*1 read in loader*

0516	0443	2002	2000+2	
0517	0444	6603	JMP SCPSTR	/NORMAL CALL
0520	0445	6553	JMP IWAIT	/TO SCOPE
0521	0446	6445	JMP .-1	/NOT READY
0522	0447	0641	XIT1, LDF 1	/READY GET A
0523	0450	0602	LIF 2	/CHAR
0524	0451	6017	JMP 17	
0525	0452	1000	GETCUR, LDA	/FIND CURSOR
0526	0453	0000	0	/CHAR
0527	0454	4552	STC CURRTN	
0530	0455	0642	LDF 2	
0531	0456	0070	SET I 10	
0532	0457	7774	-3	
0533	0460	6020	JMP SAM3	
0534	0461	6466	JMP CURGO	
0535	0462	4541	STC TEMPB	
0536	0463	4542	STC ENDFLG	
0537	0464	2541	ADD TEMPB	
0540	0465	6544	JMP OUTCUR	
0541	0466	1000	CURGO, LDA	
0542	0467	0000	0	
0543	0470	4543	STC XITCUR	
0544	0471	1000	LDA	
0545	0472	0002	2	
0546	0473	1440	SAE	
0547	0474	0014	14	
0550	0475	0456	SKP	
0551	0476	6543	JMP XITCUR	
0552	0477	0216	XSK CURVAL	
0553	0500	0456	SKP	
0554	0501	6543	JMP XITCUR	
0555	0502	1120	CURSET, ADA I	
0556	0503	3777	-HBIT	
0557	0504	0236	XSK I CURVAL	
0560	0505	0456	SKP	
0561	0506	6543	JMP XITCUR	
0562	0507	1440	SAE	
0563	0510	0014	14	
0564	0511	6502	JMP CURSET	
0565	0512	0230	XSK I 10	
0566	0513	0456	SKP	
0567	0514	6543	JMP XITCUR	
0570	0515	1000	LDA	
0571	0516	0542	ENDFLG	
0572	0517	0470	AZE I	
0573	0520	6525	JMP CNTALL	
0574	0521	0056	SET CURVAL	/KNOB 3 TOO FAR
0575	0522	0541	TEMPB	
0576	0523	6466	JMP CURGO	
0577	0524	6544	JMP OUTCUR	/FREEZE CURSOR
0600	0525	1000	CNTALL, LDA	
0601	0526	0002	2	
0602	0527	1040	STA	
0603	0530	0542	ENDFLG	
0604	0531	0241	ROL 1	
0605	0532	0017	CUM	
0606	0533	4541	STC TEMPB	
0607	0534	2014	ADD 14	
0610	0535	0241	ROL 1	
0611	0536	2541	ADD TEMPB	
0612	0537	4541	STC TEMPB	
0613	0540	6000	JMP 0	
0614	0541	0000	TEMPB, 0	

0615	0542	0000	ENDFLG, 0	
0616	0543	0000	XITCUR, 0	
0617	0544	1040	OUTCUR, STA	
0620	0545	0432	CURPTR	
0621	0546	1120	ADA I	
0622	0547	4000	HBIT	
0623	0550	1040	STA	
0624	0551	2026	2000+CURPT2	
0625	0552	0000	CURRTN, 0	
0626	0553	0045	IWAIT, SET 5	
0627	0554	0000	0	
0630	0555	6574	JMP OUTSCP+1	/GO SCOPE
0631	0556	0600	LIF 0	
0632	0557	6400	JMP MODKBD	/CHK DUBL BUFR
0633	0560	0225	XSK I 5	/CHAR READY
0634	0561	6005	JMP 5	/EMPTY OR MTP
0635	0562	6603	NOPAS, JMP SCPSTR	/NO PAUSE CALL
0636	0563	6553	JMP IWAIT	/TO SCOPE
0637	0564	0016	NOP	
0640	0565	0456	SKP	
0641	0566	6563	JMP NOPAS+1	/LOOP TILL DUN
0642	0567	0600	LIF 0	/RTN TO
0643			/	/TRAP SR
0644			/	PREVIOUS INSTRUCTION WAS REMOVED BECAUSE TRAP HANDLER IS NO ONGER PRESENT.
0645	0570	4601	STC SVACC	/SCP SR EXIT
0646	0571	2000	ADD 0	
0647	0572	4600	STC DSCRIN	
0650	0573	0000	OUTSCP, 0	/RTN JMP TO CALL
0651	0574	1000	LDA	
0652	0575	0000	0	
0653	0576	4573	STC OUTSCP	
0654	0577	2601	ADD SVACC	
0655	0600	0000	DSCRIN, 0	/RTN JMP TO SCP
0656	0601	0000	SVACC, 0	
0657	0602	0000	FIRSWD, 0	
0660	0603	1000	SCPSTR, LDA	
0661	0604	0000	0	
0662	0605	4573	STC OUTSCP	
0663	0606	0054	SET 14	
0664	0607	0602	FIRSWD	
0665	0610	6452	JGC, JMP GETCUR	
0666	0611	0641	LDF 1	
0667	0612	3023	ADD EOFRAM	
0670	0613	4075	STC CURFLG	
0671	0614	3023	ADD EOFRAM	
0672	0615	4074	STC CURVC	
0673	0616	4100	STC GAPARG	
0674	0617	1020	LDA I	
0675	0620	0000	LNFOR, 0	/LN-1 FOR DISPLAY
0676	0621	5060	STC K5+1	
0677	0622	1020	LDA I	
0700	0623	0000	MAXVC, 0	
0701	0624	4765	STC VCOORD	
0702				
0703	0625	6026	F5, JMP SAM7	/ONCE PER LN
0704				/RTN WITH NUM LNS
0705	0626	1460	SAE I	/PER FRAME
0706	0627	0000	OLDSAM, 0	/HAS KNOB 7 MOVED ?
0707	0630	0456	SKP	
0710	0631	6634	JMP .+3	
0711	0632	0602	LIF 2	
0712	0633	7535	JMP SAMARG	
0713	0634	6570	JMP OUTSCP-3	

0714				/DISPLAY A LN NUM
0715				/DO NOT DISPLAY
0716				/LEADING ZEROES
0717	0635	0061	H5,	SET I 1
0720	0636	1013		LNHC
0721				/NUM
0722	0637	1020		LDA I
0723	0640	0002		2
0724	0641	3060		ADD K5+1
0725	0642	5060		STC K5+1
0726	0643	7057		JMP K5
0727				/GET GRID PTR FOR
0730	0644	0450		/DIGIT IN LN NUM
0731	0645	6654		/IS IT A LEADING 0 ?
0732				/NO DISPLAY FIRST NON
0733	0646	1120		/ZERO DIGIT
0734	0647	0012		/YES INCREASE H COORD
0735	0650	2001		
0736	0651	4001		ADD 1
0737	0652	7054		STC 1
0740	0653	6644		JMP K5-3
0741	0654	1120	J5,	JMP ,-7
0742	0655	0140		ADA I
0743	0656	6761		140
0744	0657	7054		JMP DSCCHR+1
0745	0660	6654	AAA7S3,	JMP K5-3
0746				JMP J5
0747				/DISPLAY A DIGIT
0750	0661	0061	DISTXT,	/GET PTR NEXT DIGIT
0751	0662	1157		/COME HERE TO
0752				/DISPLAY THE LN
0753	0663	7023		
0754				/INIT H COORD FOR
0755	0664	1334		/FIRST CHAR OF A LN
0756	0665	1420		/CHK FOR END
0757	0666	4700		/OF FRAME
0760	0667	6722		
0761	0670	1420		LDH I 14
0762	0671	3700		SHD I
0763	0672	6712		TB1
0764	0673	6760	P5,	JMP Y5
0765	0674	7023		JMP DSCCHR
0766	0675	1334		JMP EOFRAM
0767	0676	1420		LDH I 14
0770	0677	4700		SHD I
0771	0700	6722		TB1
0772	0701	1460		JMP FLDSET
0773	0702	0043		SAE I
0774	0703	6673		CR
0775	0704	1020		JMP P5
0776	0705	1157		LDA I
0777	0706	1440		TXTHC
1000	0707	0001		SAE
1001	0710	6774		1
1002	0711	6625		JMP W5
1003	0712	1020	Y5,	JMP F5
1004	0713	7420		LDA I
1005	0714	4765		MCVC
1006	0715	0061		STC VCOORD
1007	0716	1051		SET I 1
1010	0717	1020		MCHC
1011	0720	0037		LDA I
1012	0721	6000		LF
				JMP 0

1013	0722	0070	FLOSET, SET I 10	/SET FOR TAB
1014	0723	0752	FLDTAB-1	
1015	0724	1030	GOTAB, LDA I 10	
1016	0725	1440	SAE	
1017	0726	0757	ENDTB	
1020	0727	6742	JMP ENDSKP	
1021	0730	1020	LDA I	
1022	0731	6120	-COMTB	
1023	0732	2001	ADD 1	
1024	0733	4736	STC CARTB	
1025	0734	6774	JMP W5	
1026	0735	1020	LDA I	
1027	0736	0000	CARTB, 0	
1030	0737	1140	ADM	
1031	0740	0001	1	
1032	0741	6674	JMP P5+1	
1033	0742	0017	ENDSKP, COM	
1034	0743	2001	ADD 1	
1035	0744	0471	APO I	
1036	0745	6724	JMP GOTAB	
1037	0746	0470	AZE I	
1040	0747	6724	JMP GOTAB	
1041	0750	1010	LDA 10	
1042	0751	4001	STC 1	
1043	0752	6674	JMP P5+1	
1044	0753	1277	FLOTAB, TAGTB	
1045	0754	1417	INSTB1	
1046	0755	1537	INSTB2	
1047	0756	1657	COMTB	
1050	0757	0000	ENDTB, 0	
1051			TABSET=120	
1052			TXTHC=1157	
1053			TAGTB=TXTHC+TABSET	
1054			INSTB1=TAGTB+TABSET	
1055			INSTB2=INSTB1+TABSET	
1056			COMTB=INSTB2+TABSET	
1057				/DSC 1 CHAR ACCORDING
1060				/TO C(AC) AND RTN
1061	0760	0241	DSCCHR, ROL 1	
1062	0761	1120	ADA I	
1063	0762	2000	M5, A6=1+2000	
1064	0763	4012	STC 12	
1065	0764	1120	ADA I	
1066	0765	0000	VCOORD, 0	
1067	0766	2100	ADD GAPARG	
1070	0767	1772	DSC I 12	
1071	0770	1772	DSC I 12	
1072	0771	0221	XSK I 1	
1073	0772	0221	XSK I 1	
1074	0773	6000	JMP 0	
1075	0774	0011	W5, CLR	/SET VC
1076	0775	0052	SET 12	/FOR NXT SCP LN
1077	0776	0000	0	
1100	0777	1440	SAE	
1101	1000	0075	CURFLG	
1102	1001	7005	JMP ,+4	
1103	1002	1020	LDA I	
1104	1003	7767	-10	
1105	1004	4100	STC GAPARG	
1106	1005	1020	LDA I	
1107	1006	7760	-17	
1110	1007	1200	LAM	
1111	1010	0765	VCOORD	

1112	1011	1560	BCL I	
1113	1012	7020	7020	
1114	1013	0061	SET I 1	
1115	1014	1157	TXTHC	
1116	1015	6570	JMP OUTSCP-3	
1117	1016	1460	SAE I	
1120	1017	0360	360	
1121	1020	6012	JMP 12	
1122				/MOVE DISPLAY TO
1123				/TOP OF SCOPE
1124	1021	4623	STC MAXVC	
1125	1022	6012	JMP 12	
1126				/CHK END OF FRAME
1127	1023	1000	EOFRAM, LDA	
1130	1024	0000	0	
1131	1025	5040	STC RTNEOF	
1132	1026	1000	LDA	
1133	1027	0014	14	
1134	1030	1440	SAE	
1135	1031	0432	CURPTR	
1136	1032	0456	SKP	
1137	1033	6036	JMP DSCCUR	
1140	1034	1000	LDA	
1141	1035	0002	2	/PTR TO LAST CHAR
1142				/IN BUFFER
1143	1036	1440	SAE	
1144	1037	0014	14	/PTR TO LST
1145				/DISPLAYED CHAR
1146	1040	0000	RTNEOF, 0	
1147	1041	0011	CLR	
1150	1042	0061	SET I 1	
1151	1043	1763	MKHC	
1152	1044	6761	JMP DSCCHR+1	/DISPLAY MARKER
1153	1045	6606	JMP SCPSTR+3	
1154	1046	0500	XITERR, 10B	
1155	1047	6244	6244	
1156	1050	6210	JMP DELMC	
1157			/	
1160	1051	0002	ERRXIT, PDP	
1161			Pmode	
1162	7052	5653	JMP I .+1	
1163	7053	7735	EANDZB	
1164			Lmode	
1165			/	
1166				/COUNT DIGITS
1167	1054	1520	SRO I	
1170	1055	4210	4210	
1171	1056	6661	JMP DISTXT	/EXEC THIS WHEN
1172				/LN NUM
1173				/HAS BEEN DISPLAYED
1174	1057	1020	K5, LDA I	
1175	1060	0000	0	/LN FOR DISPLAY
1176	1061	0243	ROL 3	
1177	1062	1040	STA	
1200	1063	1060	K5+1	
1201	1064	1560	BCL I	
1202	1065	7761	7761	
1203	1066	6000	JMP 0	
1204	1067	1000	KSAM7, LDA	
1205	1070	0000	0	
1206	1071	5075	STC EGGSIT	
1207	1072	6026	JMP SAM7	
1210	1073	0500	10B	



1211	1074	6244	6244	
1212	1075	0000	EGGS IT, 0	
1213				/MONITOR COMMAND
1214				/STRING DECODE
1215				/LN, NAME, UNIT
1216	1076	0011	DECODE, CLR	
1217	1077	0072	SET I 12	
1220	1100	2371	E6+2000	/PTR TO MON
1221				/PARAMETER TABLE
1222				/CLEAR THE TABLE
1223	1101	1052	STA 12	/LN NUM
1224	1102	1072	STA I 12	/LN NUM
1225	1103	0017	COM	
1226	1104	1072	STA I 12	/N
1227	1105	1072	STA I 12	/A
1230	1106	1072	STA I 12	/M
1231	1107	1072	STA I 12	/E
1232	1110	0011	CLR	
1233	1111	1072	STA I 12	/UNIT NUM
1234	1112	0041	SET 1	/SAV RTN JMP
1235	1113	0000	0	
1236				/LN NUM
1237	1114	0072	SET I 12	
1240	1115	2370	E6=1+2000	
1241	1116	0077	SET I 17	
1242	1117	7775	-2	/COMMA CTR
1243	1120	0054	SET 14	
1244	1121	0006	6	
1245	1122	6333	F2, JMP P56	/AND RTN WITH A
1246				/NUM IN AC
1247	1123	1072	STA I 12	/STORE A LN NUM
1250	1124	1306	LDH 6	
1251	1125	1420	SHD I	
1252	1126	4300	CR1	
1253	1127	6001	JMP 1	/END OF COMMAND
1254	1130	1460	SAE I	
1255	1131	0054	COMA	
1256	1132	7136	JMP ,+4	/NO
1257	1133	0237	XSK I 17	/FIRST COMMA ?
1260	1134	7120	JMP F2-2	/YES CHK FOR 2ND LN NUM
1261	1135	7142	JMP ,+5	
1262	1136	0011	CLR	/NO COMMA RESET
1263	1137	1052	STA 12	/NUM TO 0
1264	1140	0046	SET 6	/RESET COMMAND
1265	1141	0014	14	/STRING PTR
1266				/NAME
1267	1142	0072	N2, SET I 12	
1270	1143	6372	E6+4001+2000	/NAME SECTOR
1271	1144	0076	SET I 16	
1272	1145	7766	-11	/NAME LENGTH CTR
1273	1146	0221	XSK I 1	/SET RTN TO P+2
1274	1147	1326	LDH I 6	
1275	1150	1420	SHD I	
1276	1151	4000	SP1	
1277	1152	7147	JMP ,=3	
1300	1153	1420	REDO, SHD I	
1301	1154	4300	CR1	
1302	1155	7046	JMP XITERR	
1303	1156	1420	SHD I	
1304	1157	5700	KOM1	
1305	1160	7046	JMP XITERR	
1306	1161	1420	SHD I	
1307	1162	7700	QMARK1	

1310	1163	7046		JMP XITERR	
1311	1164	1420		SHD I	
1312	1165	5400		COMA1	
1313	1166	7174		JMP U2	/GET UNIT NUM
1314	1167	1372		STH I 12	
1315	1170	1326		LDH I 6	
1316	1171	0236		XSK I 16	
1317	1172	7153		JMP REDO	
1320	1173	7046		JMP XITERR	/NAME TOO LONG
1321					/UNIT
1322	1174	6333	U2,	JMP P56	
1323	1175	0040		SET 0	
1324	1176	0001		1	
1325	1177	1040		STA	
1326	1200	2377		E6+6+2000	
1327	1201	1120		ADA I	/TEST FOR UNIT TOO LARGE.
1330	1202	7730		-47	/LARGEST UNIT
1331	1203	0451		APQ	/IF POSITIVE THEN ITS WAY TOO LARGE (ABOVE 47)
1332	1204	6000		JMP 0	/GOOD UNIT,
1333	1205	7046		JMP XITERR	/ILLEGAL UNIT
1334					/SB,SR
1335	1206	7076	DOSB,	JMP DECODE	
1336	1207	7046		JMP XITERR	/NO NAME
1337	1210	1306		LDH 6	
1340	1211	1420		SHD I	
1341	1212	4300		CR1	
1342	1213	7264		JMP DUNSB	
1343	1214	1460		SAE I	
1344	1215	0054		COMA	
1345	1216	7046		JMP XITERR	
1346	1217	1326		LDH I 6	
1347	1220	1420		SHD I	
1350	1221	2000		PCODE	
1351	1222	7227		JMP STPDP	
1352	1223	1420		SHD I	
1353	1224	1400		LCODE	
1354	1225	7236		JMP STLINC	
1355	1226	7046		JMP XITERR	
1356	1227	1020	STPDP,	LDA I	
1357	1230	0200		0200	
1360	1231	1040		STA	
1361	1232	2372		2000+E6+1	
1362	1233	1020		LDA I	
1363	1234	4400		4000+400+0	
1364	1235	7244		JMP GETSA	
1365	1236	1020	STLINC,	LDA I	
1366	1237	4020		4020	
1367	1240	1040		STA	
1370	1241	2372		2000+E6+1	
1371	1242	1020		LDA I	
1372	1243	0400		0+400+0	
1373	1244	1040	GETSA,	STA	
1374	1245	2371		2000+E6	
1375	1246	1326		LDH I 6	
1376	1247	1420		SHD I	
1377	1250	4300		CR1	
1400	1251	7264		JMP DUNSB	
1401	1252	6321		JMP NUMCHK	
1402	1253	7046		JMP XITERR	
1403	1254	1306		LDH 6	
1404	1255	1560		BCL I	
1405	1256	7770		7770	
1406	1257	1140		ADM	

1407	1260	2371		2000+E6	
1410	1261	6333		JMP P56	
1411	1262	1040		STA	
1412	1263	2372		2000+E6+1	
1413	1264	7305	DUNSB,	JMP E2	
1414	1265	0002		PDP	
1415				PMODE	
1416	7266	6212		CIF	10
1417	7267	4421		JMS I	READ
1420	7270	0543		JBSP	
1421	7271	6141		LINC	
1422				LMODE	
1423	1272	0641		LDF	1
1424	1273	0602		LIF	2
1425	1274	6020		JMP	FCSA
1426			/		/DO THE SAVE BINARY
1427			/		
1430			/		
1431					/AS, SP
1432					/CHK FOR EMPTY WA
1433	1275	0642	CHKMT,	LDF 2	
1434	1276	1000		LDA	
1435	1277	2451		2000+MAXLN	
1436	1300	0641		LDF 1	
1437	1301	1460		SAE I	
1440	1302	0001		1	
1441	1303	0220		XSK I 0	
1442	1304	6000		JMP 0	
1443					/EXIT LOAD BINARY SR
1444	1305	0642	E2,	LDF 2	
1445	1306	0011		CLR	
1446	1307	1040		STA	
1447	1310	2742		2000+X2+5	
1450	1311	0500		IOB	
1451	1312	6244		6244	
1452	1313	7744		JMP T2	
1453	1314	6000		JMP 0	
1454					/SAVE PROG
1455	1315	7275	DOSP,	JMP CHKMT	
1456	1316	7046		JMP XTERR	
1457	1317	7076		JMP DECODE	
1460	1320	7046		JMP XTERR	/NO NAME
1461	1321	7305		JMP E2	
1462	1322	0642		LDF 2	/SET THE D.F. TO 2 TO PICK UP THE OF BLOCKS.
1463	1323	1000		LDA	/GET THE LAST BLOCK IN THE AC,
1464	1324	2533		SPTBLK:2000	/LAST BLOCK NUMBER
1465	1325	5335		STC DOSPTP	/SAVE IN A TEMPORARY UNTIL PAST READ.
1466	1326	0002		PDP	
1467				PMODE	
1470	7327	6212		CIF	10
1471	7330	4421		JMS I	READ
1472	7331	0543		JBSP	
1473	7332	6141		LINC	
1474				LMODE	
1475	1333	0602		LIF	2
1476	1334	1020		LDA I	/RECALL THE LAST BLOCK NUMBER NOW
1477	1335	0000	DOSP TP, 0		/TEMPORARY FOR THE LAST BLOCK NUMBER
1500	1336	6023		JMP FCSA+3	
1501					/PRINT MS
1502	1337	6242	DOPS,	JMP W2	
1503	1340	7343		JMP ,+3	
1504	1341	7275		JMP CHKMT	
1505	1342	7051		JMP ERRXIT	

1506	1343	0002	PDP		
1507			PMODE		
1510	7344	6212	CIF	10	
1511	7345	4421	JMS I	READ	
1512	7346	0543	JBSP		
1513	7347	6141	LINC		
1514			LMODE		
1515	1350	0641	LDF	1	
1516	1351	0602	LIF	2	
1517	1352	6025	JMP	FCSA+5	
1520			/PX		
1521	1353	7574	JMP	Z2	
1522	1354	0002	PDP		
1523			PMODE		
1524	7355	6212	CIF	10	
1525	7356	4421	JMS I	READ	
1526	7357	0553	JBXPDX		
1527	7360	6141	LINC		
1530			LMODE		
1531	1361	0641	LDF	1	
1532	1362	0602	LIF	2	
1533	1363	6020	JMP	20	
1534			/		
1535			/		
1536			/		
1537			/		
1540			/		
1541	1364	7076	DOAB,	JMP	DECODE
1542	1365	7046		JMP	X1TERR
1543	1366	7305		JMP	E2
1544	1367	0002		PDP	
1545				PMODE	
1546	7370	6212		CIF	10
1547	7371	4421		JMS I	READ
1550	7372	0543		JBFC2	
1551	7373	6141		LINC	
1552				LMODE	
1553	1374	0602		LIF	2
1554	1375	6021		JMP	FCSA+1
1555			/		
1556			/		
1557			/		
1560			/		
1561			/		
1562			/		
1563			/		
1564			/		
1565				EJECT	

```

/DECODE THE COMMAND
/AN ERROR, REDO EDITOR
/FORCE THE EXIT NOW.

/GET OVER INTO THE WONDERFULL MODE
/PREPARE TO CALL THE ROUTINES
/CALL THEM IN NOW,
/THEYRE BING CALLED IN NOW.
/BACK TO THE CALLING SIDE

/SET UP THE CORRECT INSTRUCTION FIELD
/DO IT,BUBBY

```

```

1566 /
1567 /
1570 /
1571 /
1572 /
1573 /
1574 /
1575 /
1576 /
1577 /
1600 *7377
1601 /
1602 /
1603 /
1604 /
1605 /
1606 /
1607 /
1610 /
1611 /
1612 /
1613 /
1614 /
1615 /
1616 /
1617 1377 6166
1620 /
1621 /
1622 /
1623 /
1624 /
1625 /
1626 /
1627 /
1630 /
1631 /
1632 /
1633 EJECT

```

\*7377

THIS LOCATION IS A RETURN FROM FIELCOMS  
 SO THAT "LI,AS, AND QL" WILL GO INTO  
 THE EDITOR AND START THE ASSEMBLER GOING  
 DO NOT REMOVE. ITS A NO-NO,

JMP RDCASM

/ASSEMBLER READ IN LOCATION,

```

1634          /KBD INPUT CONVERSION ROUTINES
1635          /TABLE CONTAINS ASCII CODES OF ALL
1636          /SPECIAL AND ILLEGAL CHARS
1637          /HIGH ORDER 4 BITS HOLDS A MICRO ADDR
1640          /RELATIVE TO LOC KLEGAL
1641          *1400
1642      1400 1000  KBDOPR, LDA
1643      1401 0000      0
1644      1402 5523      STC RTNJMP
1645      1403 0500      IOB          /GET THE CHAR
1646          PMODE
1647      7404 6036      KRB          /READ IN THE CHAR NOW
1650          LMODE
1651      1405 1560      BCL I
1652      1406 7600      7600
1653      1407 1040      STA
1654      1410 1560      CHAR
1655      1411 5557      STC ENDTAB      /LAST CHAR IN TABLE
1656          /WILL GENERATE A MATCH
1657          /IN SCAN ROUTINE
1660          /UNLESS A SPECIAL
1661          /OR ILLEGAL CHAR
1662          /WAS STRUCK
1663      1412 0061      SET I 1
1664      1413 1542      TABLE=1
1665      1414 1021  SPYTAB, LDA I 1      /NEXT CHAR
1666      1415 1560      BCL I          /LOOK AT
1667      1416 7600      7600          /EVEN ASCII ONLY
1670      1417 1440      SAE          /FOUND A
1671      1420 1560      CHAR          /MATCH ?
1672      1421 7414      JMP SPYTAB      /NO DO SOME MORE
1673      1422 1301      LDH 1          /MICRO ADDR TO
1674      1423 0342      SCR 2          /LOW ORDER FOUR BITS
1675      1424 1120      ADA I          /MAKE A JMP INST
1676      1425 7433      JMP+KLEGAL      /RELATIVE TO KLEGAL
1677      1426 5432      STC AJMP
1700      1427 0221      XSK I 1      /DIAL CODE OF INPUT
1701      1430 1321      LDH I 1      /CHAR IS LOW ORDER
1702          /6 BITS OF LOC
1703          /FOLLOWING MATCH
1704      1431 5557      STC ENDTAB
1705      1432 0000  AJMP, 0          /GO TO S.R.
1706      1433 7443  KLEGAL, JMP LEGAL      /HERE FOR LEGAL CODE
1707      1434 7516      JMP ILEGAL
1710      1435 7471      JMP TAB
1711      1436 7475      JMP KCR
1712      1437 7477      JMP RUBOUT
1713      1440 7506      JMP LNFEED
1714      1441 7507      JMP ALTM
1715          /FOR ADDITIONAL SPECIAL CHARS
1716      1442 7513      JMP ALTZ
1717      1443 3560  LEGAL, ADD CHAR
1720      1444 1120      ADA I
1721      1445 7637      -140
1722      1446 0451      APO
1723      1447 7454      JMP ,+5
1724      1450 1120      ADA I
1725      1451 7745      -32
1726      1452 0451      APO
1727      1453 7460      JMP ,+5
1730      1454 1000      LDA
1731      1455 1560      CHAR
1732      1456 7534      JMP TYPE

```

```

1733      1457 7517      JMP EXIT
1734      1460 1000      LDA
1735      1461 1560      CHAR
1736      1462 1560      BCL I
1737      1463 0040      40
1740      1464 7534      JMP TYPE
1741      1465 3557      ADD ENDTAB
1742      1466 1560      BCL I
1743      1467 0040      40
1744      1470 7520      JMP EXIT+1
1745      1471 1020 TAB, LDA I
1746      1472 0240      240
1747      1473 7534      JMP TYPE
1750      1474 7517      JMP EXIT
1751      1475 7524 KCR, JMP TYCAR
1752      1476 7517      JMP EXIT
1753      1477 1020 RUBOUT, LDA I
1754      1500 0334      334
1755      1501 7534      JMP TYPE
1756      1502 3557      ADD ENDTAB
1757      1503 1620 ALTM1, BSE I
1760      1504 4000      4000
1761      1505 7520      JMP EXIT+1
1762      1506 7517 LNFEED, JMP EXIT
1763      1507 3557 ALTM, ADD ENDTAB
1764      1510 1560      BCL I
1765      1511 0041      0041
1766      1512 7503      JMP ALTM1
1767      1513 1020 ALTZ, LDA I
1770      1514 4036      4036
1771      1515 7520      JMP EXIT+1
1772      1516 5557 ILEGAL, STC ENDTAB
1773      1517 3557 EXIT, ADD ENDTAB
1774      1520 0500      108
1775      1521 6244      6244
1776      1522 0006      DJR
1777      1523 0000 RTNJMP, 0
2000      1524 1000 TYCAR, LDA
2001      1525 0000      0
2002      1526 5533      STC RTN
2003      1527 3547      ADD CRCODE
2004      1530 7534      JMP TYPE
2005      1531 3545      ADD LFCODE
2006      1532 7534      JMP TYPE
2007      1533 0000 RTN, 0
2010      1534 0002 TYPE, PDP
2011
2012
2013      7535 6041      PMODE
2014      7536 5335      TSF
2015      7537 6046      JMP , -1
2016      7540 7200      TLS
2017      7541 6141      CLA
2020      LINC
2020      LMODE
2021      1542 6000      JMP 0
2022      /TABLE FORMAT IS :
2023      /XX00+0YYY
2024      /AAZZ WHERE:
2025      /XX= UNROTATED MICRO ADDRESS E.G.
2026      /1400 ROR 10=0003
2027      /AND C(KLEGAL+3) = JMP TAB
2030      /YYY= ASCII CODE
2031      /ZZ= DIAL CODE FOR YYY IF YYY IS A

```

/TYPE OUT A SPACE FOR A TAB

/AND THEN RETURN

/TYPE AC  
/AND RTN

```

2032                                /SPECIAL CHAR
2033
2034
2035
2036      1543  1211  TABLE,  1000+211      /TAB
2037      1544  0647                0400+247      /APOSTROPHE
2040      1545  2612  LFCODE,  2400+212
2041      1546  0737                0400+337      /LEFT ARROW
2042      1547  1615  CRCODE,  1400+215
2043      1550  0643                0400+243      /NUMBER SIGN
2044      1551  3375                3000+375      /ALT
2045      1552  3376                3000+376      /ALT
2046      1553  2377                2000+377      /RUBOUT
2047      1554  0737                0400+337      /LEFT ARROW
2050      1555  3633                3400+233      /ALT ESCAPE
2051      1556  0700                0400+300      /AT SIGN
2052      1557  0000  ENDTAB,  0      /C(CHAR)
2053      1560  0000  CHAR,  0      /LOC FOR INPUT CHAR
2054                                /ABOVE 2 TAGS NOT
2055                                /TO BE MOVED
2056
2057      /
2060      /
2061      /
2062      1561  7305  DOEX,  JMP E2      /EXIT
2063      1562  0000                HLT
2064      1563  0602                LIF 2
2065      1564  6020                JMP 20
2066      1565  7574  DODX,  JMP Z2
2067      1566  0002                PDP
2070                                PMODE
2071      7567  6212                CIF 10
2072      7570  4421                JMS I READ
2073      7571  0553                JBFXDX
2074      7572  6141                LINC
2075                                LMODE
2076      1573  6447                JMP XIT1
2077      1574  1000  Z2,  LDA
2100      1575  0000                0
2101      1576  5606                STC P2T
2102      1577  7076                JMP DECODE
2103      1600  7602                JMP ,+2
2104      1601  7046                JMP XITERR
2105      1602  1000                LDA
2106      1603  2372                E6+1+2000
2107      1604  7177                JMP U2+3
2110      1605  7305                JMP E2
2111      1606  0000  P2T,  0
2112      1607  0002  ECON,  PDP
2113                                PMODE
2114      7610  6212                CIF 10
2115      7611  4421                JMS I READ
2116      7612  0543                JBFC2
2117      7613  6141                LINC
2120                                LMODE
2121      1614  0642                LDF 2
2122      1615  0602                LIF 2
2123      1616  6024                JMP FCSA+4
2124      1617  0000  AATTY3,  0
2125      1620  0642  GOODY,  LDF 2
2126      1621  4012                STC 12
2127      1622  1012                LDA 12
2130      1623  0302                ROR 2

```



2131	1624	1560	BCL I	
2132	1625	7776	-1	
2133	1626	1120	ADA I	
2134			PMODE	
2135	7627	4421	JMS I	READ
2136			LMODE	
2137	1630	5661	STC	GCLOC&1777
2140	1631	1032	LDA I	12
2141	1632	1560	BCL I	
2142	1633	7000	-777	
2143	1634	5704	STC	GTOUT
2144	1635	1012	LDA	12
2145	1636	0243	ROL	3
2146	1637	1560	BCL I	
2147	1640	7774	-3	
2150	1641	1620	BSE I	
2151	1642	0004	4	
2152	1643	5703	STC	GCORE
2153	1644	1012	LDA	12
2154	1645	0017	COM	
2155	1646	1560	BCL I	
2156	1647	3777	-4000	
2157	1650	0243	ROL	3
2160	1651	3703	ADD	GCORE
2161	1652	5703	STC	GCORE
2162	1653	0232	XSK I	12
2163	1654	0002	PDP	
2164			PMODE	
2165	7655	1301	TAD	WATAG
2166	7656	1304	TAD	GTOUT
2167	7657	3304	DCA	GTOUT
2170	7660	6212	CIF	10
2171	7661	4421	JMS I	READ
2172	7662	7702	GCTWO	
2173	7663	6141	LINC	
2174			LMODE	
2175	1664	1020	LDA I	
2176	1665	0110	DISKS	
2177	1666	5702	STC	GCTWO&1777
2200	1667	1020	LDA I	
2201	1670	7410	-WA+1	
2202	1671	5701	STC	WATAG&1777
2203	1672	0641	LDI	1
2204	1673	0602	LIF	2
2205	1674	2012	ADD	12
2206	1675	5700	STC	,+3
2207	1676	0017	COM	
2210	1677	0006	DJR	
2211	1700	0000	0	
2212			/	
2213			/	
2214			PMODE	
2215	7701	7410	WATAG,	-WA
2216			LMODE	
2217			/	
2220	1702	0110	GCTWO,	DISKS
2221	1703	0000	GCORE,	0
2222	1704	0000	GTOUT,	0
2223	1705	0001		1
2224			/	
2225			/	
2226			/	
2227			/	

/GET WORKING AREA POINTER,

2230		/		
2231		/		
2232		/		
2233		/		
2234		/		
2235		/		
2236		/		
2237		/		
2240		/		
2241	1706	7305	ZERO,	JMP E2
2242	1707	0002		PDP
2243				PMODE
2244	7710	7240		CLA CMA
2245	7711	3010		DCA 10
2246	7712	1362		TAD ZM7000
2247	7713	3011		DCA 11
2250	7714	6211		CDF 10
2251	7715	3410		DCA I 10
2252	7716	2011		ISZ 11
2253	7717	5315		JMP ,+2
2254			/	
2255	7720	6201		CDF 0
2256	7721	6212		CIF 10
2257	7722	4422		JMS I WRITE
2260	7723	7740		ZP1
2261	7724	6212		CIF 10
2262	7725	4422		JMS I WRITE
2263	7726	7744		ZP2
2264	7727	6212		CIF 10
2265	7730	4422		JMS I WRITE
2266	7731	7752		ZP3
2267	7732	6212		CIF 10
2270	7733	4422		JMS I WRITE
2271	7734	7756		ZP4
2272	7735	6212	EANDZB,	CIF 10
2273	7736	5737		JMP I ,+1
2274	7737	7777		7777
2275			/	
2276			/	
2277			/	
2300			/	
2301	7740	0111	ZP1,	111
2302	7741	0020		20
2303	7742	0000		0
2304	7743	0016		16
2305			/	
2306			/	
2307			/	
2310			/	
2311	7744	0111	ZP2,	111
2312	7745	0020		20
2313	7746	0016		16
2314	7747	0016		16
2315			/	
2316			/	
2317				*7752
2320			/	
2321	7752	0111	ZP3,	111
2322	7753	0020		20
2323	7754	0034		16+16
2324	7755	0004		40-16-16
2325			/	
2326			/	

/THIS IS THE ZERO BINARY ROUTINE, DO AN EX.  
 /GET OVER INTO 8 MODE  
 /TEL ASSY WERE IN 8 MODE  
 /PREPARE TO ZERO UPPER CORE  
 /0-1  
 /ZERO OUT 7000 WORDS OF UPPER CORE  
 /SAVE IN A COUNTER  
 /SET THE DATA FIELD TO POINT T UPPER CORE  
 /ZERO A WORD OF CORE  
 /DONE?  
 /NOPE, LOOP  
 /RESET THE DATA POINTER TO FIELD 0 FOR THE WRITE CALL  
 /SET THE INSTRUCTION FIELD TO 1  
 /WRITE AND ZERO THE OUTPUT AREA  
 /BINARY AREA SHOULD NOW BE ZERO  
 /SET I,F. TO UPPER CORE FOR ONE MORE CALL  
 /NOW ZERO OUT THE BIT MAP,  
 /POINTS TO THE BIT MAP  
 /NOW REBOOTSTRAP DIAL

2327			/		
2330	7756	0111	ZP4,	111	
2331	7757	0020		20	
2332	7760	0057		57	
2333	7761	0001		1	/POINTS TO THE BIT MAP, /ONE BLOCK FOR THE BIT MAP
2334			/		
2335			/		
2336			/		
2337			/		
2340			/		
2341			/		
2342			/		
2343			/		
2344			/		
2345			/		
2346			/		
2347			/		
2350			/		
2351			/		
2352			/		
2353			/		
2354			/		
2355			/		
2356			/		
2357			/		
2360			/		
2361			/		
2362			/		
2363			/		
2364					
2365				LMODE	/TELL ASSY WERE IN LMODE
2366			/		
2367			/		
2370			/		
2371			/		
2372			/		
2373	1762	1000	JBTMT,	LDA	
2374	1763	1771		JBTMTS	
2375	1764	1660		BCO I	/GET THE SWITCH IN THE AC. /COMPLEMENT THE SKP BIT NOW,
2376	1765	0020		20	
2377	1766	1520		SRO I	/TEST FOR 12 TIMES THROUGH
2400	1767	4444		4444	/ONE IN SIX COUNTER
2401	1770	5771		STC	/SAVE AWAY NEW ONE
2402	1771	0456	JBTMTS,	SKP	/SKIPS SOMETIMES
2403	1772	6000		JMP	/RETURN SOMETIMES
2404	1773	0072		SET I	/SET CURSOR TO DISPLAY BLANKS,
2405	1774	1776		JBNULO	
2406	1775	6000		JMP	
2407			/		
2410			/		
2411			/		
2412	1776	0000	JBNULO,	0	
2413	1777	0000		0	
2414			/		
2415			/		
2416			/		
2417			/		
2420			/		
2421			/		
2422			/		
2423			/		
2424			/		
2425				PMODE	

2426		/		
2427		/		
2430		/		
2431		/		
2432		/		
2433		/		
2434			ZM7000=JBMT	/LDA IS A 1000 WHICH IS -7000
2435		/		
2436		/		
2437		/		
2440		/		
2441			*7750	
2442		/		
2443		/		
2444		/		
2445	7750	7747	,-1	
2446	7751	7751	,	
2447		/		
2450			LMODE	
2451		/		
2452		/		
2453		/		
2454		/		
2455		/		
2456			EJECT	
-				

2457  
2460  
2461  
2462  
2463  
2464  
2465

/  
/  
/  
/  
/  
/  
/

CHAIN "EDITOR2"

0000  
0001  
-

\*20

EJECT

```

0002      /
0003      /
0004      /
0005      /
0006      /
0007      /
0010      /
0011      /
0012      /
0013      /
0014      /
0015      /
0016      /      SEGMENT 2
0017      /
0020      /
0021      /      *10
0022      /
0023      /
0024      0010  7774  BTREAD, 7774
0025      0011  0100  BTREC,  DISK      /ADDRESS OF THE READ ROUTINE.
0026      0012  0000      0
0027      0013  0010      DIALST+10=300
0030      0014  0010      10
0031      /
0032      /
0033      /
0034      /
0035      /
0036      0020  6022      *20
0037      0021  6027      JMP      .+2
0040      0022  0647      TEMP1,  LDF      7
0041      0023  0700      TEMP2,  RDC
0042      0024  6322      TEMP3,  6\SETUP1
0043      0025  0700      TOPPTR,  RDC
0044      0026  7323      CURPT2,  7\SETUP2
0045      /
0046      0027  0640      PASTL,  LDF      0
0047      0030  0002      PDP
0050      /
0051      4031  6212      PMODE
0052      4032  4610      CIF      10
0053      4033  4011      JMS I    BTREAD      /READ IN THE REST OF DIAL
0054      /
0055      4034  6141      LINC
0056      /
0057      0035  0600      RETEX,  LMODE
0060      0036  7033      LIF 0
0061      0037  6053      JMP OLDPTR      /RTN FROM EXIT
0062      0040  7042      JMP INBUF
0063      0041  0600      CLWA,  JMP C1
0064      0042  6770      LIF 0
0065      0043  6053      JMP INPTRS      /CLR THE WA
0066      0044  1020      JMP INBUF
0067      0045  5262      LDA I
0070      0046  1062      STA I 2
0071      0047  1020      LDA I
0072      0050  6043      6000+CR
0073      0051  1062      STA I 2
0074      0052  7042      JMP C1
0075      0053  0046      INBUF,  SET      6      /SAVE RETURN
0076      0054  0000      0
0077      0055  0002      PDP
0100      PMODE

```

0101	4056	6212	CIF	10	
0102	4057	4421	JMS I	READ	
0103	4060	0567	DINBUF		
0104	4061	6141	LINC		
0105			LMODE		
0106	0062	6771	JMP	INITLF	
0107	0063	0011	CLR		
0110	0064	4351	STC PLAFLG		
0111	0065	0002	POP		
0112			PMODE		
0113	4066	1275	TAD KHERE		
0114	4067	3676	OCA I KBDIN		
0115	4070	1275	TAD KHERE		
0116	4071	3677	OCA I KBDOUT		
0117	4072	3700	OCA I KCTR		
0120	4073	6141	LINC		
0121			LMODE		
0122	0074	6006	JMP	6	/RETURN
0123			PMODE		
0124	4075	0513	KHERE,	HERE	
0125	4076	0506	KBDIN,	PTRIN	
0126	4077	0507	KBDOUT,	PTROUT	
0127	4100	0502	KCTR,	CHRCR	
0130			LMODE		
0131	0101	1020	TBTOWB,	LDA I	/INSERT TAB
0132	0102	4000		HBIT	
0133	0103	1140		ADM	
0134	0104	0026		CURPT2	
0135	0105	1020		LDA I	
0136	0106	0047		TB	
0137	0107	1362	ACTOWB,	STH I 2	
0140	0110	0053	CHKBUF,	SET 13	/CHK INPUT BUFERS
0141	0111	0000		0	
0142	0112	6352		JMP CHKWBF	
0143	0113	6372		JMP WBFULL	
0144	0114	6166		JMP CHKPLA	
0145	0115	6310		JMP PLAFUL	
0146	0116	6013		JMP 13	
0147	0117	1020	D1,	LDA I	/DELETE CUR LN
0150	0120	0001		1	
0151	0121	1440		SAE	
0152	0122	0451		MAXLN	
0153	0123	6125		JMP ,+2	
0154	0124	6041		JMP	CLWA
0155	0125	1440		SAE	
0156	0126	0447		CURLN	
0157	0127	6131		JMP ,+2	
0160	0130	7044		JMP C1+2	
0161	0131	1302		LDH 2	
0162	0132	1460		SAE I	
0163	0133	0043		CR	
0164	0134	6143		JMP	EOBPST
0165	0135	1020	EOBLOP,	LDA I	
0166	0136	7776		-1	
0167	0137	6504		JMP EOLFIX+2	
0170	0140	2451		ADD MAXLN	
0171	0141	4451		STC MAXLN	
0172	0142	4146		STC	EOBWRD
0173	0143	6176	EOBPST,	JMP	NOTOK
0174	0144	6152		JMP K1	
0175	0145	1020		LDA I	
0176	0146	0000	EOBWRD,	0	
0177	0147	0450		AZE	



0200	0150	6135	JMP	EOBLOP	
0201	0151	7042	JMP	C1	/GO DISPLAY
0202			/		
0203	0152	0050	K1,	SET	10
0204	0153	0000			
0205	0154	6551	JMP	CHKWBE	/CHK WB EMPTY
0206	0155	1020	LDA	I	
0207	0156	7776	MINUS1,	-1	
0210	0157	6170	JMP	CHKPLA+2	
0211	0160	4171	STC	PLACTR	
0212	0161	6611	JMP	BUWB	
0213	0162	6154	JMP	K1+2	
0214	0163	0043	SET	3	
0215	0164	0002		2	
0216	0165	6010	JMP	10	
0217					/COUNT PLAYGRND
0220	0166	1020	CHKPLA,	LDA	I
0221	0167	0001	P1,	1	/DECREASE
0222	0170	1160		ADM	1
0222					/COUNT BY ONE
0223	0171	0000	PLACTR,	0	
0224	0172	0450		AZE	
0225	0173	0220		XSK	I 0
0226	0174	3072		ADD	P1000
0227	0175	6000		JMP	0
0230				/TAPE NOT OK	
0231	0176	0011	NOTOK,	CLR	
0232	0177	4742		STC	X2+5
0233	0200	4203		STC	TPFLG
0234	0201	6000		JMP	0
0235	0202	1520	TPCHK,	SRO	I
0236	0203	7777	TPFLG,	7777	/OK IF ONE
0237	0204	0220		XSK	I 0
0240	0205	6000		JMP	0
0241					/NOT OK
0242					/MONITOR COMMAND
0242					/CHECK
0243	0206	0603	CHKMC,	LIF	3
0244	0207	6255		JMP	CHKMC3
0245	0210	6611	DELMC,	JMP	BUWB
0246	0211	6152		JMP	K1
0247	0212	7042		JMP	C1
0250	0213	0000	KT4,	0	
0251	0214	2167	LOKATE,	ADD	P1
0252	0215	1040		STA	
0253	0216	0213		KT4	
0254	0217	4234		STC	M4
0255					/DELETE REST OF
0256					/MONITOR COMMAND
0257	0220	6611		JMP	BUWB
0260					/DEL 1 CHAR
0261	0221	6152		JMP	K1
0262	0222	0011		CLR	
0263	0223	2447		ADD	CURLN
0264	0224	0017		COM	
0265	0225	1200		LAM	
0266	0226	0213		KT4	
0267	0227	6202		JMP	TPCHK
0270	0230	7675		JMP	S4
0271	0231	0472		LZE	I
0272	0232	7711		JMP	L4
0273	0233	1020		LDA	I
0274	0234	0000	M4,	0	/REQD LINE
0275	0235	0017		COM	
0276	0236	4242		STC	,+4

0277	0237	0011	CLR	
0300	0240	2451	ADD MAXLN	
0301	0241	1220	LAM I	
0302	0242	0017	0017	/CHECK MAX
0303	0243	1000	LDA	
0304	0244	0451	MAXLN	
0305	0245	0472	LZE I	
0306	0246	4234	STC M4	
0307	0247	7711	JMP L4	
0310				/LOCATE FWD
0311				/FWD PAGE
0312	0250	1000	P4, LDA	
0313	0251	1547	LNSPER	
0314	0252	2156	ADD MINUS1	
0315	0253	0450	AZE	
0316	0254	6257	JMP F4+2	
0317				/FWD LN
0320	0255	0011	F4, CLR	
0321	0256	2167	ADD P1	
0322	0257	4213	STC KT4	
0323	0260	0050	SET I0	
0324	0261	0203	TPFLG	/TAPE STATUS
0325	0262	6267	JMP H4	
0326	0263	1000	LDA	
0327	0264	0010	I0	
0330	0265	4203	STC TPFLG	
0331	0266	7042	JMP C1	/GO DISPLAY
0332				/SLIDE FWD
0333	0267	0053	H4, SET I3	
0334	0270	0000	0	
0335	0271	6446	JMP A3	/IS MAXLN=CURLN ?
0336	0272	6013	JMP I3	/YES RTN
0337	0273	6474	JMP CBTOWB	/NO TRANSFER 1
0340				/CHAR FROM CB TO WB
0341	0274	6300	JMP J4	/RTN HERE IF NON CR
0342	0275	6502	JMP EOLFIX	
0343	0276	1140	ADM	
0344	0277	0213	KT4	
0345	0300	6433	J4, JMP CBMT	
0346	0301	6352	JMP CHKWBF	
0347	0302	6372	JMP WBFULL	
0350	0303	1000	LDA	
0351	0304	0213	KT4	
0352	0305	0450	AZE	
0353	0306	6271	JMP H4+2	
0354	0307	6013	JMP I3	
0355				/PLAYGRND FULL
0356	0310	0057	PLAFUL, SET I7	
0357	0311	0000	0	
0360	0312	6446	JMP A3	/MAXLN=CURLN ?
0361	0313	6017	JMP I7	/YES
0362	0314	6622	JMP BBWRC	/WRITE IT OUT
0363	0315	2705	ADD BBIBLK	/AC IS ZERO ON ENTRY HERE
0364	0316	4461	STC F3	
0365	0317	2167	ADD P1	
0366	0320	4351	STC PLAFLG	
0367	0321	0054	SET I4	
0370	0322	0002	2	
0371	0323	1324	R3, LDH I 4	
0372	0324	1420	SHD I	
0373	0325	0000	EOF1	
0374	0326	6334	JMP S3	
0375	0327	1362	STH I 2	

0376	0330	6433	JMP CBMT	
0377	0331	6352	JMP CHKWBF	
0400	0332	0016	NOP	
0401	0333	6323	JMP R3	
0402	0334	1362	STH I 2	
0403	0335	6635	JMP WBWRC	
0404	0336	6671	JMP BBFWD	
0405	0337	0042	SET 2	
0406	0340	0014	14	/NOTE
0407	0341	2454	ADD MAXBLK	
0410	0342	4770	STC CURBLK	
0411	0343	4351	STC PLAFLG	
0412	0344	6456	JMP F3-3	
0413	0345	1020	LDA I	
0414	0346	0700	RDC WAUNIT	
0415	0347	6650	JMP WBWRC	
0416	0350	6017	JMP 17	
0417	0351	0000	PLAFLG, 0	
0420				
0421				
0422	0352	0055	CHKWBF, SET 15	/MS INPUT ROUTINES
0423	0353	0000	0	/CHK WB FULL
0424	0354	0220	XSK I 0	/RTN JMP
0425	0355	1020	LDA I	/TO P+1
0426	0356	7377	HBIT+CB-1	/RTN TO P+2
0427	0357	1440	SAE	
0430	0360	0002	2	
0431	0361	6000	JMP 0	/IF WB IS NOT FULL
0432	0362	6635	JMP WBWRC	/DO STRING SLIDE
0433	0363	6671	JMP BBFWD	
0434	0364	6176	JMP NOTOK	/TAPE NOT OK
0435	0365	0062	SET I 2	
0436	0366	6777	HBIT+WB-1	
0437	0367	6446	JMP A3	/WA FULL
0440	0370	4770	STC CURBLK	
0441	0371	6015	AAA4S2, JMP 15	
0442				/WB FULL FIX
0443				/BPL AND BB
0444	0372	0055	WBFULL, SET 15	
0445	0373	0000	0	
0446	0374	1020	LDA I	
0447	0375	7377	-400	
0450	0376	2026	ADD CURPT2	
0451	0377	4026	STC CURPT2	
0452	0400	2375	ADD ,=3	
0453	0401	2003	ADD 3	
0454	0402	4003	STC 3	
0455	0403	2447	ADD CURLN	
0456	0404	1045	STA 5	
0457	0405	0225	XSK I 5	/WB TO BB
0460				
0461	0406	0076	SET I 16	
0462	0407	2777	WB=1	
0463	0410	0074	SET I 14	
0464	0411	2377	BB=1	
0465	0412	0072	SET I 12	
0466	0413	7377	-400	
0467	0414	1036	LDA I 16	
0470	0415	1074	STA I 14	
0471	0416	0232	XSK I 12	
0472	0417	6414	JMP ,=3	
0473	0420	1000	LDA	
0474	0421	0005	5	

0475	0422	1460	SAE I	/IS CNTRL TABLE
0476	0423	2371	E6+2000	/FULL ?
0477	0424	6015	JMP 15	
0500	0425	1020	LDA I	/YES
0501	0426	6176	JMP NOTOK	/MAKE TAPE ALWAYS
0502	0427	4523	STC TPSTAT	/NOT OK
0503	0430	0065	SET I 5	/TO START
0504	0431	2243	06+2000	/OF CNTRL TABLE
0505	0432	6015	JMP 15	
0506				/CHK CB EMPTY
0507	0433	0055	CBMT, SET 15	
0510	0434	0000	0	
0511	0435	1000	LDA	/BETA 4
0512	0436	0004	4	/IS CB PTR
0513	0437	0450	AZE	
0514	0440	6000	JMP 0	
0515	0441	6707	JMP CBFWD	/CB IS EMPTY
0516	0442	6715	JMP CBRDC	
0517	0443	0064	SET I 4	
0520	0444	7377	HBIT+CB=1	
0521	0445	6015	JMP 15	
0522				/CHK CONTINUATION
0523	0446	1020	A3, LDA I	
0524	0447	0000	CURLN, 0	
0525	0450	1460	SAE I	
0526	0451	0000	MAXLN, 0	
0527	0452	0220	XSK I 0	
0530	0453	1020	LDA I	
0531	0454	0000	MAXBLK, 0	/BIGGEST USED
0532				/IN WA
0533	0455	6000	JMP 0	
0534				/FIX BNS
0535	0456	0055	SET 15	
0536	0457	0000	0	
0537	0460	1020	LDA I	
0540	0461	0000	F3, 0	/BQBN SAVED
0541	0462	1440	SAE	
0542	0463	0705	BBTBLK	
0543	0464	6466	JMP ,+2	
0544	0465	6541	JMP V3-4	
0545	0466	1040	STA	
0546	0467	0705	BBTBLK	
0547	0470	4664	STC WBTBLK	
0550	0471	6677	JMP BBROC	
0551	0472	2705	ADD BBTBLK	
0552	0473	6534	JMP V3-11	/RDC CQ
0553				/CB TO WB
0554	0474	1324	CBTOWB, LDH I 4	
0555	0475	1362	STH I 2	
0556	0476	1420	SHD I	
0557	0477	4300	CR1	
0560	0500	0220	XSK I 0	
0561	0501	6000	JMP 0	
0562				/EOL FIXES
0563	0502	1020	EOLFIX, LDA I	
0564	0503	0001	1	
0565	0504	2447	ADD CURLN	
0566	0505	4447	STC CURLN	
0567	0506	0043	SET 3	
0570	0507	0002	2	
0571	0510	2156	ADD MINUS1	
0572	0511	6000	JMP 0	
0573				/MAKE TAPE OK

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0574	0512	0055	L3,	SET 15	
0575	0513	0000		0	
0576	0514	0044		SET 4	
0577	0515	0002		2	
0600	0516	1020		LDA I	
0601	0517	0000		EOF	
0602	0520	1364		STH I 4	
0603	0521	1020		LDA I	
0604	0522	7777		7777	
0605	0523	4203	TPSTAT,	STC	TPFLG
0606					/THIS LOCATION CHANGED TO JMP NOTOK
0607	0524	2447		ADD CURLN	/WHEN TAPE NOT OK
0610	0525	1045		STA 5	
0611	0526	1020		LDA I	
0612	0527	0724	WZ,	WRC I WAUNIT	
0613	0530	6635		JMP WBWRC	/DIAL POST VERSION TWO PATCH 2/19/70
0614	0531	2705		ADD BBTBLK	
0615	0532	1060		STA I	
0616	0533	0000	SPTBLK,	0	
0617	0534	1620		BSE I	
0620	0535	2000		2000	
0621	0536	4723		STC CBTBLK	
0622	0537	6707		JMP CBFWD	
0623	0540	6715		JMP CBRDC	
0624	0541	1020		LDA I	
0625	0542	0400	P400,	400	
0626	0543	2002		ADD 2	
0627	0544	4004		STC 4	
0630	0545	1020	V3,	LDA I	
0631	0546	6777		HBIT+WB-1	
0632	0547	4171		STC PLACTR	
0633	0550	6367		JMP CHKWBF+15	
0634					/CHK WB EMPTY
0635	0551	0055	CHKWBE,	SET 15	
0636	0552	0000		0	
0637	0553	1020		LDA I	
0640	0554	6777		HBIT+WB-1	
0641	0555	1440		SAE	
0642	0556	0002		2	
0643	0557	6000		JMP 0	
0644	0560	6622		JMP BBWRC	
0645	0561	1020		LDA I	
0646	0562	7776		-1	
0647	0563	6673		JMP BBBWD	
0650	0564	6677		JMP BBROD	/RTN WITH -0 IN AC
0651	0565	2717		ADD CBRDC+2	
0652	0566	6650		JMP WBROD	
0653	0567	0062		SET I 2	
0654	0570	7377		HBIT+CB-1	
0655	0571	2005		ADD 5	
0656	0572	1460		SAE I	/CNTRL TABLE NOT MT
0657	0573	2243		D6+2000	
0660	0574	2156		ADD MINUS1	
0661	0575	4005		STC 5	
0662	0576	2542		ADD P400	
0663	0577	2025		ADD TOPPTR	
0664	0600	4025		STC TOPPTR	
0665	0601	2542		ADD P400	
0666	0602	2026		ADD CURPT2	
0667	0603	4026		STC CURPT2	
0670	0604	6367		JMP CHKWBF+15	
0671					/LOWER PSA,PFA
0672	0605	1020	BUWBW,	LDA I	

0673	0606	3777	-HBIT	
0674	0607	2004	ADD 4	
0675	0610	4004	STC 4	
0676	0611	1020	BUWB, LDA I	
0677	0612	3777	-HBIT	
0700	0613	2002	ADD 2	
0701	0614	4002	STC 2	
0702	0615	1302	LOH 2	
0703	0616	1420	SHD I	
0704	0617	4300	CR1	
0705	0620	0220	XSK I 0	
0706	0621	6000	JMP 0	
0707				/STRING SLIDES
0710				/WB FWD OR BWD
0711	0622	1000	BBWRC, LDA	
0712	0623	0705	BBTBLK	
0713	0624	4633	STC ,+7	
0714	0625	0603	LIF 3	
0715	0626	0006	DJR	
0716	0627	1020	LDA I	
0717	0630	6632	JMP ,+2	
0720	0631	7620	JMP GOODY	
0721	0632	0704	WRC WAUNIT	
0722	0633	0000	0	
0723	0634	6000	JMP 0	
0724	0635	0051	WBWRC, SET 11	
0725	0636	0000	0	
0726	0637	1020	LDA I	
0727	0640	0001	1	
0730	0641	1440	SAE	
0731	0642	0351	PLAFLG	
0732	0643	6622	JMP BBWRC	
0733	0644	0040	SET 0	
0734	0645	0011	11	
0735	0646	1020	LDA I	
0736	0647	0704	WT, WRC WAUNIT	
0737	0650	4663	WBRDC, STC ,+13	/SOMETIMES COMES HERE
0740				/WITH RDC IN AC
0741	0651	1020	LDA I	/ADD 1 TO
0742	0652	1001	1001	/MBLK AND TBLK
0743	0653	1140	ADM	
0744	0654	0664	,+10	
0745	0655	4454	STC MAXBLK	/WA TBLK
0746	0656	0603	LIF 3	
0747	0657	0006	DJR	
0750	0660	1020	LDA I	
0751	0661	6663	JMP ,+2	
0752	0662	7620	JMP GOODY	
0753	0663	0000	0	/TAPE INSTRUCTION
0754	0664	0000	WB TBLK, 0	/MBLK6\TBLK
0755	0665	1000	LDA	
0756	0666	0705	BBTBLK	
0757	0667	4664	STC ,+3	
0760	0670	6000	AAA7S2, JMP 0	
0761				/BB RDC FWD OR BWD
0762	0671	1020	BBFWD, LDA I	
0763	0672	0001	1	
0764				/SOMETIMES COMES HERE
0765				/WITH -1 IN AC
0766	0673	1140	BBBWD, ADM	
0767	0674	0705	,+11	/ADD +OR- 1 TO TBLK
0770	0675	4664	STC WB TBLK	
0771	0676	6000	JMP 0	

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0772	0677	0603	BHRDC,	LIF	3	
0773	0700	0006		DJR		
0774	0701	1020		LDA I		
0775	0702	6704		JMP	,+2	
0776	0703	7620		JMP	GOODY	
0777	0704	0700		RDC	WAUNIT	
1000	0705	0000	BBTBLK,	0		
1001	0706	6000		JMP 0		
1002						/CB FIX
1003	0707	1020	CBFWD,	LDA I		
1004	0710	0001		1		
1005						/SOMETIMES COMES HERE
1006						/WITH -1 IN AC
1007	0711	1140	CBBWD,	ADM		
1010	0712	0723		CBTBLK		
1011	0713	4733		STC TBLKCB		
1012	0714	6000		JMP 0		
1013						/FWD
1014	0715	0603	CBRDC,	LIF	3	
1015	0716	0006		DJR		
1016	0717	1020		LDA I		
1017	0720	6722		JMP	,+2	
1020	0721	7620		JMP	GOODY	
1021	0722	0700		RDC	WAUNIT	
1022	0723	0000	CBTBLK,	0		/MBLK7\TBLK
1023	0724	6000		JMP 0		
1024						/CB WRC BWD
1025	0725	0603	CBWRC,	LIF	3	
1026	0726	0006		DJR		
1027	0727	1020		LDA I		
1030	0730	6732		JMP	,+2	
1031	0731	7620		JMP	GOODY	
1032	0732	0704		WRC	WAUNIT	
1033	0733	0000	TBLKCB,	0		/MBLK7\TBLK
1034	0734	6000		JMP 0		
1035	0735	0041	X2,	SET 1		/MC EXIT
1036	0736	0000		0		
1037	0737	6611		JMP BUWB		
1040	0740	6152		JMP K1		
1041	0741	1520		SRO I		
1042	0742	0000		0		
1043	0743	6747		JMP WP		
1044	0744	1020		LDA I		
1045	0745	7777		-0		
1046	0746	4742		STC ,~4		
1047	0747	0002	WP,	PDP		
1050				Pmode		
1051	4750	6212		CIF	10	
1052	4751	4422		JMS I	WRITE	
1053	4752	0567		DINBUF		
1054	4753	6212		CIF	10	
1055	4754	4421		JMS I	READ	
1056	4755	0563		WRL2		
1057	4756	6141		LINC		
1060				Lmode		
1061	0757	0600		LIF 0		
1062	0760	7010		JMP OUTPTR		
1063	0761	1000	XIT2,	LDA		
1064	0762	0001		1		
1065	0763	4767		STC RJMP		
1066	0764	0641		LDF 1		
1067	0765	0603		LIF 3		
1070	0766	0006		DJR		

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1071      0767 0000 RJMP, 0
1072      0770 6370 CURBLK, 6\WA
1073      /
1074      /
1075      /
1076      /
1077      0771 1020 INITLF, LDA I
1100      0772 0212      212
1101      0773 0500      IOB
1102      PMODE
1103      4774 6046      TLS
1104      LMODE
1105      0775 0641      LDF      1
1106      0776 6000      JMP      0
1107      /
1108      /
1109      /
1110      /
1111      0777 1020 BU1C, LDA I
1112      1000 3777      -HBIT
1113      1001 1140      ADM
1114      1002 0010      10
1115      1003 1460      SAE I
1116      1004 0000      0
1117      1005 6000      JMP      0
1120      1006 0220      XSK I 0
1121      1007 1310      LDH      10
1122      1010 1460      SAE I
1123      1011 0043      CR
1124      1012 6000      JMP      0
1125      1013 7576      JMP      BYALN
1126      /
1127      /
1130      /
1131      /
1132      /
1133      /
1134      1014 0047 CRSET, SET 7      /UPDATE CR
1135      1015 0000      0      /ARGUMENTS
1136      1016 1020      LDA I
1137      1017 0001      1
1140      1020 2447      ADD CURLN
1141      1021 4447      STC CURLN
1142      1022 2167      ADD P1
1143      1023 2451      ADD MAXLN
1144      1024 4451      STC MAXLN
1145      1025 6110      JMP CHKBUF
1146      1026 1000      LDA
1147      1027 0451      MAXLN
1150      1030 0470      AZE I
1151      1031 7037      JMP      EOBERR
1152      1032 1020      LDA I
1153      1033 1311      2000=WAEND
1154      1034 2770      ADD      CURBLK
1155      1035 0451      APO
1156      1036 6007      JMP 7
1157      1037 2167      EOBERR, ADD P1
1160      1040 4146      STC      EOBWRD
1161      1041 6117      JMP      D1
1162      1042 0066      C1, SET I 6
1163      1043 7607      -MAXNUM
1164      1044 7531      JMP DISPLA      /GO DISPLAY
1165      /CALLS TO
1166      / KEYBRO INPUT
1167      /INTERPRETIVE SR

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1170	1045	0600	LIF 0	
1171	1046	7174	JMP A88	
1172	1047	7531	ALTSET, JMP DISPLA	
1173	1050	0600	LIF 0	
1174	1051	7262	JMP ALTREQ+2	
1175	1052	7531	EDSET, JMP DISPLA	
1176	1053	0600	LIF 0	
1177	1054	7312	JMP CHKED+2	
1200	1055	7531	SUBSET, JMP DISPLA	
1201	1056	0600	LIF 0	
1202	1057	7322	JMP SUBCHR+2	
1203	1060	4022	STC TEMP1	
1204	1061	6101	JMP TBTOWB	
1205	1062	0226	XSK I 6	
1206	1063	0456	SKP	
1207	1064	4022	REGCHR, STC TEMP1	/INSERT A CHAR
1210	1065	7256	JMP CHKPOS	
1211	1066	7071	JMP ,+3	
1212	1067	0600	LIF 0	
1213	1070	7572	JMP CHKCNT	
1214	1071	7202	JMP INSERT	
1215	1072	1000	P1000, LDA	
1216	1073	0022	TEMP1	
1217	1074	6107	JMP ACTOWB	
1220	1075	7761	JMP CHKNOK	
1221	1076	7256	JMP CHKPOS	
1222	1077	7102	JMP UP6	
1223	1100	1323	UP3, LDH I 3	/PTR TO 1ST CHR
1224				/ON CUR LN
1225	1101	7044	JMP C1+2	
1226	1102	0226	UP6, XSK I 6	/CHAR CTR CUR LN
1227	1103	7044	JMP C1+2	
1230	1104	7160	JMP ACR2	
1231	1105	1327	CRLOW, LDH I 7	/CR ON CUR LN
1232	1106	1420	SHD I	
1233	1107	5700	LF1	
1234	1110	6206	JMP CHKMC	
1235	1111	0000	JMP 0	
1236	1112	7351	RUB, JMP ROACHR	/RUB OUT 1 CHAR
1237	1113	7761	JMP CHKNOK	
1240	1114	1000	LDA	
1241	1115	0006	6	
1242	1116	0450	AZE	
1243	1117	7044	JMP C1+2	
1244	1120	3251	ADD MHBIT	
1245	1121	2026	ADD CURPT2	
1246	1122	4026	STC CURPT2	
1247	1123	7112	JMP RUB	
1250	1124	4010	COMRTN, STC 10	
1251	1125	6101	JMP TBTOWB	
1252	1126	0230	XSK I 10	
1253	1127	7125	JMP , -2	
1254	1130	1020	LDA I	
1255	1131	0057	KOM	
1256	1132	0640	LDF 0	
1257	1133	1040	STA	
1260	1134	3374	2000+COMFLG	
1261	1135	0641	LDF 1	
1262	1136	7064	JMP REGCHR	
1263	1137	6101	CMARTN, JMP TBTOWB	
1264	1140	7102	JMP UP6	
1265	1141	7246	ACR, JMP CHKENO	/HERE FOR CR
1266	1142	7160	JMP ACR2	

1267	1143	4007	STC 7	
1270	1144	1020	LDA I	
1271	1145	0043	CR	
1272	1146	1427	SHD I 7	
1273	1147	7044	JMP C1+2	
1274	1150	1427	SHD I 7	
1275	1151	0456	SKP	
1276	1152	7160	JMP ACR2	
1277	1153	1000	LDA	
1300	1154	0007	7	
1301	1155	7250	JMP CHKEND+2	
1302	1156	7160	JMP ACR2	
1303	1157	7044	JMP C1+2	
1304	1160	1020	ACR2, LDA I	
1305	1161	0043	CR	
1306	1162	4022	STC TEMP1	
1307	1163	7202	JMP INSERT	
1310	1164	1000	LDA	
1311	1165	0022	TEMP1	
1312	1166	1362	STH I 2	
1313	1167	7761	JMP CHKNOK	
1314	1170	0047	SET 7	
1315	1171	0003	3	
1316	1172	7256	JMP CHKPOS	
1317	1173	7177	JMP ,+4	
1320	1174	7447	JMP SET6N3	
1321	1175	7014	CRHI, JMP CRSET	/CR ABOVE
1322	1176	7044	JMP C1+2	/CUR LN
1323	1177	7447	JMP SET6N3	
1324	1200	7105	JMP CRL0W	
1325	1201	7175	JMP CRHI	
1326	1202	0057	INSERT, SET 17	/INSERT CHAR
1327	1203	0000	0	/OVER CURSOR
1330	1204	7246	JMP CHKEND	
1331	1205	6017	JMP 17	
1332	1206	1120	ADA I	
1333	1207	4000	HBIT	
1334	1210	1440	SAE	
1335	1211	0002	2	
1336	1212	0456	SKP	
1337	1213	6017	JMP 17	
1340	1214	1040	STA	
1341	1215	0012	12	
1342	1216	4007	STC 7	
1343	1217	1332	LDH I 12	
1344	1220	4023	STC TEMP2	
1345	1221	1000	MAKGAP, LDA	
1346	1222	0002	2	
1347	1223	1440	SAE	
1350	1224	0012	12	
1351	1225	0456	SKP	
1352	1226	7237	JMP DUNGAP	
1353	1227	1332	LDH I 12	
1354	1230	4024	STC TEMP3	
1355	1231	2023	ADD TEMP2	
1356	1232	1352	STH 12	
1357	1233	1000	LDA	
1360	1234	0024	TEMP3	
1361	1235	4023	STC TEMP2	
1362	1236	7221	JMP MAKGAP	
1363	1237	1000	DUNGAP, LDA	
1364	1240	0022	TEMP1	
1365	1241	1367	STH I 7	

1366	1242	1000	LDA	
1367	1243	0023	TEMP2	
1370	1244	4022	STC TEMP1	
1371	1245	6017	JMP 17	
1372	1246	1000	CHKEND, LDA	/IS CURSOR
1373	1247	0026	CURPT2	/FULL RIGHT ?
1374	1250	1120	ADA I	
1375	1251	3777	MHBIT, -HBIT	
1376	1252	1440	SAE	
1377	1253	0002	2	
1400	1254	0220	XSK I 0	/NO
1401	1255	6000	JMP 0	/YES
1402	1256	1000	CHKPOS, LDA	/IS CURSOR
1403	1257	0026	CURPT2	/ON CUR LN ?
1404	1260	0241	ROL 1	
1405	1261	0017	COM	
1406	1262	4023	STC TEMP2	
1407	1263	1000	LDA	
1410	1264	0023	3	
1411	1265	0241	ROL 1	
1412	1266	0023	ADD TEMP2	
1413	1267	0471	AP0 I	
1414	1270	0220	XSK I 0	/NO
1415	1271	6000	JMP 0	/YES
1416	1272	7246	RORIT, JMP CHKEND	/RUB OUT TO
1417	1273	7044	JMP C1+2	/RIGHT OF CURSOR
1420	1274	1020	LDA I	
1421	1275	7306	JMP DUNRIT	
1422	1276	5366	STC OK-1	
1423	1277	1020	LDA I	
1424	1300	7361	JMP EXTRUB	
1425	1301	5354	STC ROACHR+3	
1426	1302	3370	ADD OK+1	
1427	1303	5364	STC OK-3	
1430	1304	7351	JMP ROACHR	
1431	1305	7304	JMP , -1	
1432	1306	7312	DUNRIT, JMP FIXUP	
1433	1307	7351	JMP ROACHR	
1434	1310	7761	JMP CHKNOK	
1435	1311	7044	JMP C1+2	
1436	1312	1020	FIXUP, LDA I	
1437	1313	7044	JMP C1+2	
1440	1314	5366	STC OK-1	
1441	1315	3464	ADD RESET+4	
1442	1316	5364	STC OK-3	
1443	1317	3401	ADD NOTACR+2	
1444	1320	5354	STC ROACHR+3	
1445	1321	6000	JMP 0	
1446	1322	7246	ROLEF, JMP CHKEND	/RUB OUT TO
1447	1323	4026	STC CURPT2	/LEFT OF CURSOR
1450	1324	1020	LDA I	
1451	1325	0026	CURPT2	
1452	1326	5362	STC OK-5	
1453	1327	1020	LDA I	
1454	1330	7343	JMP DUNLEF	
1455	1331	5366	STC OK-1	
1456	1332	1020	LDA I	
1457	1333	7361	JMP EXTRUB	
1460	1334	5354	STC ROACHR+3	
1461	1335	7351	DOLEF, JMP ROACHR	
1462	1336	1020	LDA I	
1463	1337	3777	-HBIT	
1464	1340	2026	ADD CURPT2	

1465	1341	4026	STC CURPT2	
1466	1342	7335	JMP DOLEF	
1467	1343	1020	DUNLEF, LDA I	
1470	1344	0002	2	
1471	1345	5362	STC OK-5	
1472	1346	7312	JMP FIXUP	
1473	1347	7761	JMP CHKNOK	
1474	1350	7044	JMP C1+2	
1475	1351	1000	ROACHR, LDA	/RUB OUT 1 CHAR
1476	1352	0000	0	
1477	1353	5441	STC XITRO	
1500	1354	1020	LDA I	
1501	1355	0001	1	
1502	1356	1440	SAE	
1503	1357	0447	CURLN	
1504	1360	7367	JMP OK	
1505	1361	1000	EXTRUB, LDA	
1506	1362	0002	2	
1507	1363	1440	SAE	
1510	1364	0025	TOPPTR	
1511	1365	0456	SKP	
1512	1366	7044	JMP C1+2	
1513	1367	0052	OK, SET 12	
1514	1370	0026	CURPT2	
1515	1371	7246	JMP CHKEND	
1516	1372	4012	STC 12	
1517	1373	1312	LDH 12	
1520	1374	1420	SHD I	
1521	1375	4300	CR1	
1522	1376	7502	NOADJ, JMP LASTCR	
1523	1377	7246	NOTACR, JMP CHKEND	
1524	1400	7414	JMP ENDRUB	
1525	1401	1020	LDA I	
1526	1402	3777	-HBIT	
1527	1403	2012	ADD 12	
1530	1404	4001	STC 1	
1531	1405	1332	BWDCHR, LDH I 12	
1532	1406	1361	STH I 1	
1533	1407	1000	LDA	
1534	1410	0001	1	
1535	1411	1440	SAE	
1536	1412	0002	2	
1537	1413	7405	JMP BWDCHR	
1540	1414	6551	ENDRUB, JMP CHKWBE	
1541	1415	1020	LDA I	
1542	1416	7776	-1	
1543	1417	6170	JMP CHKPLA+2	
1544	1420	4171	STC PLACR	
1545	1421	6611	JMP BUWB	
1546	1422	0016	ANOP, NOP	
1547	1423	7447	JMP SET6N3	
1550	1424	1020	LDA I	
1551	1425	3777	-HBIT	
1552	1426	2026	ADD CURPT2	
1553	1427	1040	STA	
1554	1430	0007	7	
1555	1431	7250	JMP CHKEND+2	
1556	1432	7441	JMP XITRO	
1557	1433	1307	LDH 7	
1560	1434	1460	SAE 1	
1561	1435	0043	CR	
1562	1436	7441	JMP XITRO	
1563	1437	1427	SHD I 7	

1564	1440	0456	SKP	
1565	1441	0000	XITRO, 0	
1566	1442	1000	LDA	
1567	1443	0007	7	
1570	1444	7250	JMP CHKEND+2	
1571	1445	7441	JMP XITRO	
1572	1446	7354	JMP ROACHR+3	
1573	1447	1000	SET6N3, LDA	
1574	1450	0000	0	
1575	1451	5501	STC RTNSET	
1576	1452	0050	SET 10	
1577	1453	0002	2	
1600	1454	0061	SET I 1	
1601	1455	0000	0	
1602	1456	1322	LDH I 2	
1603	1457	0456	SKP	
1604	1460	0221	RESET, XSK I 1	
1605	1461	1000	LDA	
1606	1462	0002	2	
1607	1463	1440	SAE	
1610	1464	0025	TOPPTR	
1611	1465	0456	SKP	
1612	1466	7471	JMP ,+3	
1613	1467	6611	JMP BUWB	
1614	1470	7460	JMP RESET	
1615	1471	0043	SET 3	
1616	1472	0002	2	
1617	1473	0042	SET 2	
1620	1474	0010	10	
1621	1475	1020	LDA I	
1622	1476	7607	-MAXNUM	
1623	1477	2001	ADD 1	
1624	1500	4006	STC 6	
1625	1501	0000	RTNSET, 0	
1626	1502	0051	LASTCR, SET 11	
1627	1503	0000	0	
1630	1504	1000	LDA	
1631	1505	1366	OK-1	
1632	1506	1460	SAE I	
1633	1507	7044	JMP C1+2	
1634	1510	7521	JMP NOCNT	
1635	1511	1000	LDA	
1636	1512	0012	12	
1637	1513	1440	SAE	
1640	1514	0002	2	
1641	1515	0456	SKP	
1642	1516	7521	JMP NOCNT	
1643	1517	0600	LIF 0	
1644	1520	7572	JMP CHKCNT	
1645	1521	1020	NOCNT, LDA I	
1646	1522	7776	-1	
1647	1523	2447	ADD CURLN	
1650	1524	4447	STC CURLN	
1651	1525	3522	ADD ,=3	
1652	1526	2451	ADD MAXLN	
1653	1527	4451	STC MAXLN	
1654	1530	6011	JMP 11	
1655				/DISPLAY
1656				/ONCE PER ENTRY
1657	1531	0057	DISPLA, SET 17	/SAVE RTN JMP
1660	1532	0000	0	/SET INITIAL
1661	1533	0603	LIF 3	/SCOPE ARGUMENTS
1662	1534	7067	JMP KSAM7	

1663	1535	0643	SAMARG,	LDF 3	
1664	1536	1040		STA	
1665	1537	2627		OLDSAM+2000	
1666	1540	1040		STA	
1667	1541	1547		LNSPER	
1670	1542	0244		ROL 4	
1671	1543	1040		STA	
1672	1544	2623		MAXVC+2000	
1673	1545	0641		LDF 1	
1674	1546	1020	B5,	LDA I	
1675	1547	0000	LNSPER,	0	
1676	1550	0017		COM	
1677	1551	4014		STC 14	
1700	1552	2447		ADD CURLN	
1701	1553	5612		STC DISLN	
1702	1554	0050		SET 10	
1703	1555	0002		2	
1704	1556	1020	DOWN,	LDA I	
1705	1557	3536		-D6+2-4000	
1706	1560	2002		ADD 2	
1707	1561	5004		STC D5	
1710	1562	0004		ESF	/ENABLE SPECIAL FCNS
1711	1563	1310	KGO,	LDH 10	
1712	1564	1420		SHD I	
1713	1565	4300		CR1	
1714	1566	7607	KBU1LN,	JMP BU1LN	/BU LN TO BE /DISPLAYED BY 1 /UNLESS AT FIRST /LN OF DISPLAY
1715					
1716					
1717					
1720	1567	6777		JMP BU1C	
1721	1570	7563		JMP KGO	
1722	1571	6777	DOBU,	JMP BU1C	
1723	1572	1310		LDH 10	
1724	1573	1460		SAE I	
1725	1574	0043		CR	
1726	1575	7571		JMP DOBU	
1727	1576	1020	BYALN,	LDA I	
1730	1577	7776		-1	
1731	1600	3612		ADD DISLN	
1732	1601	4022	GOSCP,	STC TEMP1	
1733	1602	2010		ADD 10	
1734	1603	4025		STC TOPPTR	
1735	1604	2022		ADD TEMP1	
1736	1605	0603		LIF 3	
1737	1606	6433		JMP SCOPE	
1740					/CR LOWER LN
1741	1607	1020	BU1LN,	LDA I	
1742	1610	7776		-1	
1743	1611	1160		ADM I	/BACK UP
1744	1612	0000	DISLN,	0	/LN FOR DISPLAY
1745	1613	0470		AZE I	/LN 1 ?
1746	1614	7601		JMP GOSCP	/YES
1747	1615	0234		XSK I 14	/TOP LOGICAL LN ?
1750	1616	6000		JMP 0	
1751	1617	7601		JMP GOSCP	/YES
1752					/BWD PAGE
1753	1620	1000	Q4,	LDA	
1754	1621	1547		LNSPER	
1755	1622	2156		ADD MINUS1	
1756	1623	0450		AZE	
1757	1624	7627		JMP B4+2	
1760					/BWD LN
1761	1625	0011	B4,	CLR	

1762	1626	2167	ADD P1	
1763	1627	4213	STC KT4	
1764	1630	6202	JMP TPCHK	
1765	1631	7633	JMP ,+2	
1766	1632	7641	JMP BWDSLD	
1767	1633	6446	JMP A3	
1770	1634	6512	JMP L3	
1771				/BWD SLIDE
1772	1635	1000	KBWD, LDA	
1773	1636	0213	KT4	
1774	1637	0470	AZE I	
1775	1640	7042	JMP C1	
1776	1641	1020	BWDSLD, LDA I	
1777	1642	0001	1	
2000	1643	1440	SAE	
2001	1644	0447	CURLN	
2002	1645	7647	JMP ,+2	
2003	1646	7042	JMP C1	
2004	1647	6551	JMP CHKWBE	
2005				/CHK CB FULL
2006	1650	1020	WBTOCB, LDA I	
2007	1651	7377	HBIT+CB-1	
2010	1652	1440	SAE	
2011	1653	0004	4	
2012	1654	7661	JMP E4	
2013	1655	6725	JMP CBWRC	
2014	1656	4004	STC 4	/7777 TO BETA 4
2015	1657	3666	ADD NEG1	
2016	1660	6711	JMP CBBWD	
2017	1661	1302	E4, LDH 2	
2020	1662	1344	STH 4	
2021	1663	6605	JMP BUCBWB	
2022	1664	7647	JMP WBTOCB-1	
2023	1665	1020	LDA I	
2024	1666	7776	NEG1, -1	
2025	1667	6504	JMP EOLFIX+2	
2026	1670	1140	ADM	
2027	1671	0213	KT4	
2030	1672	0450	AZE	
2031	1673	7641	JMP BWDSLD	
2032	1674	7042	JMP C1	
2033				/LOCATE TP NOT OK
2034	1675	0452	S4, LZE	/CARRY ON LAM ?
2035	1676	6256	JMP F4+1	/YES
2036	1677	0017	COM	
2037	1700	4213	STC KT4	
2040	1701	2523	ADD TPSTAT	
2041	1702	1460	SAE I	
2042	1703	4203	STC TPFLG	
2043	1704	7635	JMP KBWD	
2044	1705	6446	JMP A3	/MAXLN=CURLN ?
2045	1706	7710	JMP ,+2	/YES
2046	1707	7635	JMP KBWD	
2047	1710	6512	JMP L3	
2050				/FIND REQUEST
2051				/IN CNTRL BLK
2052	1711	0011	L4, CLR	
2053	1712	4705	STC BBTBK	/SET WRONG BB , CB
2054	1713	0065	SET I 5	
2055	1714	2241	D6=2+2000	
2056	1715	2167	ADD P1	
2057	1716	4213	STC KT4	
2060	1717	1005	LDA 5	

2061	1720	4447	STC CURLN	
2062	1721	1025	LDA I 5	
2063	1722	0017	COM	
2064	1723	5727	STC	,+4
2065	1724	0011	CLR	
2066	1725	2234	ADD M4	
2067	1726	1220	LAM I	
2070	1727	0000	0	
2071	1730	0452	LZE	
2072	1731	7715	JMP L4+4	
2073	1732	1020	LDA I	G4,
2074	1733	3124	5000*WA-D6-1-2000	
2075	1734	2005	ADD 5	
2076	1735	4461	STC F3	
2077	1736	6456	JMP F3-3	
2100	1737	0062	SET I 2	
2101	1740	6777	HBIT*WB-1	
2102	1741	0064	SET I 4	
2103	1742	7377	HBIT*CB-1	
2104	1743	6260	JMP F4+3	
2105				/TP FIX
2106	1744	0041	SET 1	T2,
2107	1745	0000	0	
2110	1746	6611	JMP BUWB	
2111	1747	6152	JMP K1	/FROM WMBLK
2112	1750	6202	JMP TPCHK	
2113	1751	7753	JMP .+2	/NOT OK
2114	1752	6741	JMP X2+4	/OK
2115	1753	1020	LDA I	
2116	1754	7776	7776	
2117	1755	4213	STC KT4	
2120	1756	6267	JMP H4	
2121	1757	6512	JMP L3	
2122	1760	6744	JMP X2+7	
2123	1761	0041	CHKNOK, SET 1	
2124	1762	0000	0	
2125	1763	0047	SET 7	
2126	1764	0003	3	
2127	1765	1327	LDH I 7	
2130	1766	1460	SAE I	
2131	1767	0037	LF	
2132	1770	6176	JMP NOTOK	
2133	1771	7256	JMP CHKPOS	
2134	1772	6001	JMP 1	
2135	1773	6176	JMP NOTOK	
2136	1774	6001	JMP 1	
2137			/	
2140			/	
2141	1775	6771	RESTR, JMP	INITLF
2142	1776	7044	JMP	C1+2
2143			/	
2144			/	
2145			/	
2146			/	
2147			EJECT	



2153			/	SEGMENT 1	
2151				*1	/GRID TABLE
2152					/FOR OSC
2153					/MARKER
2154	0001	0101	A6,	0101	
2155	0002	0101		0101	
2156	0003	4477		4477	/1,A
2157	0004	7744		7744	
2160	0005	5177		5177	/2,B
2161	0006	2651		2651	
2162	0007	4136		4136	/3,C
2163	0010	2241		2241	
2164	0011	4177		4177	/4,D
2165	0012	3641		3641	
2166	0013	4577		4577	/5,E
2167	0014	4145		4145	
2170	0015	4477		4477	/6,F
2171	0016	4044		4044	
2172	0017	4136		4136	/7,G
2173	0020	2645		2645	
2174	0021	1077		1077	/10,H
2175	0022	7710		7710	
2176	0023	7741		7741	/11,I
2177	0024	0041		0041	
2200	0025	4142		4142	/12,J
2201	0026	4076		4076	
2202	0027	1077		1077	/13,K
2203	0030	4324		4324	
2204	0031	0177		0177	/14,L
2205	0032	0301		0301	
2206	0033	3077		3077	/15,M
2207	0034	7730		7730	
2210	0035	3077		3077	/16,N
2211	0036	7706		7706	
2212	0037	4177		4177	/17,O
2213	0040	7741		7741	
2214	0041	4477		4477	/20,P
2215	0042	3044		3044	
2216	0043	4276		4276	/21,Q
2217	0044	0376		0376	
2220	0045	4477		4477	/22,R
2221	0046	3146		3146	
2222	0047	5121		5121	/23,S
2223	0050	4651		4651	
2224	0051	4040		4040	/24,T
2225	0052	4077		4077	
2226	0053	0177		0177	/25,U
2227	0054	7701		7701	
2230	0055	0176		0176	/26,V
2231	0056	7402		7402	
2232	0057	0677		0677	/27,W
2233	0060	7701		7701	
2234	0061	1463		1463	/30,X
2235	0062	6314		6314	
2236	0063	0770		0770	/31,Y
2237	0064	7007		7007	
2240	0065	4543		4543	/32,Z
2241	0066	6151		6151	
2242	0067	4177		4177	/33,/
2243	0070	0000		0000	
2244	0071	1020		1020	/34,\
2245	0072	0204		0204	
2246	0073	0000		0000	/35,J

2247	0074	7741	7741	
2250	0075	4710	4710	/36 UP ARROW
2251	0076	1047	1047	
2252	0077	2504	2504	/LF
2253	0100	0416	0416	
2254	0101	0000	0000	/40, SPACE
2255	0102	0000	0000	
2256	0103	7500	7500	/41,!
2257	0104	0000	0000	
2260	0105	6000	6000	/42,"
2261	0106	0060	0060	
2262	0107	4020	4020	/43,CR
2263	0110	2055	2055	
2264	0111	5721	5721	/DOLLAR SIGN
2265	0112	4671	4671	
2266	0113	1446	1446	/ PER CENT
2267	0114	6130	6130	
2270	0115	5166	5166	/46,&
2271	0116	0526	0526	
2272	0117	4020	4020	/47,
2273	0120	2055	2055	
2274	0121	3600	3600	/50,(
2275	0122	0041	0041	
2276	0123	4100	4100	/51,)
2277	0124	0036	0036	
2300	0125	2050	2050	/52,-
2301	0126	0050	0050	
2302	0127	0404	0404	/53,+
2303	0130	0437	0437	
2304	0131	0500	0500	/54,,
2305	0132	0006	0006	
2306	0133	0404	0404	/55,-
2307	0134	0404	0404	
2310	0135	0001	0001	/56,.
2311	0136	0000	0000	
2312	0137	0601	0601	/57,\
2313	0140	4030	4030	
2314	0141	4536	4536	/60,0
2315	0142	3651	3651	
2316	0143	2101	2101	/61,1
2317	0144	0177	0177	
2320	0145	4523	4523	/62,2
2321	0146	2151	2151	
2322	0147	4122	4122	/63,3
2323	0150	2651	2651	
2324	0151	2414	2414	/64,4
2325	0152	0477	0477	
2326	0153	5172	5172	/65,5
2327	0154	0651	0651	
2330	0155	1506	1506	/66,6
2331	0156	4225	4225	
2332	0157	4443	4443	/67,7
2333	0160	6050	6050	
2334	0161	5126	5126	/70,10
2335	0162	2651	2651	
2336	0163	5122	5122	/71,11
2337	0164	3651	3651	
2340	0165	2200	2200	/72,:
2341	0166	0000	0000	
2342	0167	2601	2601	/73,;
2343	0170	0000	0000	
2344	0171	2410	2410	/74,<
2345	0172	0042	0042	

-

2346	0173	1212	1212	/75, =
2347	0174	1212	1212	
2350	0175	4200	4200	/76, >
2351	0176	1024	1024	
2352	0177	4020	4020	/77, ?
2353	0200	2055	2055	
2354				/MONITOR COMMANDS
2355	0201	0120	0120	/AP
2356	0202	6364	JMP DOAP	
2357	0203	0530	0530	/EX
2360	0204	7561	JMP DOEX	
2361	0205	2320	2320	/SP
2362	0206	7315	JMP DOSP	
2363	0207	0123	0123	/AS
2364	0210	6150	JMP DOAS	
2365	0211	2302	2302	/SB
2366	0212	7206	JMP DOSB	
2367	0213	1411	1411	/LI
2370	0214	6146	JMP DOLI	
2371	0215	0430	0430	/DX
2372	0216	7565	JMP DODX	
2373	0217	2011	2011	/PI
2374	0220	6106	JMP DOPI	
2375	0221	2030	2030	/PX
2376	0222	7353	JMP DOPX	
2377	0223	2023	2023	/PS
2400	0224	7337	JMP DOPS	
2401	0225	0314	0314	/CL
2402	0226	6101	JMP DOCL	
2403	0227	3205	3205	/ZERO
2404	0230	7706	JMP ZERO	
2405	0231	0102	0102	/AB
2406	0232	7364	JMP DOAB	
2407	0233	2114	2114	/QL
2410	0234	6133	JMP DOQL	
2411	0235	1503	1503	/USER MC
2412	0236	6357	JMP DOMC	
2413	0237	1417	1417	/LO
2414	0240	6420	JMP DOLO	
2415				/MUST HAVE TWO
2416				/ZER0ES HERE
2417	0241	0000	0	
2420	0242	0000	0	
2421	0243	0000	0	/CNTRL TABLE
2422				/NOTE: E6-D6 MUST BE >=LENGTH OF WORKING AREA,
2423				/
2424				/MONITOR
2425				/PARAMETER TABLE
2426			*371	
2427	0371	0000	0	/LN NUM
2430	0372	0000	0	/LN NUM
2431	0373	0000	0	/N
2432	0374	0000	0	/A
2433	0375	0000	0	/M
2434	0376	0000	0	/E
2435	0377	0000	0	/UNIT
2436			EJECT	

```

2437                                SEGMENT 0
2440                                /
2441                                /
2442                                /
2443                                /
2444                                *21
2445      0021  0000  READ,  0
2446      0022  0000  WRITE, 0
2447                                /
2450                                /
2451                                //
2452                                *400
2453      0400  1000  MODKBD, LDA          /DUBL BUFFERED
2454      0401  0000                                /KEYBRD INPUT SR
2455      0402  0002  PDP
2456                                PMODE
2457      0403  3230  DCA RTNMOD
2458      0404  6031  KSF
2459      0405  5222  JMP TRYBUF
2460      0406  1302  TAD CHRCR
2461      0407  1303  TAD M24
2462      0410  7650  SNA CLA
2463      0411  5231  JMP CHKMTP
2464      0412  6141  LINC
2465                                LMODE
2466      0413  0603  LIF 3
2467      0414  7400  JMP KBDOPR
2468      0415  0002  PDP
2469                                PMODE
2470      0416  3706  DCA I PTRIN
2471      0417  2302  ISZ CHRCR
2472      0420  4237  JMS BUMPIT
2473      0421  0506  PTRIN
2474      0422  1302  TRYBUF, TAD CHRCR
2475      0423  7640  SZA CLA
2476      0424  5231  JMP CHKMTP
2477      0425  2230  ISZ RTNMOD
2478      0426  6141  LINC
2479      0427  0603  603
2480      0430  0000  RTNMOD, 0
2481                                /LIF 3
2482                                /RTN TO P+1 IF
2483                                /READY ; RTN TO
2484                                /P+2 IF MTP
2485                                /OR BUFR EMPTY
2486
2487      0431  6141  CHKMTP, LINC
2488                                LMODE
2489      0432  0456  SKP
2490      0433  0456  SKP
2491      0434  6427  JMP ,+5
2492      0435  0002  PDP
2493                                PMODE
2494      0436  5225  JMP ,+11
2495      0437  0000  BUMPIT, 0
2496      0440  1637  TAD I BUMPIT
2497      0441  3254  DCA TEMP5
2498      0442  1654  TAD I TEMP5
2499      0443  1312  TAD ENDBUF
2500      0444  7640  SZA CLA
2501      0445  5251  JMP ,+4
2502      0446  1311  TAD STBUF
2503      0447  3654  DCA I TEMP5
2504      0450  7410  SKP
2505      0451  2654  ISZ I TEMP5
2506      0452  2237  ISZ BUMPIT

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2536	0453	5637	JMP I BUMPIT	
2537	0454	0000	TEMP5, 0	
2540	0455	0000	GETCHR, 0	/GET A CHAR FROM
2541	0456	7200	CLA	/DUBL BUFFER
2542	0457	1707	TAD I PTROUT	
2543	0460	3310	DCA SVCHR	
2544	0461	4237	JMS BUMPIT	
2545	0462	0507	PTROUT	
2546	0463	7240	STA	
2547	0464	1302	TAD CHRCTR	
2550	0465	3302	DCA CHRCTR	
2551	0466	1310	TAD SVCHR	
2552	0467	1304	TAD JBM47	/TEST FOR "TAB"
2553	0470	7650	SNA CLA	
2554	0471	7346	CLA CMA CLL RTL	/YEP. BIG NUMBER
2555	0472	6141	LINC	/TEST THE SENSE SWITCH ALSO.
2556			LMODE	
2557	0473	0440	SNS 0	/DO AUTO FORMATING NOW?
2560	0474	0011	CLR	/YEP. KEEP DOING IT.
2561	0475	0002	PDP	/GET BACK INTO SUPER MODE
2562			PMODE	
2563	0476	7440	SZA	/SKIP IF STILL FORMATTING.
2564	0477	3705	DCA I FUDGE	/TELL IT NOT TO DO FORMATTING.
2565	0500	1310	TAD SVCHR	
2566	0501	5655	JMP I GETCHR	
2567	0502	0000	CHRCTR, 0	
2570	0503	7776	M24, -2	
2571	0504	7731	JBM47, -47	
2572	0505	1374	FUDGE, COMFLG	
2573	0506	0000	PTRIN, 0	
2574	0507	0000	PTROUT, 0	
2575	0510	0000	SVCHR, 0	
2576	0511	0513	STBUF, HERE	
2577	0512	7263	ENDBUF, -THERE	
2600	0513	0000	HERE, 0	
2601			THERE=HERE+2	
2602			LMODE	
2603			/	
2604			*THERE+2	
2605			/	
2606			/	
2607			/	
2610			/	
2611			/	
2612			/	
2613			/	
2614			/	
2615			/	
2616			/	
2617			/	
2620	0517	0100	INPT, DISKD	
2621	0520	0004	4	
2622	0521	0014	DIALST+14-300	
2623	0522	0001	1	
2624			/	
2625	0523	0100	JBAS1, DISKD	
2626	0524	0000	0	
2627	0525	0030	ASTBLK-300	
2630	0526	0011	11	
2631			/	
2632	0527	0100	JBAS2, DISKD	
2633	0530	0012	12	
2634	0531	0044	ASTBLK=300+14	

2635	0532	0001	/	1
2636				
2637	0533	0100	JBAP1,	DISKD
2640	0534	0013		13
2641	0535	0021		APTBLK-300
2642	0536	0001		1
2643			/	
2644	0537	0100	JBAP2,	DISKD
2645	0540	0013		13
2646	0541	0003		DIALST+3-300
2647	0542	0001		1
2650			/	
2651	0543	0100	JBFC2,	DISKD
2652	0544	0010		10
2653	0545	0050		FCTBLK-300
2654	0546	0004		4
2655			/	
2656	0547	0100	JBLO,	DISKD
2657	0550	0030		30
2660	0551	0054		LOTBLK-300
2661	0552	0002		2
2662			/	
2663				JBSB=JBFC2
2664			/	
2665				JBSP=JBFC2
2666			/	
2667	0553	0100	JBPXDX,	DISKD
2670	0554	0010		10
2671	0555	0061		PXTBLK-300
2672	0556	0004		4
2673			/	
2674	0557	0100	WRL1,	DISKD
2675	0560	0005		5
2676	0561	0015		DIALST+15-300
2677	0562	0001		1
2700			/	
2701	0563	0100	WRL2,	DISKD
2702	0564	0005		5
2703	0565	0020		PTBLK-300
2704	0566	0001		1
2705			/	
2706	0567	0100	DINBUF,	DISKD
2707	0570	0005		5
2710	0571	0015		DIALST-300+15
2711	0572	0003		3
2712				*770
2713			/	
2714			/	
2715	0770	0002	INPTRS,	PDP
2716				PMODE
2717	0771	6212		CIF 10
2720	0772	4421	JMS I	READ
2721	0773	0517	INPT	
2722	0774	6212		CIF 10
2723	0775	4421	JMS I	READ
2724	0776	0563	WRL2	
2725	0777	6141	LINC	
2726			LMODE	
2727	1000	0641	LDF	1
2730	1001	0002	PDP	
2731			PMODE	
2732	1002	7240	STA	
2733	1003	4307	JMS SHIFT	

2734	1004	2450	PTINIT	
2735	1005	6141	RTNRTN, LINC	
2736			LMODE	
2737	1006	0602	LIF 2	
2740	1007	0000	JMP 0	
2741	1010	0002	OUTPTR, PDP	/EXIT SAVE
2742			PMODE	/EDITOR PTRS
2743	1011	7200	CLA	
2744	1012	4307	JMS SHIFT	
2745	1013	2520	PTEXT	
2746	1014	4265	JMS CTLTAB	
2747	1015	2241	D6PTR	
2750	1016	2625	D6VAL	
2751	1017	6141	LINC	
2752			LMODE	
2753	1020	0002	PDP	
2754			PMODE	
2755	1021	6212	CIF 10	
2756	1022	4422	JMS I WRITE	
2757	1023	0563	WRL2	
2760	1024	6212	CIF 10	
2761	1025	4421	JMS I READ	
2762	1026	0557	WRL1	
2763	1027	6141	LINC	
2764			LMODE	
2765	1030	0641	LDF 1	
2766	1031	0602	LIF 2	
2767	1032	0000	JMP 0	
2770	1033	0002	OLDPTR, PDP	
2771			PMODE	
2772	1034	6212	CIF 10	
2773	1035	4421	JMS I READ	
2774	1036	0517	INPT	
2775	1037	6212	CIF 10	
2776	1040	4421	JMS I READ	
2777	1041	0563	WRL2	
3000	1042	6141	LINC	
3001			LMODE	
3002	1043	0641	LDF 1	
3003	1044	0002	PDP	
3004			PMODE	
3005	1045	7240	STA	
3006	1046	4307	JMS SHIFT	
3007	1047	2520	PTEXT	
3010	1050	4265	JMS CTLTAB	
3011	1051	2625	D6VAL	
3012	1052	2241	D6PTR	
3013				/TEST FOR 12B OR 12A
3014	1053	4654	JMS I .+1	/GO TO THE 12A-12B CHECKER
3015	1054	1705	TESTM	
3016			/	
3017			/	
3020			/CHNG KNOB SR FOR 12B	
3021	1055	1371	TAD KTAD	
3022	1056	3316	DCA MOVEIT-3	
3023	1057	7240	STA	
3024	1060	4307	JMS SHIFT	
3025	1061	2610	B12VAL	
3026	1062	1372	TAD K2TAD	
3027	1063	3316	DCA MOVEIT-3	
3030	1064	5205	JMP RTNRTN	
3031	1065	0000	CTLTAB, 0	/FOR CONTROL
3032	1066	1665	TAD I CTLTAB	

3033	1067	3101	DCA FROM	
3034	1070	2265	ISZ CTLTAB	
3035	1071	1665	TAD I CTLTAB	
3036	1072	3103	DCA TO	
3037	1073	2265	ISZ CTLTAB	
3040	1074	1305	TAD D6CTR	
3041	1075	3100	DCA SAVAC	
3042	1076	1501	D6LOOP, TAD I FROM	
3043	1077	3503	DCA I TO	
3044	1100	2101	ISZ FROM	
3045	1101	2103	ISZ TO	
3046	1102	2100	ISZ SAVAC	
3047	1103	5276	JMP D6LOOP	
3050	1104	5665	JMP I CTLTAB	
3051	1105	7650	D6CTR, D6=2=E6	
3052	1106	5205	JMP RTNRTN	
3053	1107	0000	SHIFT, 0	/CORE TRANSFER
3054	1110	3352	DCA SKPLIT	/SR USED FOR
3055	1111	1707	TAD I SHIFT	/SETTING PTRS
3056	1112	4341	JMS SKPCHK	
3057	1113	3101	DCA FROM	
3060	1114	7410	SKP	
3061	1115	3103	DCA TO	
3062	1116	1366	TAD KPTADR	
3063	1117	3102	DCA TORF	
3064	1120	2307	ISZ SHIFT	
3065	1121	1502	MOVEIT, TAD I TORF	
3066	1122	4341	JMS SKPCHK	
3067	1123	3103	DCA TO	
3070	1124	7410	SKP	
3071	1125	3101	DCA FROM	
3072	1126	1501	TAD I FROM	
3073	1127	3503	DCA I TO	
3074	1130	4341	JMS SKPCHK	
3075	1131	2101	ISZ FROM	
3076	1132	7410	SKP	
3077	1133	2103	ISZ TO	
3100	1134	2102	ISZ TORF	
3101	1135	1502	TAD I TORF	
3102	1136	7640	SZA CLA	
3103	1137	5321	JMP MOVEIT	
3104	1140	5707	JMP I SHIFT	
3105	1141	0000	SKPCHK, 0	
3106	1142	3100	DCA SAVAC	
3107	1143	1352	TAD SKPLIT	
3110	1144	7640	SZA CLA	
3111	1145	5350	JMP ,+3	
3112	1146	2341	ISZ SKPCHK	
3113	1147	2341	ISZ SKPCHK	
3114	1150	1100	TAD SAVAC	
3115	1151	5741	JMP I SKPCHK	
3116			SAVAC=100	
3117			FROM=101	
3120			TORF=102	
3121			TO=103	
3122	1152	0000	SKPLIT, 0	
3123	1153	1370	VIRGST, TAD P4002	
3124	1154	3766	DCA I KPTADR	
3125	1155	1367	TAD ATAD	
3126	1156	3321	DCA MOVEIT	
3127	1157	6212	CIF 10	
3130	1160	4422	JMS I WRITE	
3131	1161	0563	WRL2	



3132	1162	6141	LINC	
3133			LMODE	
3134	1163	0641	LDF 1	
3135	1164	0602	LIF 2	
3136	1165	6041	JMP CLWA	
3137			PMODE	
3140	1166	2400	KPTADR, PTADDR	
3141	1167	1502	ATAD, TAD I TORF	
3142	1170	4002	P4002, 4002	
3143	1171	1373	KTAD, TAD KPT12	
3144	1172	1366	K2TAD, TAD KPTADR	
3145	1173	2570	KPT12, PT12B	
3146			LMODE	
3147	1174	7233	A88, JMP ENDCHK	/INTERPRET
3150	1175	0456	SKP	/DIAL CODES
3151	1176	7322	JMP SUBCHR+2	
3152	1177	0642	LDF 2	
3153	1200	0043	SET 3	
3154	1201	2003	2003	
3155	1202	0641	LDF 1	
3156	1203	1440	SAE	
3157	1204	0003	3	
3160	1205	7322	JMP SUBCHR+2	
3161	1206	0011	CLR	/FIRST CHAR
3162	1207	5374	STC COMFLG	/CUR LN
3163	1210	7556	JMP GETTTY	
3164	1211	0470	AZE I	
3165	1212	7245	JMP XIT2C1	
3166	1213	0077	SET I 17	
3167	1214	5562	SPCHAR-HBIT	
3170	1215	1437	SHD I 17	
3171	1216	7247	JMP XITREG	
3172	1217	1437	SHD I 17	
3173	1220	7254	JMP LFORRO	
3174	1221	1437	SHD I 17	
3175	1222	7251	JMP AMORUP	
3176	1223	1437	SHD I 17	
3177	1224	7245	JMP XIT2C1	
3200	1225	1437	SHD I 17	
3201	1226	7371	JMP COMSET	
3202	1227	1437	SHD I 17	
3203	1230	7245	JMP XIT2C1	
3204	1231	0602	LIF 2	
3205	1232	7060	JMP REGCHR-4	
3206	1233	0642	ENDCHK, LDF 2	
3207	1234	1000	LDA	
3210	1235	2026	2000+CURPT2	
3211	1236	1120	ADA I	
3212	1237	3777	-HBIT	
3213	1240	1440	SAE	
3214	1241	2002	2000+2	
3215	1242	0220	XSK I 0	
3216	1243	0641	LDF 1	
3217	1244	6000	JMP 0	
3220	1245	0602	XIT2C1, LIF 2	
3221	1246	7044	JMP C1+2	
3222	1247	0602	XITREG, LIF 2	
3223	1250	7064	JMP REGCHR	
3224	1251	0471	AMORUP, APO I	
3225	1252	7247	JMP XITREG	
3226	1253	7260	JMP ALTREG	
3227	1254	0471	LFORRO, APO I	
3230	1255	7247	JMP XITREG	

3231	1256	0602	LIF 2	
3232	1257	7112	JMP RUB	
3233	1260	0602	ALTREQ, LIF 2	/ALT MODE REQ
3234	1261	7047	JMP ALTSET	
3235	1262	7556	JMP GETTTY	
3236	1263	0470	AZE I	
3237	1264	7260	JMP ALTREQ	
3240	1265	0077	SET I 17	
3241	1266	5565	SPCHAR+2+HBIT	
3242	1267	1437	SHD I 17	
3243	1270	7245	JMP XIT2C1	
3244	1271	1437	SHD I 17	
3245	1272	7342	JMP BWDLN	
3246	1273	1437	SHD I 17	
3247	1274	7344	JMP FWDFR	
3250	1275	1437	SHD I 17	
3251	1276	7346	JMP BWDFR	
3252	1277	1437	SHD I 17	
3253	1300	7350	JMP FWDLN	
3254	1301	1437	EDALT, SHD I 17	/ALT MODE EDIT
3255	1302	7352	JMP RUBR	
3256	1303	1437	SHD I 17	
3257	1304	7354	JMP RUBL	
3260	1305	1437	SHD I 17	
3261	1306	7356	JMP RUBC	
3262	1307	7245	JMP XIT2C1	
3263	1310	0602	CHKED, LIF 2	
3264	1311	7052	JMP EDSET	
3265	1312	7556	JMP GETTTY	
3266	1313	0470	AZE I	
3267	1314	7310	JMP CHKED	
3270	1315	0077	SET I 17	
3271	1316	1570	SPCHAR+5	
3272	1317	7301	JMP EDALT	
3273	1320	0602	SUBCHR, LIF 2	/LATER CHARS
3274	1321	7055	JMP SUBSET	
3275	1322	7556	JMP GETTTY	
3276	1323	0470	AZE I	
3277	1324	7245	JMP XIT2C1	
3300	1325	0077	SET I 17	
3301	1326	1563	SPCHAR	
3302	1327	1437	SHD I 17	
3303	1330	7362	JMP LFCHK	
3304	1331	1437	SHD I 17	
3305	1332	7366	JMP CHKAM	
3306	1333	1437	SHD I 17	
3307	1334	7360	JMP XITCR	
3310	1335	1437	SHD I 17	
3311	1336	7414	JMP COMFMT	
3312	1337	1437	SHD I 17	
3313	1340	7464	JMP CMAFMT	
3314	1341	7247	JMP XITREG	
3315	1342	0602	BWDLN, LIF 2	
3316	1343	7625	JMP B4	
3317	1344	0602	FWDFR, LIF 2	
3320	1345	6250	JMP P4	
3321	1346	0602	BWDFR, LIF 2	
3322	1347	7620	JMP Q4	
3323	1350	0602	FWDLN, LIF 2	
3324	1351	6255	JMP F4	
3325	1352	0602	RUBR, LIF 2	
3326	1353	7272	JMP RORIT	
3327	1354	0602	RUBL, LIF 2	

3330	1355	7322	JMP	ROLEF	
3331	1356	0602	RUBC,	LIF 2	
3332	1357	6117	JMP	D1	
3333	1360	0602	XITCR,	LIF 2	
3334	1361	7141	JMP	ACR	
3335	1362	0471	LFCHK,	AP0 1	
3336	1363	7245	JMP	XIT2C1	
3337	1364	0602		LIF 2	
3340	1365	7112	JMP	RUB	
3341	1366	0471	CHKAM,	AP0 1	
3342	1367	7247	JMP	XITREG	
3343	1370	7310	JMP	CHKED	
3344	1371	1040	COMSET,	STA	
3345	1372	1374		COMFLG	
3346	1373	7247	JMP	XITREG	
3347	1374	0000	COMFLG,	0	
3350	1375	0642	POSCHK,	LDF 2	
3351	1376	1000		LDA	
3352	1377	2026		2000+CURPT2	
3353	1400	0241		ROL 1	
3354	1401	0017		COM	
3355	1402	5413		STC TEMP4	
3356	1403	1000		LDA	
3357	1404	2003		2003	
3360	1405	0241		ROL 1	
3361	1406	3413		ADD TEMP4	
3362	1407	0471		AP0 1	
3363	1410	0220		XSK 1 0	
3364	1411	0641		LDF 1	
3365	1412	0000		JMP 0	
3366	1413	0000	TEMP4,	0	
3367	1414	7375	COMFMT,	JMP POSCHK	/FORMAT COMMENT
3370	1415	7420		JMP ,+3	
3371	1416	1317		LDH 17	
3372	1417	7247		JMP XITREG	
3373	1420	1000		LDA	
3374	1421	1374		COMFLG	
3375	1422	0450		AZE	
3376	1423	7462		JMP XITCOM	
3377	1424	0642		LDF 2	
3400	1425	0052		SET 12	
3401	1426	2003		2003	
3402	1427	0042		SET 2	
3403	1430	2002		2002	
3404	1431	0641		LDF 1	
3405	1432	0061		SET I 1	
3406	1433	7767		-10	
3407	1434	0070		SET I 10	
3410	1435	7774		-3	
3411	1436	1332	SRTAB,	LDH I 12	
3412	1437	1420		SHD I	
3413	1440	4700		TB1	
3414	1441	7456		JMP TABCNT	
3415	1442	0221		XSK I 1	
3416	1443	0456		SKP	
3417	1444	7456		JMP TABCNT	
3420	1445	1000	TABEND,	LDA	
3421	1446	0012		12	
3422	1447	1440		SAE	
3423	1450	0002		2	
3424	1451	7436		JMP SRTAB	
3425	1452	1000		LDA	
3426	1453	0010		10	

3427	1454	0602	LIF 2	
3430	1455	7124	JMP COMRTN	
3431	1456	0061	TABCNT, SET I 1	
3432	1457	7767	-10	
3433	1460	0230	XSK I 10	
3434	1461	7445	JMP TABEND	
3435	1462	1317	XITCOM, LDH 17	
3436	1463	7371	JMP COMSET	
3437	1464	0642	CMAFMT, LDF 2	/FORMAT COMA
3440	1465	0043	SET 3	
3441	1466	2003	2003	
3442	1467	0042	SET 2	
3443	1470	2002	2002	
3444	1471	0046	SET 6	
3445	1472	2006	2006	
3446	1473	0641	LDF 1	
3447	1474	0054	SET 14	
3450	1475	0003	3	
3451	1476	1334	LDH I 14	
3452	1477	1420	SHD I	
3453	1500	3700	LF1	
3454	1501	7554	JMP XITCMA	
3455	1502	1460	SAE I	
3456	1503	0047	TB	
3457	1504	7554	JMP XITCMA	
3460	1505	1000	LDA	
3461	1506	1374	COMFLG	
3462	1507	0450	AZE	
3463	1510	7554	JMP XITCMA	
3464	1511	7233	JMP ENDCHK	/FIXED JUNE 10,1970
3465	1512	0456	SKP	
3466	1513	7554	JMP XITCMA	
3467	1514	1020	LDA I	
3470	1515	0161	MAXNUM-7	
3471	1516	2006	ADD 6	
3472	1517	1120	ADA I	
3473	1520	0010	10	
3474	1521	0017	COM	
3475	1522	4001	STC 1	
3476	1523	0070	SET I 10	
3477	1524	7770	-7	
3500	1525	0052	SET 12	
3501	1526	0003	3	
3502	1527	1000	CMACHK, LDA	
3503	1530	0012	12	
3504	1531	1440	SAE	
3505	1532	0002	2	
3506	1533	0456	SKP	
3507	1534	7542	JMP SHUFLE-2	
3510	1535	1332	LDH I 12	
3511	1536	1417	SHD 17	
3512	1537	7245	JMP XIT2C1	
3513	1540	0230	XSK I 10	
3514	1541	7527	JMP CMACHK	
3515	1542	0052	SET 12	
3516	1543	0003	3	
3517	1544	1334	SHUFLE, LDH I 14	
3520	1545	1372	STH I 12	
3521	1546	0221	XSK I 1	
3522	1547	7544	JMP SHUFLE	
3523	1550	1317	LDH 17	
3524	1551	1342	STH 2	
3525	1552	0602	LIF 2	

3526	1553	7137	JMP	CMARTN	
3527	1554	1317	XITCMA,	LDH	17
3530	1555	7247	JMP	XITREG	
3531	1556	0002	GETTTY,	PDP	
3532				Pmode	
3533	1557	4762	JMS	I KGET	
3534	1560	6141	LINC		
3535	1561	6300			/JMP 0
3536	1562	0455	KGET,	GETCHR	
3537				Lmode	
3540	1563	4737	SPCHAR,	TB1+LF	/SPECIAL CHAR
3541	1564	3643		AM1+CR	/TABLE
3542	1565	5754		KOM1+COMA	
3543	1566	3727		RO1+BL	
3544	1567	6121		FF+BF	
3545	1570	6222		FL+RR	
3546	1571	1404		RL+RC	
3547	1572	1000	CHKCNT,	LDA	
3550	1573	0000		0	
3551	1574	5660		STC CNTOUT	
3552	1575	0642		LDF 2	/CHK ILLEGAL
3553	1576	0056		SET 16	/LENGTH
3554	1577	2026		CURPT2+2000	
3555	1600	7233		JMP ENDCHK	
3556	1601	4016		STC 16	
3557	1602	0642		LDF 2	
3560	1603	0057		SET 17	
3561	1604	2025		TOPPTR+2000	
3562	1605	0055		SET 15	
3563	1606	0016		16	
3564	1607	0053		SET 13	
3565	1610	2002		2002	
3566	1611	0074		SET I 14	
3567	1612	0000		0	
3570	1613	0641		LDF 1	
3571	1614	7630		JMP	OFFIXR
3572	1615	0234	GOCNT,	XSK I 14	
3573	1616	1000		LDA	
3574	1617	0015		15	
3575	1620	1440		SAE	
3576	1621	0017		17	
3577	1622	0456		SKP	
3600	1623	7634		JMP DUNHI	
3601	1624	1020		LDA I	
3602	1625	3777		-HBIT	
3603	1626	2015		ADD 15	
3604	1627	4015		STC 15	
3605	1630	1315	OFFIXR,	LDH	15
3606	1631	1460		SAE I	
3607	1632	0043		CR	
3610	1633	7615		JMP GOCNT	
3611	1634	1000	DUNHI,	LDA	
3612	1635	0016		16	
3613	1636	1440		SAE	
3614	1637	0013		13	
3615	1640	0456		SKP	
3616	1641	7647		JMP DUNLO	
3617	1642	0234		XSK I 14	
3620	1643	1336		LDH I 16	
3621	1644	1460		SAE I	
3622	1645	0043		CR	
3623	1646	7634		JMP DUNHI	
3624	1647	1020	DUNLO,	LDA I	

3625	1650	7607	-MAXNUM		
3626	1651	2014	ADD 14		
3627	1652	0470	AZE I		
3630	1653	7656	JMP ERROR		
3631	1654	0451	AP0		
3632	1655	7657	JMP GOOD		
3633	1656	7245	ERROR, JMP XIT2C1		
3634	1657	0602	GOOD, LIF 2		
3635	1660	0000	CNTOUT, 0		
3636	1661	0011	KDOMC, CLR		
3637	1662	1000	LDA		
3640	1663	2377	E6+2006		
3641	1664	0002	PDP		
3642			PMODE		
3643	1665	6212	CIF 10		
3644	1666	3272	DCA JBMET		
3645	1667	4421	JMS I READ		
3646	1670	1672	.+2		
3647	1671	5276	JMP .+5		
3650	1672	0000	JBMET, 0		
3651	1673	0010	10		
3652	1674	0270	270		
3653	1675	0001	1		
3654	1676	6141	LINC		
3655			LMODE		
3656	1677	0641	LDF 1		
3657	1700	1000	LDA		
3660	1701	2373	E6+2002		
3661	1702	0643	LDF 3		
3662	1703	0602	LIF 2		
3663	1704	6020	JMP 20		
3664			/		
3665			/		
3666			/		
3667			PMODE		
3670			/		
3671	1705	0000	TESTM, 0		
3672	1706	2305	ISZ TESTM	/BOP PAST PHOONEY POINTER	
3673	1707	6141	LINC		
3674			LMODE		
3675	1710	0053	SET 13	/SAVE 0, WE BASH IT	
3676	1711	0000	0		
3677	1712	0074	SET I 14	/SET 14 TO A SAM 0-1	
3700	1713	0100	SAM 0	/THE SAMPLE INSTRUCTION(0-17)	
3701	1714	0075	SET I 15	/SET 15 TO THE RETURN JUMP	
3702	1715	6000	JMP 0		
3703	1716	0076	SET I 16	/SET UP THE COUNTER NOW	
3704	1717	7757	-20	/A SAMPLE OF 16 CHANNELS.	
3705	1720	0100	SAM 0	/GET AN INITIAL VALUE	
3706	1721	1560	BCL I		
3707	1722	0017	-7760	/JUST LEAVE THE HIGH BITS	
3710	1723	5731	STC COMPEAR	/SAVE IN THE COMPARATOR	
3711	1724	6014	LOOP, JMP 14	/DO A SAMPLE NOW	
3712	1725	0234	XSK I 14	/BOP TO THE NEXT CHANNEL	
3713	1726	1560	BCL I		
3714	1727	0017	-7760	/CHOP OFF THE MISC, CRAP.	
3715	1730	1460	SAE I		
3716	1731	0000	COMPEAR, 0	/TEST AGAINST OUR FIRST SAMPLE	
3717	1732	7742	JMP WGA12A	/WE-GOT-A-12-A	
3720	1733	0236	XSK I 16	/BOP THE COUNT	
3721	1734	7724	JMP LOOP	/ITS THE SAME. CHECK THE NEXT CHANNEL	
3722	1735	0040	SET 0	/RESTORE 0 NOW	
3723	1736	0013	13		

3724	1737	0011	CLR		/ALL THE SAME. ITS A B. HES CHEAP
3725	1740	0002	PDP		
3726			PMODE		
3727	1741	5705	JMP I	TESTM	/RETURN TO THE CALLER
3730			/		
3731			/		
3732			/		
3733				LMODE	
3734			/		
3735			/		
3736	1742	0011	WGA12A,	CLR	/CLEAR THE AC NOW
3737	1743	0040	SET	0	/RESTORE 0
3740	1744	0013	13		
3741	1745	0002	PDP		
3742			PMODE		/GET INTO THE GOOD MODE
3743	1746	5747	JMP I	.*1	
3744	1747	1005	RTNRTN		/RETURN TO THE CALLER
3745			/		
3746			/		
3747			/		
3750			/		
3751				LMODE	
3752			/		
3753			/		
3754			/		
3755			/		
3756			/		
3757	1750	0000	AA SEG0,	0	
3760			EJECT		

3761		/SYSTEM
3762		/PARAMETERS
3763	DISK0=100	
3764	DISKS=110	
3765	SETUP1=322	
3766	SETUP2=323	
3767	DSYS=7341	/POINTS TO NEXT FREE SPOT ON SYSTEM DEVICE TABLE
3770	/	
3771	/	
3772	UNITNO=777	
3773	WA=370	
3774	ASTBLK=330	
3775	WAUNIT=0	/WA UNIT
3776	WAEND=467	
3777	FILE=WAEND+1	
4000	FREE=270	
4001	DIALST=300	/START OF DIAL
4002	DIALU=0	/DIAL UNIT
4003	INDEX=346	
4004	FCTBLK=350	
4005	APTBLK=321	
4006	LOTBLK=354	
4007	SBTBLK=356	
4010	OXTBLK=361	
4011	PXTBLK=OXTBLK	
4012	FCSA=20	
4013	SPFCNS=1400	
4014	EXTMTP=10	
4015	BB=2400	
4016	WB=3000	
4017	HBIT=4000	
4020	CB=3400	
4021	CURVAL=16	
4022	LF1=3700	
4023	LF=37	
4024	TB1=4700	
4025	TB=47	
4026	CR1=4300	
4027	CR=43	
4030	EOF1=0	
4031	EOF=0	
4032	AM1=3600	
4033	AM=36	
4034	RO1=3700	
4035	RO=37	
4036	SP1=4000	
4037	SP=40	
4040	COMA1=5400	
4041	XOA=21	
4042	COMA=54	
4043	KOM1=5700	
4044	KOM=57	
4045	LNHC=1013	
4046	MCVC=-357	
4047	MKHC=1763	
4050	MCHC=1051	
4051	BL=27	
4052	FF=6100	
4053	BF=21	
4054	FL=6200	
4055	RR=22	
4056	RL=1400	
4057	RC=04	



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4060          DELTA=50
4061          PTADDR=2400
4062          PTINIT=PTADDR+DELTA
4063          PTEXIT=PTINIT+DELTA
4064          PT12B=PTEXIT+DELTA
4065          B12VAL=PT12B+20
4066          D6VAL=B12VAL+15
4067          D6PTR=2000+D6-2
4070          MAXNUM=170
4071          PCODE=2000
4072          LCODE=1400
4073          QMARK1=7700
4074          PTBLK=320
4075      /THIS IS THE DIAL EDITOR V2
4076      /15 DEC 69
4077      EJECT
-

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4100			/APNPTRV2	
4101			/10 DEC 69	
4102			/EDITOR V2 POINTERS TBLK 320	
4103			/INITIAL VALUES EXIT VALUES	
4104			/AND ADDRESSES	
4105			LMODE	
4106			SEGMENT 5	
4107			*PTADDR	
4110			Pmode	
4111	2400	1121	MOVEIT	/BECOMES 4002
4112			LMODE	/AFT VIRGIN RUN
4113				/BETA 2 IS PTR
4114				/TO WB
4115	0401	4003	4003	/PTR TO 1ST CHAR
4116				/OF CUR LN
4117	0402	4004	4004	/PTR TO CB
4120	0403	4005	4005	/PTR TO CONTROL
4121				/TABLE (D6)
4122	0404	4006	4006	/CHAR CTR CURLN
4123	0405	4705	4000+BBTBLK	
4124	0406	4664	4000+WB TBLK	
4125	0407	4770	4000+CURBLK	
4126	0410	4533	4000+SPTBLK	
4127	0411	4200	4000+NOTOK+2	
4130	0412	4742	4000+X2+5	
4131	0413	4447	4000+CURLN	
4132	0414	4451	4000+MAXLN	
4133	0415	4203	4000+TPFLG	
4134	0416	4171	4000+PLACTR	
4135	0417	4454	4000+MAXBLK	
4136	0420	4723	4000+CB TBLK	
4137	0421	4733	4000+TBLKCB	
4140	0422	4020	4000+20	
4141	0423	4523	4000+TPSTAT	
4142	0424	0000	0	
4143			*PTINIT	
4144	0450	6777	HBIT+WB-1	
4145	0451	7001	HBIT+WB+1	
4146	0452	0000	0	
4147	0453	2243	D6+2000	
4150	0454	7607	-MAXNUM	
4151	0455	5367	5\WA-1	
4152	0456	5367	5\WA=1	
4153	0457	6367	6\WA-1	
4154	0460	5367	5\WA=1	
4155	0461	4203	STC TPFLG	
4156	0462	0000	0	
4157	0463	0001	1	
4160	0464	0001	1	
4161	0465	7777	7777	
4162	0466	0000	0	
4163	0467	0000	0	
4164	0470	0000	0	
4165	0471	0000	0	
4166	0472	7775	JMP RESTR	
4167	0473	4203	STC TPFLG	
4170	0474	0000	0	
4171			*PTEXIT	
4172			Pmode	
4173	2520	5353	VIRGST&177+5200	
4174			LMODE	
4175	0521	7001	HBIT+WB+1	
4176	0522	0000	0	

4177	0523	2243	06+2000	
4200	0524	7607	-MAXNUM	
4201	0525	5367	5\WA=1	
4202	0526	5367	5\WA=1	
4203	0527	6367	6\WA=1	
4204	0530	5367	5\WA=1	
4205	0531	4203	STC TPFLG	
4206	0532	0000	0	
4207	0533	0001	1	
4210	0534	0001	1	
4211	0535	7777	7777	
4212	0536	0000	0	
4213	0537	0000	0	
4214	0540	0000	0	
4215	0541	0000	0	
4216	0542	7775	JMP RESTR	
4217	0543	6203	JMP TPFLG	
4220	0544	0000	0	
4221			*PT12B	/ADDR OF KNOB SR
4222	0570	6020	6000+SAM3	/THE KNOB SUB RT
4223				/ARE CHANGED
4224				/FOR A 12B
4225	0571	6021	6000+SAM3+1	
4226	0572	6022	6000+SAM3+2	
4227	0573	6023	6000+SAM3+3	
4230	0574	6024	6000+SAM3+4	
4231	0575	6025	6000+SAM3+5	
4232	0576	6026	6000+SAM3+6	
4233	0577	6027	6000+SAM3+7	
4234	0600	6030	6000+SAM3+10	
4235	0601	6031	6000+SAM3+11	
4236	0602	6032	6000+SAM3+12	
4237	0603	6033	6000+SAM3+13	
4240	0604	6034	6000+SAM3+14	
4241	0605	0000	0	
4242			*B12VAL	/KNOB SR FOR 12A
4243	0610	0517	LSW	/ARE REPLACED BY
4244	0611	1560	BCL I	/THE FF
4245	0612	4000	4000	/SWITCH SR
4246	0613	0017	COM	/FOR A 12 B
4247	0614	4016	STC CURVAL	/LSW 1-11
4250	0615	6000	JMP 0	/CONTROLS CURSOR
4251	0616	0516	RSW	/RSW 8-11
4252	0617	1560	BCL I	/CONTROLS LNS
4253	0620	7760	7760	/PER FRAME
4254	0621	0450	AZE	
4255	0622	6000	JMP 0	
4256	0623	2072	ADD POS1	
4257	0624	6000	JMP 0	
4260				/ADD PROGRAM V2
4261				/BLK 321
4262			SEGMENT 6	
4263			*1400	
4264	1400	1020	LDA I	/DISABLE BB WRC
4265	1401	0001	1	/SUB RT BY
4266	1402	4351	STC PLAFLG	/SETTING THIS WD
4267	1403	6611	JMP BUWB	/DELETE AP COM
4270	1404	6152	JMP K1	/FROM WB
4271	1405	7636	JMP L8	/AP BY NAME
4272				/OR TBLK NUM ?
4273	1406	7434	JMP E8	/BLK NUM
4274	1407	1030	LDA I 10	/BY NAME
4275	1410	1620	BSE I	

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4276	1411	2000	MBLK2	
4277	1412	5601	STC TPWD	
4300	1413	1030	LDA I 10	/BINARY OR
4301				/PROG NAME
4302	1414	0451	AP0	/MATCH ?
4303	1415	7665	JMP SAYNO	/BINARY ONLY
4304	1416	1000	LDA	/AP BY LN NUMS
4305	1417	2371	2000+E6	
4306	1420	1440	SAE	
4307	1421	2372	2000+E6+1	
4310	1422	0456	SKP	
4311	1423	7447	JMP NOLN	
4312	1424	1000	LDA	
4313	1425	2371	2000+E6	
4314	1426	5765	STC LN1	
4315	1427	1000	LDA	
4316	1430	2372	2000+E6+1	
4317	1431	3753	ADD AONE	
4320	1432	5766	STC LN2	
4321	1433	7455	JMP CHKORG	
4322	1434	1000	E8, LDA	/AP BY BLK NUM
4323	1435	2371	E6+2000	/BLK NUM TO AC
4324	1436	1560	BCL I	
4325	1437	0777	-7000	/TOO BIG [BLK NO.>777] ?
4326	1440	0450	AZE	
4327	1441	7702	JMP K8	/YEP
4330	1442	1000	LDA	
4331	1443	2371	E6+2000	/RECALL IT AGAIN.
4332	1444	1620	BSE I	
4333	1445	2000	MBLK2	
4334	1446	5601	STC TPWD	
4335	1447	1020	NOLN, LDA I	
4336	1450	0001	1	
4337	1451	1040	STA	
4340	1452	1765	LN1	
4341	1453	0017	COM	
4342	1454	5766	STC LN2	
4343	1455	7570	CHKORG, JMP MAGTP=10	/GET 1ST TBLK
4344	1456	1030	LDA I 10	/DO NOT PUT
4345	1457	1460	SAE I	/*20 CR IN
4346	1460	5262	5262	/WITH AP
4347	1461	7722	JMP K88	/RESTORE 10
4350	1462	1030	LDA I 10	
4351	1463	1460	SAE I	
4352	1464	6043	6000+CR	
4353	1465	7722	JMP K88	
4354	1466	1020	LDA I	
4355	1467	0001	1	
4356	1470	1440	SAE	
4357	1471	1765	LN1	
4360	1472	7742	JMP BYPASS	
4361	1473	1330	F8, LDH I 10	/TRANSFER 1 CHAR
4362	1474	1420	SHD I	
4363	1475	0000	EOF1	/ARE WE DUN ?
4364	1476	7550	JMP J8	/YES
4365	1477	1362	STH I 2	/NO GIVE 1 CHAR
4366				/TO EDITOR
4367	1500	1460	SAE I	/WAS IT A CR ?
4370	1501	0043	CR	
4371	1502	7512	JMP H8	/NO CHK BUFFERS
4372	1503	6502	G8, JMP EOLFIX	/YES UPDATE
4373	1504	0017	COM	/BETA 3, CURLN
4374	1505	2451	ADD MAXLN	/AND MAXLN

4375	1506	4451	STC MAXLN	
4376	1507	3753	ADD AONE	
4377	1510	1140	ADM	
4400	1511	1765	LN1	
4401	1512	7554	H8, JMP ABF	/CHK AP INPUT
4402				/BUFFER
4403	1513	6110	JMP CHKBUF	/CHK EDITOR
4404				/INPUT BUFFERS
4405			/	
4406	1514	1020	LDA I	
4407	1515	0001	1	
4410	1516	4351	STC PLAF LG	/MAKE SURE THE ADD PROGRAM SWITCH IS OK,
4411			/	
4412	1517	1000	LDA	/HAVE WE JUST
4413	1520	0003	3	/PROCESSED A
4414	1521	1440	SAE	/CR ?
4415	1522	0002	2	
4416	1523	7543	JMP CHKEFB	/NO. CHECK END
4417	1524	1000	LDA	/YES CHK FOR
4420	1525	0451	MAXLN	/WA TOO FULL
4421	1526	0470	AZE I	/TOO MANY LNS ?
4422	1527	7535	JMP ,+6	/YES END OF AP
4423	1530	1000	LDA	/TOO MANY BLKS ?
4424	1531	0770	CURBLK	
4425	1532	1460	SAE I	
4426	1533	6467	6\WAEND	
4427	1534	7543	JMP CHKEFB	/NO. CHECK END
4430	1535	1020	LDA I	/WA IS FULL
4431	1536	7776	-1	/DELETE LAST LN
4432				/AND RTN
4433				/TO EDITOR
4434	1537	6504	JMP EOLFIX+2	
4435	1540	2451	ADD MAXLN	
4436	1541	4451	STC MAXLN	
4437	1542	6152	JMP K1	
4440			/	
4441	1543	1000	CHKEFB, LDA	
4442	1544	1765	LN1	
4443	1545	1440	SAE	
4444	1546	1766	LN2	
4445	1547	7473	JMP F8	/NOT END. GET NEXT CHAR.
4446			/	
4447	1550	6176	J8, JMP NOTOK	/COME HERE
4450				/WHEN DONE
4451	1551	6446	JMP A3	
4452	1552	6512	JMP L3	
4453	1553	7702	JMP K8	
4454	1554	1000	A8F, LDA	/IS AP INPUT
4455	1555	0010	10	/BUFFER EMPTY ?
4456	1556	1460	SAE I	
4457	1557	5377	5377	
4460	1560	6000	JMP 0	/NO
4461	1561	1000	LDA	/TEST FOR END OF DEVICE.
4462	1562	1601	TPWD	
4463	1563	1560	BCL I	
4464	1564	0777	-7000	/CHOP OFF BLOCK NUMBER
4465	1565	1460	SAE I	
4466	1566	2000	MBLK2	/STILL THERE [NO OVERFLOW] ?
4467	1567	7550	JMP J8	/OVERFLOW. END OF INPUT.
4470	1570	0041	SET 1	
4471	1571	0000	0	
4472	1572	7730	JMP DTEXT-1	/GET EXTENDED
4473	1573	0603	LIF 3	

4474	1574	0006		DJR	
4475	1575	1020		LDA I	
4476	1576	7600		JMP	.+2
4477	1577	7620		JMP	GOODY
4500					/TAPE UNITS
4501	1600	0700	MAGTP,	RDC	
4502	1601	2346	TPWD,	MBLK2+INDEX	/INITIALLY HOLDS
4503					/INDEX TPWORD
4504					/HOLDS TBLKS
4505					/DURING AP
4506	1602	0070		SET I 10	
4507	1603	4777		4777	/INITIAL ADDR
4510					/OF AP INPUT
4511					/BUFFER
4512	1604	2167		ADD P1	/BUMP TBLK
4513	1605	3601		ADD TPWD	
4514	1606	5601		STC TPWD	
4515	1607	6001		JMP 1	
4516	1610	0041	B8,	SET 1	/SEARCH INDEX
4517	1611	0000		0	/FOR NAME MATCH
4520					/1 TBLK ONLY
4521	1612	0072		SET I 12	/LENGTH OF NAME
4522	1613	7773		-4	
4523	1614	0073		SET I 13	/NAME SECTOR OF
4524	1615	2372		E6+1+2000	/MC TABLE
4525	1616	1000		LDA	
4526	1617	0010		10	/PTR TO INDEX
4527	1620	1620		BSE I	
4530	1621	0007		7	/NEXT NAME
4531	1622	1460		SAE I	
4532	1623	5377		5377	/DUN A BLK ?
4533	1624	7627		JMP .+3	/NO
4534	1625	0221		XSK I 1	/YES RTN
4535	1626	6001		JMP 1	/TO P+2
4536	1627	4010		STC 10	
4537	1630	1030		LDA I 10	/ALL 4 WORDS
4540	1631	1473		SAE I 13	/MUST MATCH
4541	1632	7612		JMP B8+2	/OR WE TRY NEXT
4542					/NAME
4543	1633	0232		XSK I 12	/4 MATCHES ?
4544	1634	7630		JMP .-4	/NO DO SOME MORE
4545	1635	6001		JMP 1	/YES NAME MATCH
4546	1636	0057	L8,	SET 17	
4547	1637	0000		0	
4550	1640	7714		JMP SETS	/GET UNIT NUM
4551	1641	5731		STC DTEXT	/SAVE EXTENDED
4552					/UNITS
4553	1642	0264		ROL I 4	/UNIT BIT TO AC
4554	1643	3600		ADD MAGTP	
4555	1644	5600		STC MAGTP	
4556	1645	1300		LDH	/CHK FOR AP
4557	1646	2373		E6+2+2000	/BY NAME
4560	1647	1420		SHD I	
4561	1650	7700		7700	
4562	1651	6017		JMP 17	/ITS BY TBLK NUM
4563	1652	0237		XSK I 17	/ITS BY NAME
4564	1653	7570		JMP MAGTP-10	/GET INDEX
4565	1654	1030		LDA I 10	/IS IT AN INDEX
4566	1655	1460		SAE I	
4567	1656	5757		5757	
4570	1657	7665		JMP SAYNO	/NO INDEX
4571	1660	7610		JMP B8	/SEARCH 1ST
4572					/TBLK OF INDEX

4573	1661	6017	JMP 17	/FOUND A MATCH
4574	1662	7570	JMP MAGTP-10	/GET 2ND TBLK
4575				/OF INDEX
4576	1663	7610	JMP 88	/SEARCH AGAIN
4577	1664	6017	JMP 17	/FOUND A MATCH
4600	1665	0011	CLR	/COME FOR NO
4601	1666	0061	SET I 1	/PROG, NO INDEX
4602	1667	0340	340	/OR NO MATCH
4603	1670	0072	SET I 12	
4604	1671	2035	A6+34+2000	/GRID ADDR
4605	1672	1752	DSC 12	
4606	1673	1772	DSC I 12	
4607	1674	0061	SET I 1	
4610	1675	0352	352	
4611	1676	1772	DSC I 12	
4612	1677	1772	DSC I 12	
4613	1700	0415	KST	/LOOP UNTIL KBD
4614	1701	7665	JMP SAYNO	
4615	1702	0011	CLR	
4616	1703	4351	STC PLAFLG	
4617	1704	0002	PDP	
4620			PMODE	
4621	5705	6212	CIF 10	
4622	5706	4421	JMS I READ	
4623	5707	5770	JPLAF	
4624	5710	6141	LINC	
4625			LMODE	
4626	1711	0641	LDF 1	
4627	1712	0603	LIF 3	
4630	1713	6410	JMP APRTN	
4631	1714	0011	CLR	/GET UNIT
4632	1715	1000	LDA	/NUM
4633	1716	2377	E6+6+2000	
4634	1717	1560	BCL I	
4635	1720	7000	-777	
4636	1721	6000	JMP 0	
4637	1722	1000	LDA	
4640	1723	0010	10	
4641	1724	1120	ADA I	
4642	1725	7776	-1	
4643	1726	4010	STC 10	
4644	1727	6000	JMP 0	/RETURN NOW. DONT GO TO THE DTEXTR,
4645	1730	1020	LDA I	
4646	1731	0000	DTEXTR, 0	
4647	1732	0643	LDF 3	
4650	1733	1040	STA	
4651	1734	3702	GC TWO&1777:2000	
4652	1735	0011	CLR	
4653	1736	1040	STA	
4654	1737	3701	WATAG&1777+2000	
4655	1740	0641	LDF 1	
4656	1741	6000	JMP 0	
4657	1742	5767	BYPASS, STC LNCTR	
4660	1743	1330	LDH I 10	
4661	1744	1420	SHD I	
4662	1745	0000	EOF1	
4663	1746	7550	JMP J8	
4664	1747	1460	SAE I	
4665	1750	0043	CR	
4666	1751	7763	JMP BYEOL	
4667	1752	1020	LDA I	
4670	1753	0001	1	
4671	1754	1140	ADM	

4672	1755	1767	LNCTR
4673	1756	1440	SAE
4674	1757	1765	LN1
4675	1760	7763	JMP BYEOL
4676	1761	7554	JMP A8F
4677	1762	7473	JMP F8
4700	1763	7554	JMP A8F
4701	1764	7743	JMP BYPASS+1
4702	1765	0000	LN1,
4703	1766	0000	LN2,
4704	1767	0000	LNCTR,
4705			PMODE
4706			MSLK2=2000
4707			/
4710			/
4711	5770	0100	JPLAF, DISKD
4712	5771	0012	12
4713	5772	0002	DIALST+2-300
4714	5773	0001	1
4715			/
4716			/
4717			/
4720			/
4721			/
4722			/
4723			/
4724			/
4725			/
4726			EJECT

-



4727  
4730  
4731

/  
/  
/

NO ERRORS

SYMBOL	VALUE	DEF	REFERENCES
AAA4S2	4371	0441	
AAA4S3	6363	0421	
AAA7S2	4670	0760	
AAA7S3	6660	0745	
AASEG0	1750	3757	
AATTY3	7617	2124	
ACR	5141	1265	3334
ACR2	5160	1304	1230 1266 1276 1302
ACTOWB	4107	0137	1217
AJMP	7432	1705	1677
ALIM	7507	1763	1714
ALIM1	7503	1757	1766
ALTREQ	1260	3233	1174 3226 3237
ALTSET	5047	1172	3234
ALTZ	7513	1767	1716
AM	0036	4033	
AMORUP	1251	3224	3175
AM1	3600	4032	3541
ANOP	5422	1546	
AONE	5753	4670	4317 4376
APRTN	6410	0454	4630
APTBLK	0321	4005	2641
ASTBLK	0330	3774	2627 2634
ATAD	1167	3141	3125
A3	4446	0523	0335 0360 0437 1767 2044 4451
A6	2001	2154	1063 4604
A8F	5554	4454	4401 4676 4700
A88	1174	3147	1171
BB	2400	4015	0464
BBBWD	4673	0766	0647
BBFWD	4671	0762	0404 0433
BBRUC	4677	0772	0550 0650
BBTBLK	4705	1000	0363 0542 0546 0551 0614 0712 0756 2053 4123
BBWRC	4622	0711	0362 0644 0732
BF	0021	4053	3544
BL	0027	4051	3543
BLKST	6241	0266	0207 0254
BTREAD	4010	0024	0052
BTREC	4011	0025	0053
BUCBWB	4605	0672	2021
BUMPIT	0437	2522	2476 2523 2535 2536 2544
BUMB	4611	0676	0212 0245 0257 1037 1545 1613 2110 4267
BUIC	4777	1111	1720 1722
BUILN	5607	1741	1714
BWDCHR	5405	1531	1537
BWDIFR	1346	3321	3251
BWDLN	1342	3315	3245
BWDSLD	5641	1776	1766 2031
BYALN	5576	1727	1125
BYAS	6152	0173	0166
BYEOL	5763	4700	4666 4675
BYMC	6054	0066	0055
BYPASS	5742	4657	4360 4701
B12VAL	2610	4065	3025 4066 4242
B4	5625	1761	1757 3316
B5	5546	1674	
B8	5610	4516	4541 4571 4576
CARTB	6736	1027	1024
CB	3400	4020	0426 0520 0654 2007 2103
CBBWD	4711	1007	2016
CBFWD	4707	1003	0515 0622

SYMBOL	VALUE	DEF	REFERENCES
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CBMT	4433	2527	0345 0376
CBHOC	4715	1214	0516 0623 0651
CRTBLK	4723	1022	0621 1010 4130
CRTQWB	4474	0524	0337
CBWRC	4725	1025	2013
CHAR	7560	2053	1654 1671 1717 1731 1735
CHKAM	1365	3341	3305
CHKBJF	4113	2110	1145 4403
CHKCNT	1572	3517	1213 1644
CHKED	1310	3263	1177 3267 3343
CHKEFB	5543	4441	4416 4427
CHKEND	5246	1372	1265 1301 1330 1416 1446 1515 1523 1555 1570
CHKMC	4206	0243	1234
CHKMC3	6255	0302	0244
CHKMT	7275	1433	0176 1455 1504
CHKMTP	0431	2512	2465 2502
CHKNOK	5761	2123	1220 1237 1313 1434 1473
CHKORG	5455	4343	4321
CHKPLA	4166	0220	0144 0210 1543
CHKPOS	5256	1402	1210 1221 1316 2133
CHKWBE	4551	0635	0205 1540 2004
CHKWBF	4352	0422	0142 0346 0377 0633 0670
CHRCTR	0502	2567	0127 2462 2475 2500 2547 2550
CLRALL	6266	0316	0305
CLWA	4041	0063	0121 0154 3136
CMACHK	1527	3502	3514
CMAFMT	1464	3437	3313
CMARTN	5137	1263	3526
CNTALL	6525	0600	0573
CNTOUT	1660	3635	3551
COMA	0054	4042	1255 1344 3542
COMA1	5400	4040	1312
COMFLG	1374	3347	1260 2572 3162 3345 3374 3461
COMFMT	1414	3367	3311
COMPEA	1731	3716	3710
COMRTN	5124	1250	3430
COMSET	1371	3344	3201 3436
COMTB	1657	1056	1022 1047
CR	0043	4027	0773 0072 0163 1123 1271 1305 1561 1725 3541 3607 3622 4352 4370 4665
CRCODE	7547	2042	2003
CRHI	5175	1321	1325
CRLOW	5105	1231	1324
CRSET	5014	1134	1321
CR1	4300	4026	0427 1252 1301 1341 1377 0557 0704 1521 1713
CTLTAB	1065	3051	2746 3010 3032 3034 3035 3037 3050
CURBLK	4772	1072	0410 0440 1154 4125 4424
CURFLG	6075	0107	0101 0670 1101
CURGO	6466	0541	0534 0576
CURLN	4447	0524	0156 0263 0455 0565 0566 0607 1140 1141 1503 1647 1650 1700 2001 2061 4131
CURPTR	6432	0503	0620 1135
CURPT2	4026	0044	0624 0134 0450 0451 0666 0667 1245 1246 1373 1403 1447 1451 1464 1465 1514 1552 3210 3352 3554
CURRTN	6552	0625	0527
CURSET	6502	0555	0564
CURSOP	6076	0110	0067
CURVAL	0016	4021	0033 0552 0557 0574 4247
CURVC	6074	0106	0075 0672
C1	5042	1162	0465 0062 0074 0160 0201 0247 0331 1225 1227 1243 1273 1303 1322 1417 1435 1437 1474 1512 1633 1775 2003 2032
			2142 3221
CB	5427	4274	
DECODE	7076	1216	0271 0415 0431 0467 1335 1457 1541 2102
DELMC	4210	0245	1156
DELTA	0050	4060	4062 4063 4064

SYMBOL	VALUE	DEF	REFERENCES
OFFIXR	1632	3625	3571
DIALST	0320	4001	0027 2022 2646 2676 2710 4713
DIALU	2002	4202	
DINBUF	0567	2726	0103 1053
DISKD	0100	3763	0025 2620 2625 2632 2637 2644 2651 2656 2667 2674 2701 2706 4711
DISKS	0112	3764	0201 2176 2220
DISLN	5612	1744	1701 1731
DISPLA	2531	1657	1164 1172 1175 1200
DISTXT	6661	0750	1171
DOAB	7364	1541	2406
DOAP	6364	0423	2356
DOAS	6152	0171	2364
DOBU	5571	1722	1726
DOCL	0101	0113	0117 2402
DOOX	7565	2066	2372
DOEX	7561	2062	2360
DOLEF	5335	1461	1466
DOLI	6146	0167	2370
DOLO	6420	0467	0147 2414
DOAC	6357	0415	2412
DOPI	6106	0122	2374
DOPS	7337	1502	2400
DOPX	7353	1521	2376
DOQL	6133	0151	0170 2410
DOSB	7206	1335	2366
DOSP	7315	1455	2362
DOSPTP	7335	1477	1465
DOWN	5556	1704	
DSCCHR	6760	1061	0743 0764 1152
DSCCUR	6036	0045	1137
DSCRTN	6620	0655	0647
OSYS	7341	3767	0141
DTEXT	5731	4646	4472 4551
DUNGAP	5237	1363	1352
DUNHI	1634	3611	3600 3623
DUNLEF	5343	1467	1454
DUNLO	1647	3624	3616
DUNHIT	5306	1432	1421
DUNSB	7264	1413	1342 1400
DXTBLK	0361	4010	4011
D1	4117	0147	1161 3332
D5	5004	1116	1707
D6	2243	2421	0504 0657 1705 2055 2074 3051 4067 4147 4177
D6CTR	1125	3051	3040
D6LOOP	1076	3042	3047
D6PTR	2241	4067	2747 3012
D6VAL	2625	4066	2750 3011
EANDZB	7735	2272	1163
ECON	7607	2112	0175
EDALT	1301	3254	3272
EDSET	5052	1175	3264
EGGSIT	7075	1212	1206
ENDBUF	0512	2577	2526
ENDCHK	1233	3206	3147 3464 3555
ENDFLG	6542	0615	0536 0571 0603
ENDRUB	5414	1540	1524
ENDSKP	6742	1033	1020
ENDTAB	7557	2052	1655 1704 1741 1756 1763 1772 1773
ENDTB	6757	1050	1017
EOBERR	5037	1157	1151
EOBLOP	4135	0165	0200
EOBPST	4143	0173	0164

SYMBOL	VALUE	DEF	REFERENCES
EOBWRD	4146	0176	0172 1160
EOF	0000	4031	0601
EOFRAM	7023	1127	0667 0671 0753 0765
EOF1	0000	4030	0373 4363 4662
EOLFIX	4502	0563	0167 0342 2025 4372 4434
ERROR	1656	3633	3630
ERRXIT	7051	1160	0177 0217 0234 1505
EXIT	7517	1773	1733 1744 1750 1752 1761 1762 1771
EXTMTP	0010	4014	
EXTRUB	5361	1505	1424 1457
E2	7305	1444	0417 0471 1413 1461 1543 2062 2110 2241
E4	5661	2017	2012
E6	2371	2427	0123 0146 0213 0216 0221 0230 0232 0435 1220 1240 1270 1326 1361 1370 1374 1407 1412 2106 0476 3051 3640 3660
			4305 4307 4313 4316 4323 4331 4524 4557 4633
E8	5434	4322	4273
FCSA	0020	4012	1425 1500 1517 1554 2123
FCTBLK	0350	4004	2653
FF	6100	4052	3544
FILE	0470	3777	
FIRSWD	6602	0657	0514 0664
FIXUP	5312	1436	1432 1472
FL	6200	4054	3545
FLDSET	6722	1013	0760 0771
FLDTAB	6753	1044	1014
FREE	0270	4000	
FROM	0101	3117	3033 3042 3044 3057 3071 3072 3075
FUDGE	0505	2572	2564
FWDFR	1344	3317	3247
FWDLN	1350	3323	3253
F2	7122	1245	1260
F3	4461	0540	0364 0412 2076 2077
F4	4255	0320	0316 2035 2104 3324
F5	6625	0703	1002
F8	5473	4361	4445 4677
GAPARG	6100	0112	0673 1067 1105
GCLOC	7661	2171	2137
GCORE	7703	2221	2152 2160 2161
GCTWO	7702	2220	2172 2177 4651
GETCHR	0455	2540	2566 3536
GETCUR	6452	0525	0665
GETSA	7244	1373	1364
GETTTY	1556	3531	3163 3235 3265 3275
GOCNT	1615	3572	3610
GOOD	1657	3634	3632
GOODY	7620	2125	0720 0752 0776 1020 1031 4477
GOSCP	5601	1732	1746 1751
GOTAB	6724	1015	1036 1040
GTOUT	7704	2222	2143 2166 2167
G4	5732	2073	
G8	5503	4372	
HBIT	4000	4017	0344 0556 0622 0132 0426 0436 0520 0631 0640 0654 0673 0677 1112 1333 1375 1463 1526 1551 2007 2101 2103 3167
			3212 3241 3602 4144 4145 4175
HERE	0513	2600	0124 2576 2601
H4	4267	0333	0325 0353 2120
H5	6635	0717	
H8	5512	4401	4371
ILEGAL	7516	1772	1707
INBUF	4053	0075	0061 0065
INDEX	0346	4003	4502
INITLF	4771	1077	0106 2141
INPT	0517	2620	2721 2774
INPTRS	0770	2715	0064

SYMBOL	VALUE	DEF	REFERENCES
INSERT	5202	1326	1214 1307
INSTB1	1417	1054	1045 1055
INSTB2	1537	1055	1046 1056
IWAIT	6553	0626	0520 0636
JBAP1	0533	2637	0444
JBAP2	0537	2644	0460
JBAS1	0523	2625	0247
JBAS2	0527	2632	0244
JBFC2	0543	2651	1550 2116 2663 2665
JBLO	0547	2656	0476
JBMET	1672	3650	3644
JBMI0	6060	0072	0102
JBMA7	0504	2571	2552
JBNULO	7776	2412	2405
JBXPDX	0553	2667	1526 2073
JBSB	0543	2663	1420
JBSP	0543	2665	1472 1512
JBMT	7762	2373	0070 2434
JBMTS	7771	2402	2374 2401
JGC	6610	0665	
JPLAF	5770	4711	4623
J4	4300	0345	0341
J5	6654	0741	0731 0745
J8	5550	4447	4364 4467 4663
KBDIN	4076	0125	0114
KBDOPR	7400	1642	2471
KBDOUT	4077	0126	0116
KBU1LN	5566	1714	
KBWD	5635	1772	2043 2046
KCR	7475	1751	1711
KCTR	4100	0127	0117
KDOMC	1661	3636	0421
KGET	1562	3536	3533
KGO	5563	1711	1721
KHERE	4075	0124	0113 0115
KLEGAL	7433	1706	1676
KOM	0057	4044	1255
KOM1	5700	4043	1304 3542
KPTADR	1166	3140	3062 3124 3144
KPT12	1173	3145	3143
KSAM7	7067	1204	1662
KTAD	1171	3143	3021
KT4	4213	0250	0253 0266 0322 0344 0351 1763 1773 2027 2037 2057 2117
K1	4152	0203	0174 0213 0246 0261 1040 2111 4270 4437
K2TAD	1172	3144	3026
K5	7057	1174	0676 0724 0725 0726 0737 0744 1200
K8	5702	4615	4327 4453
K88	5722	4637	4347 4353
LASTCR	5502	1626	1522
LCODE	1400	4072	1353
LEGAL	7443	1717	1706
LF	0037	4023	0054 1011 2131 3540
LFCHK	1362	3335	3303
LFCODE	7545	2040	2005
LFORRO	1254	3227	3173
LF1	3700	4022	0762 1233 3453
LIORCV	6240	0265	0173
LNCTR	5767	4704	4657 4672
LNFEED	7506	1762	1713
LNFOR	6620	0675	0505
LNHC	1013	4045	0720
LNUPER	5547	1675	0313 1667 1754

SYMBOL	VALUE	DEF	REFERENCES
LN1	5765	4702	4314 4340 4357 4400 4442 4674
LN2	5766	4703	4320 4342 4444
LOCATE	6311	0343	0312
LOCATE	4214	0251	0353
LOOP	1724	3711	3721
LOTBLK	0354	4006	2660
L3	4512	0574	1770 2047 2121 4452
L4	5711	2052	0272 0307 2072
L8	5636	4546	4271
MAGTP	5600	4501	4343 4554 4555 4564 4574
MAKGAP	5221	1345	1362
MAXBLK	4454	0531	0407 0745 4135
MAXLN	4451	0526	1435 0152 0170 0171 0300 0304 1143 1144 1147 1652 1653 4132 4374 4375 4420 4435 4436
MAXNUM	0170	4070	1163 1622 3470 3625 4150 4200
MAXVC	6623	0700	1124 1672
MBLK2	2000	4706	4276 4333 4466 4502
MCHC	1051	4050	1007
MCHC	7420	4046	1004
MHBIT	5251	1375	1244
MINUS1	4156	0207	0314 0571 0660 1755
MKHC	1763	4047	1151
MODKBD	0400	2453	0632
MOVEIT	1121	3065	3022 3027 3103 3126 4111
M24	0503	2570	2463
M4	4234	0274	0254 0306 2066
M5	6762	1063	
M8	6270	0320	0311
NEG1	5666	2024	2015
NOADJ	5376	1522	
NOCNT	5521	1645	1634 1642
NOLN	5447	4335	4311
NOPAS	6562	0635	0641
NOTACR	5377	1523	1443
NOTOK	4176	0231	0173 0434 0501 2132 2135 4127 4447
NUMCHK	6321	0355	0310 0401 1401
N1	6304	0335	
N2	7142	1267	
OK	5367	1513	1422 1426 1427 1440 1442 1452 1455 1471 1504 1631
OLDPTR	1033	2770	0060
OLDSAM	6627	0706	1665
OUTCUR	6544	0617	0540 0577
OUTPTR	1010	2741	1062
OUTSCP	6573	0650	0630 0653 0662 0713 1116
PASTL	4027	0046	0037
PCODE	2000	4071	1350
PLACTR	4171	0223	0211 0632 1544 4134
PLAFLG	4351	0417	0110 0366 0411 0731 4266 4410 4616
PLAFUL	4310	0356	0145
PNSCHK	1375	3350	3367
POSI	6072	0104	4256
PTADDR	2400	4061	3140 4062 4107
PTBLK	0320	4074	2703
PTEXIT	2520	4063	2745 3007 4064 4171
PTINIT	2450	4062	2734 4063 4143
PTIRIN	0506	2573	0125 2474 2477
PTROUT	0507	2574	0126 2542 2545
PT12B	2570	4064	3145 4065 4221
PXTBLK	0361	4011	2671
P1	4167	0221	0451 0321 0365 1142 1157 1762 2056 4512
P10	6035	0044	0037
P1000	5072	1215	0226
P2T	7606	2111	2101



SYMBOL	VALUE	DEF	REFERENCES
P4	4250	0312	3320
P400	4542	2625	0662 0665
P402	1170	3142	3123
P5	6673	0764	0774 1032 1243
P56	6333	0371	0347 0410 1245 1322 1410
P6	6314	0346	
QMARK1	7700	4273	1307
Q4	5600	1753	3322
RC	0004	4057	3546
ROCASM	6166	2207	1617
READ	0021	2445	0243 0246 2443 0457 0475 1417 1471 1511 1525 1547 2072 2115 2135 2171 0102 1055 2720 2723 2761 2773 2776 3645
			4622
REGC	7153	1300	1317
REGCHR	5064	1207	1262 3205 3223
RESET	5462	1604	1441 1614
RESTR	5775	2141	4166 4216
RETEX	4035	0057	
RJMP	4767	1071	1065
RL	1400	4056	3546
RO	0037	4035	
ROACHR	5351	1475	1236 1425 1430 1433 1444 1460 1461 1572
ROLEF	5322	1446	3330
RORIT	5272	1416	3326
R01	3700	4034	3543
RR	0022	4055	3545
RTN	7533	2007	2002
RTNEOF	7040	1146	1131
RTNJMP	7523	1777	1644
RTNMOD	0430	2506	2457 2503
RTNRTN	1005	2735	3030 3052 3744
RTNSET	5501	1625	1575
RUB	5112	1236	1247 3232 3340
RUBC	1356	3331	3261
RUBL	1354	3327	3257
RUBOUT	7477	1753	1712
RUBR	1352	3325	3255
RJ	4323	0371	0401
SAMARG	5535	1663	0712
SAM3	6020	0027	0533 4222 4225 4226 4227 4230 4231 4232 4233 4234 4235 4236 4237 4240
SAM7	6026	0035	0703 1207
SAVAC	0100	3116	3041 3046 3106 3114
SAYNO	5665	4600	4303 4570 4614
SBTBLK	0356	4007	
SCOPE	6433	0504	1737
SCPRTN	6073	0100	0047
SCPSR	6603	0660	0517 0635 1153
SETS	5714	4631	4550
SETUP1	0322	3765	0042
SETUP2	0323	3766	0044
SET6N3	5447	1573	1320 1323 1547
SHIFT	1107	3053	2733 2744 3006 3024 3055 3064 3104
SHUFFLE	1544	3517	3507 3522
SKPCHK	1141	3105	3056 3066 3074 3112 3113 3115
SKPLIT	1152	3122	3054 3107
SP	0040	4037	
SPCHAR	1563	3540	3167 3241 3271 3301
SPFCNS	1400	4013	
SPTBLK	4533	2616	1464 4126
SPYTAB	7414	1665	1672
SP1	4000	4236	0377 1276
SRTAB	1436	3411	3424
STBUF	0511	2576	2531

SYMBOL	VALUE	DEF	REFERENCES
STLINC	7236	1365	1354
STPOP	7227	1356	1351
SUBCHR	1320	3273	1202 3151 3160
SUBSET	5055	1200	3274
SVACC	6601	0656	0645 0654
SVCHR	0510	2575	2543 2551 2565
SJ	4334	0402	0374
S4	5675	2034	0270
TAB	7471	1745	1710
TABCNT	1456	3431	3414 3417
TABEND	1445	3420	3434
TABLE	7543	2036	1664
TABSET	0120	1051	1053 1054 1055 1056
TAGTB	1277	1053	1044 1054
TB	0047	4025	0136 3456
TBLKCB	4733	1033	1011 4137
TBTOWB	4101	0131	1204 1251 1263
TB1	4700	4024	0757 0770 3413 3540
TEMPB	6541	0614	0535 0537 0575 0606 0611 0612
TEMP1	4022	0040	1203 1207 1216 1306 1311 1364 1370 1732 1735
TEMP2	4023	0041	1344 1355 1361 1367 1406 1412
TEMP3	4024	0042	1354 1360
TEMP4	1413	3366	3355 3361
TEMP5	0454	2537	2524 2525 2532 2534
TESTM	1705	3671	3015 3672 3727
THERE	0515	2601	2577 2604
TO	0103	3121	3036 3043 3045 3061 3067 3073 3077
TOPPTR	4025	0043	0663 0664 1510 1610 1734 3561
TORF	0102	3120	3063 3065 3100 3101 3141
TPCHK	4202	0235	0267 1764 2112
TPFLG	4203	0236	0233 0324 0330 0605 2042 4133 4155 4167 4205 4217
TPSTAT	4523	0605	0502 2040 4141
TPWD	5601	4502	4277 4334 4462 4513 4514
TRYBUF	0422	2500	2461
TXTHC	1157	1052	0751 0776 1053 1115
TYCAR	7524	2000	1751
TYPE	7534	2010	1732 1740 1747 1755 2004 2006
T2	5744	2106	0274 0277 1452
T3	4345	0413	
T4	6354	0412	0374 0402 0406
UNITNO	0777	3772	0156 0204 0224 0237
UP3	5100	1223	
UP6	5102	1226	1222 1264
U2	7174	1322	0436 1313 2107
VCOORD	6765	1066	0073 0701 1005 1111
VIRGST	1153	3123	4173
V3	4545	0630	0544 0552
WA	0370	3773	0266 2201 2215 1072 2074 4151 4152 4153 4154 4201 4202 4203 4204
WAEND	0467	3776	1153 3777 4426
WATAG	7701	2215	2165 2202 4654
WUNIT	0000	3775	0414 0612 0721 0736 0777 1021 1032
WB	3000	4016	0436 0462 0631 0640 2101 4144 4145 4175
WBFULL	4572	0444	0143 0347
WBRDC	4650	0737	0415 0652
WBTBLK	4664	0754	0547 0770 4124
WRTOCB	5650	2006	2022
WBWRC	4635	0724	0403 0432 0613
WGA12A	1742	3736	3717
WP	4747	1047	1043
WRITE	0022	2446	2257 2262 2265 2270 1052 2756 3130
WRL1	0557	2674	2762
WRL2	0563	2701	1056 2724 2757 2777 3131

SYMBOL	VALUE	DEF	REFERENCES
WT	4647	0736	
WZ	4527	0612	
W2	6242	0267	0174 1502
W5	6774	1075	1001 1025
XITCMA	1554	3527	3454 3457 3463 3466
XITCOM	1462	3435	3376
XITCR	1360	3333	3307
XITCUR	6543	0616	0543 0551 0554 0561 0567
XITERR	7046	1154	0333 0416 0430 1302 1305 1310 1320 1333 1336 1345 1355 1402 1456 1460 1542 2104
XITREG	1247	3222	3171 3225 3230 3314 3342 3346 3372 3530
XITRO	5441	1565	1477 1556 1562 1571
XI11	6447	0522	2076
XI12	4761	1063	
XI12C1	1245	3220	3165 3177 3203 3243 3262 3277 3336 3512 3633
X2	4735	1035	1447 0232 2114 2122 4130
Y5	6712	1003	0062 0763
Y6	2240	2414	0330
ZERO	7706	2241	2404
ZM7000	7762	2434	2246
ZP1	7740	2301	2260
ZP2	7744	2311	2263
ZP3	7752	2321	2266
ZP4	7756	2330	2271
Z2	7574	2077	1521 2066
Z6	2201	2355	0326 0330

