THE PURPOSE OF THE PRODUCT RELEASE NOTICE IS TO PROVIDE THE USER WITH SPECIFIC INFORMATION ABOUT THE PRODUCT WHICH IS NOT AVAILABLE IN THE PRODUCT MANUALS (INFORMATION MAY BE REPEATED IN SUBSEQUENT RELEASE NOTICES IF THE APPROPRIATE MANUAL IS NOT YET AVAILABLE).

BETWEEN REVISION OF THE PRODUCT, PERIODIC UPDATES TO THE PRODUCT MAY BE ISSUED. THE PURPOSE OF AN UPDATE IS TO REDUCE THE TIME REQUIRED TO RESPOND TO PROBLEMS BY PROVIDING A LEVEL OF CORRECTIONS WHICH DOES NOT REQUIRE A RELEASE OF THE COMPLETE PRODUCT. EACH UPDATE OF A PRODUCT RELEASE SUPERCEDES THE PREVIOUS UPDATE.

A RELEASE OF THE PRODUCT CONSISTS OF FOUR MAJOR PARTS, AS DEFINED BELOW:

	PART DESCRIPTION	PART NUMBER
1.	DOS REV 3.30 RELEASE NOTICE	085-000046-07 DEFINED BY THIS RELEASE NOTICE IN SECTION 6A. PRODUCT ORGANIZATION.
2.	DOS REV 3.30 RELEASE MEDIA	
3.	DOS REV 3.31 UPDATE NOTICE	078-000006-04
4.	DOS REV 3.31 UPDATE MEDIA	072-000241-04 062-000003-00

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2. ENVIRONMENT

A. PREREQUISITES

NONE

B. DEPENDENT PRODUCTS

FORT IV 5.10 AND LATER
RTOS REV. 4.20 AND LATER
BASIC (DOS SINGLE USER, MULTI USER, BUSINESS)

3. ENHANCEMENTS

DOS

A) SUPPORT FOR ULM FOR NOVA AND MICRONOVA DOS. THIS SUPPORTS THE PROGRAMMABLE BAUD RATES AND CHARACTERISTICS CHANGE BUT NOT THE SYNCHRONOUS LINES. (REV. 3.30)

B) MORE EXTENSIVE SUPPORT FOR CORE DUMP FACILITIES. DOS NOW PERMITS CORE DUMPS TO EITHER A LINE PRINTER, 6030/6038 DISKETTES OR 6097/6096 DISKETTES. (REV 3.30)

C) SUPPORT FOR MAGNETIC TAPES UNDER MICRONOVA DOS. (REV. 3.30)

D) SUPPORT FOR THE NOVA 6103 (25.0 MEGABYTE) DISK (REV. 3.30)

E) SUPPORT FOR THE MICRONOVA 6105 (25.0 MEGABYTE) DISK. REV. 3.30)

F) SUPPORT FOR THE NOVA 6099 (12.5 MEGABYTE) DISK. (REV. 3.20)

G) SUPPORT FOR THE NOVA 6097 (1.2 MEGABYTE) DOUBLE DENSITY DISKETTES. (REV 3.20)

H) READ LINES (.RDL'S) HAVE BEEN SIGNIFICANTLY SPED UP. USERS SHOULD NOTE A SHARP DECREASE IN THE TIME REQUIRED TO READ FILES FROM DISK(ETTE)S. (REV. 3.20)

I) A NEW UTILITY (MICRODBOOT.SV) TO INSTALL A MICRONOVA BOOTSTRAP ROOT ON A DOUBLE DENSITY DISKETTE FROM A NOVA/ECLIPSE SYSTEM. (SEE NEW DOCUMENTATION SECTION OF THIS RELEASE NOTICE.) (REV 3.20)

J) A NEW 6099/6103/6102/6105 DISK BACKUP UTILITY (DBURST.SV/MBURST.SV) THAT WILL ALLOW USERS TO BACK UP THEIR HARD DISKS ON DISKETTES. (SEE THE NEW DOCUMENTATION SECTION OF THIS RELEASE NOTICE) (REV 3.20)

K) SUPPORT FOR THE MICRONOVA 6102 (12.5 MEGABYTE) DISKS. (REV 3.10)

L) SUPPORT FOR THE MICRONOVA 6096 (1.2 MEGABYTE) DOUBLE DENSITY DISKETTES. (REV 3.10)

M) SUPPORT FOR THE NEW MP/100, MP/200 MICRONOVA FEATURES (EXCEPT FOR THE MAPPING FACILITIES OF THE MP/100). (REV 3.10)

N) A PSEUDO-CLOCK HAS BEEN ADDED TO DOS WHOSE TIMING CHARACTORISTICS ARE GOVERNED SOLELY BY THE LEVEL OF SYSTEM ACTIVITY IN LIEU OF AN OPTIONAL REAL TIME CLOCK. (REV 3.10)

DOSINIT

A) DOSINIT WILL NO LONGER ABORT ON ADDRESS ERRORS OR DATA COMPARE ERRORS WHEN RUNNING PATTERNS ON A DISK. BLOCKS ON WHICH THESE ERRORS OCCUR WILL BE ENTERED AS BAD BLOCKS. (REV. 3.30)

B) DOSINIT NOW RECOGNIZES THE 6103/6105 DISKS. USE THESE MODEL NUMBERS TO RESPOND TO THE QUESTION "DISK DRIVE MODEL NUMBER?". (REV. 3.30)

C) DOSINIT NOW RECOGNIZES THE 6097/6099 DISKS. USE THESE MODEL NUMBERS TO RESPOND TO THE QUESTION "DISK DRIVE MODEL NUMBER?". (REV. 3.20)

D) THE DUPLICATE COMMAND NOW MAKES AN EXACT COPY OF ANY DISK(ETTE) WITHOUT REGARD TO THE DISK(ETTE) FORMAT. PREVIOUSLY, ONLY STANDARD DATA GENERAL FORMAT DISKS COULD BE DUPLICATED. (REV 3.10)

E) THE COPY COMMAND NOW APPLIES TO ALL DISK(ETTE)S. PREVIOUSLY, IT APPLIED ONLY TO DISKETTES. NOTE THAT THIS COMMAND IS USED ONLY FOR STANDARD DATA GENERAL FORMAT DISK(ETTE)S. (REV 3.10)

F) DOSINIT NOW RECOGNIZES THE 6096/6102 DISKS. USE THESE MODEL NUMBERS TO RESPOND TO THE QUESTION "DISK DRIVE MODEL NUMBER?". (REV 3.10)

CLI

A) CLI 'DUMP' WILL NOW DUMP THE RESOLUTION FILE OF LINKS. THE NEW GLOBAL /W SWITCH WILL ALLOW THE RESOLUTION FILE, OF RESOLVABLE LINKS TO BE DUMPED. WHENEVER THE GLOBAL /W SWITCH IS APPENDED TO THE DUMP COMMAND AND THE FILENAME LIST CONTAINS LINK NAMES AN ATTEMPT WILL BE MADE TO FIND AND DUMP THE RESOLUTION FILE. IF IT IS IMPOSSIBLE TO RESOLVE THE LINK, E.G., LINK DEPTH IS EXCEEDED, DIRECTORY NOT INITIALIZED, OR FILE DOES NOT EXIST, THE APPROPRIATE ERROR MESSAGE WILL BE OUTPUT AND PROCESSING WILL CONTINUE. (REV 6.5)

B) SEGMENTED DUMPS WILL NO LONGER OUTPUT A SEGMENT CONSISTING ONLY OF AN END OF FILE BLOCK. IF THE END OF FILE BLOCK IS THE ONLY THING LEFT TO DUMP IT WILL BE APPENDED TO THE LAST PRECEEDING SEGMENT. (REV 6.5)

PATCH/ENPAT

THE PROGRAMS 'ENPAT' AND 'PATCH' WILL NOW ACCEPT SYMBOLS WITH THE CHARACTER "?". (REV 6.5)

FDUMP/FLOAD

ERROR HANDLING HAS BEEN ENHANCED - SEE DOCUMENTATION SECTION. (REV6.5)

MAC

A) THE .REV PSEUDO OP NOW TAKES SYMBOLIC VALUES AS ARGUMENTS. ONE CAN NOW SAY ".REV MAJVER,MINVER", FOR EXAMPLE. THIS CAN BE USED TO PROVIDE AUTOMATIC REVISION NUMBER UPDATING THROUGHOUT YOUR PROGRAM. (REV 6.3)
FOR EXAMPLES:
IN THE "MAC" PARAMETER FILE YOU MAY SAY:

"MAJMAC=6"
"MINMAC=30."

THEN, IN THE MAIN MODULE, YOU MAY SAY:

".REV MAJMAC,MINMAC"

B) AN NREL LITERAL FACILITY NOW EXISTS IN MAC. FOR THOSE ASSEMBLING OLD PROGRAMS USING THE ZREL LITERALS, OR FOR THOSE WHO DESIRE TO USE THE ZREL LITERALS, NOTHING HAS CHANGED. HOWEVER, ALL LITERALS WILL GO LIMITED IF ONE INVOKES THE "NLIT" PSUEDO OP IN THE BEGINNING OF HIS PROGRAM. THE USER MUST REQUEST DUMPING OF LITERALS PERIODICALLY VIA THE ".LPOOL" PSEUDO-OP (EFFECTIVELY AS IS DONE IN LITMACS). THERE ARE A MAXIMUM OF 4096 .LPOOL'S ALLOWED, BUT IT'S NOT LIKELY ANYONE WILL GO OVER 50 OR SO. (REV 6.3)

IN ADDITION, THERE IS A NEW ERROR, "L", WHICH IS USED TO FLAG ILLEGAL .NLIT AND .LPOOL STATEMENTS ("L"ITERAL ERROR). THE CONDITIONS UNDER WHICH ONE WILL GET THIS ERROR ARE:

1) DOING A .NLIT AFTER A LITERAL HAS BEEN SEEN

2) DOING A .LPOOL WITHOUT DOING A .NLIT

C) BOTH THE ZREL AND NREL LITERALS NOW ACCEPT XN'S AND XD'S AS LEGAL LITERAL VALUES. XN'S CAN'T BE OPTIMIZED, BUT XD'S WILL BE OPTIMIZED.

NOTE: THE NREL LITERAL WILL OPTIMIZE WHEN POSSIBLE WITHIN A .LPOOL, BUT NOT OUTSIDE OF IT. THE ONLY OPTIMIZABLE LITERALS ARE ONES FOR WHICH A VALUE IS KNOWN ON PASS ONE AT THE TIME THE LITERAL IS BEING ASSEMBLED. THIS MEANS THAT FORWARD REFERENCE LITERALS AREN'T OPTIMIZED AND EXTERNALS AREN'T OPTIMIZED. IF ONE WANTS THESE OPTIMIZED, ONE CAN WRITE A MACRO TO DO WHAT LITMACS "XX" INSTRUCTIONS DO; EXCEPT NOW THE NEED FOR THE "LIT" MACRO IS GONE. LITMACS USERS, PLEASE NOTE THAT THE NREL FACILITY WITHIN MAC IS FIVE TO TEN TIMES FASTER THAN LITMACS. (REV 6.3)

4. NOTES/WARNINGS

DOS

THE "SOFT CONSOLE" ROM ON THE MP/100 AND MP/200 MICRONOVA SYSTEMS HAS ELIMINATED THE NEED OF A SWITCH REGISTER WHICH IN TURN HAS ELIMINATED THE FUNCTIONALITY OF THE .RDSW SYSTEM CALL ON THESE SYSTEMS. UNFORTUNATELY, THERE IS NO PROGRAM ACCESSIBLE REGISTER WHICH CONTAINS THE VALUE OF THE SWITCHES.

SYSGEN

A) THE CHARACTER USED TO DELIMIT USER RESPONSES IN SYSGEN DIALOGUE FILES ('.SG' FILES) HAS BEEN CHANGED FROM ESCAPE TO '$' (DOLLAR SIGN).

   NOTE THAT SINCE SYSGEN HAS BEEN REVISED TO ADD NEW QUESTIONS FOR NEW HARDWARE SUPPORT, OLD SYSGEN DIALOGUE FILES ARE NOT USABLE WITH THIS (3.10) VERSION OF SYSGEN.

MAC

A) ERROR MESSAGES RESULTING FROM CODE GENERATED BY MACROS WHEN .NOMAC IS SET WILL NOT BE CORRECT, AND WILL OFTEN BE GARBLED. USE THE /U (OVERRIDE LISTING SUPPRESSION) OR REMOVE THE .NOMAC'S TO FIND THE CORRECT ERROR.

B) IF A SYMBOL ON THE LEFT HAND SIDE OF AN ASSIGNMENT LINE IS UNDEFINED ON PASS ONE, THEN THE ASSIGNMENT LINE WILL RECEIVE A 'U' ERROR PRIOR TO PASS TWO, ALTHOUGH THE STATEMENT WILL ACT AS IF NO ERROR OCCURRED.

5. FIXES

1) WHEN RUNNING ON A FULL DISK (I.E. BLOCKS LEFT <= DISK FRAME SIZE), DOS WILL NO LONGER CREATE AN UNDELETABLE FILE XXXXX.DR WHEN THE USER EXECUTES A .CDIR XXXXX (CREATE A DIRECTORY COMMAND). THE RESULTING FILE WILL HAVE A ".DR" EXTENSION BUT WILL NOT POSSESS DIRECTORY ATTRIBUTES. WHEN DELETING IT, THE USER MUST SPECIFY THE ".DR" EXTENSION.

2) DOS WILL NOW REWIND ALL MAGNETIC TAPES ON LINE THAT ARE READY, WHEN BOOTING TO ANOTHER SYSTEM OR RELEASING THE MASTER DEVICE.

3) READ LINES (.RDL)/READ SEQUENTIALS (.RDS) FROM KEYBOARD DEVICES (HAVING AN ECHO DEVICE PAIR, SUCH AS A CRT, OR DASHER) RESULTING IN A "LINE TOO LONG" ERROR WILL NO LONGER GIVE THE SAME ERROR WHEN ATTEMPTING TO WRITE TO THE ECHO DEVICE IMMEDIATELY FOLLOWING THE ERROR SINCE THE COLUMN COUNTER FOR THE ECHO DEVICE PAIR IS NOW CLEARED ON AN ERROR RETURN.

4) DOS NOW MASKS ALL INCOMING CHARACTERS ON CHARACTER DEVICES TO ELIMINATE EXTRA BITS SET BY THE HARDWARE. IN SOME CASES, FLOATING LINES ARE REPRESENTED AS ZEROS AND IN OTHER CASES AS ONES.

5) THE PROCEDURE FOR ACTIVATING THE CORE DUMP ROUTINE AFTER A HARD CRASH NOW WORKS AS DOCUMENTED. NOTE PAGE 12 OF THIS RELEASE NOTICE.

6. PRODUCT ORGANIZATION

A. SOFTWARE

DISK OPERATING SYSTEM

MODEL: 3574F

STATUS	PART NUMBER	DESCRIPTION
R	072-000002-07	NOVA DOS STARTER DISKETTE
R	072-000004-07	DOS UTILITIES DISKETTE 1 OF 2
R	072-000547-01	DOS UTILITIES DISKETTE 2 OF 2
R	072-000035-06	MICRONOVA DOS STARTER DISKETTE

DOS WITH 6045/6095 DISK SUPPORT

MODEL: 3743F

STATUS	PART NUMBER	DESCRIPTION
R	072-000002-07	NOVA DOS STARTER DISKETTE
R	072-000004-07	DOS UTILITIES DISKETTE 1 OF 2
R	072-000547-01	DOS UTILITIES DISKETTE 2 OF 2
R	072-000035-06	MICRONOVA DOS STARTER DISKETTE

DOS WITH MAG TAPE SUPPORT ON DOUBLE DENSITY DISKETTE

MODEL: 3743Q

STATUS	PART NUMBER	DESCRIPTION
A	062-000010-00	NOVA DOS STARTER QUAD FLOPPY & DOS UTILITIES DISKETTE

DOS OPERATING SYSTEM ON DOUBLE DENSITY DISKETTE FOR MICRONOVA

MODEL: 3574Q

STATUS	PART NUMBER	DESCRIPTION
A	062-000002-00	MICRONOVA DOS STARTER QUAD FLOPPY & DOS UTILITIES DISKETTE

8. DOCUMENTATION

STATUS	PART NUMBER	DOCUMENT NAME (FOR NOVA)
-	017-000005-02	APPLICATIONS NOTE: RDOS BUFFERED I/O PACKAGE
R	069-000022-01	SOFTWARE MANUAL: LEARNING TO USE YOUR RDOS/DOS SYSTEM
-	086-000016-00	SOFTWARE ADDENDUM: EXTENDED ASSEMBLER
-	093-000018-09	SOFTWARE MANUAL: TEXT EDITOR
-	093-000040-01	SOFTWARE MANUAL: EXTENDED ASSEMBLER
-	093-000044-04	SOFTWARE MANUAL: SYMBOLIC DEBUGGER
R	093-000074-05	SOFTWARE MANUAL: LIBRARY FILE EDITOR
R	093-000080-05	SOFTWARE MANUAL: EXTENDED RELOCATABLE LOADER
-	093-000081-05	SOFTWARE MANUAL: MACROASSEMBLER
R	093-000084-02	SOFTWARE MANUAL: OCTAL EDITOR
R	093-000109-01	SOFTWARE MANUAL: RDOS/DOS CLI USER'S MANUAL
	093-000222-01	SOFTWARE MANUAL: HOW TO GENERATE YOUR DOS SYSTEM
-	093-000111-01	SOFTWARE MANUAL: SUPEREDIT USER'S MANUAL
R	093-000160-00	SOFTWARE MANUAL: SEDIT USER'S MANUAL
-	093-000186-00	SOFTWARE MANUAL: DISK EDITOR
R	093-000201-03	SOFTWARE MANUAL: DISK OPERATING SYSTEM REFERENCE MANUAL
-	093-000105-03	SOFTWARE MANUAL: RDOS USER'S MANUAL
	RELEASE NOTICES	
R	085-000046-07	DOS RELEASE NOTICE

7. DOCUMENTATION CHANGES

DOS

DISK OPERATING SYSTEM REFERENCE MANUAL (093-000201-03)

PAGE 2-4

AFTER "W64DTR RAISES DATA TERMINAL READY; IF YOU OMIT IT, DTR IS LOWERED. W64RTS RAISES REQUEST TO SEND; IF YOU OMIT IT RTS IS LOWERED."

ADD "TO CHANGE ANY OR ALL CHARACTERISTICS ON ANY LINE:

```
AC0 = W64CH+LINE NUMBER
AC1 = NEW CHACTERISTICS MASK
```

SEE THE "DATA GENERAL COMMUNICATIONS SYSTEMS, TECHNICAL REFERENCE MANUAL" (014-000070-02) AND THE "4241/42/43 ULM AND 4232 DAC, PROGRAMMERS REFERENCE MANUAL" (014-000614-00)

PAGE F-2

REPLACE PAGE F-2 WITH THE FOLLOWING TWO (2) PAGES:

CONTROLLING EXCEPTIONAL STATUS

YOU CAN WRITE YOUR OWN ROUTINE TO HANDLE EXCEPTIONAL STATUS SITUATIONS. THE ADDRESS OF YOUR ROUTINE MUST BE STORED IN LOCATION 11 AT RUNTIME, SINCE SAVE FILES BEGIN AT LOCATION 16. YOUR ROUTINE WILL THEN GAIN CONTROL IF AN EXCEPTIONAL STATUS OCCURS. THE CONSOLE WILL NOT DISPLAY THE ACCUMULATORS /ERROR CODE MESSAGE, BUT AC0, AC1, AND AC2 WILL RETAIN THE CONTENTS THEY HAD AT THE ERROR, AND AC3 WILL CONTAIN THE ERROR CODE.

PRODUCING A CORE DUMP AFTER AN EXCEPTIONAL STATUS (A SYSTEM PANIC)

IF YOU CHOOSE THE CORE DUMP FEATURE DURING SYSTEM GENERATION, YOU CAN DUMP MEMORY ON THE LINE PRINTER AND/OR SINGLE OR DOUBLE DENSITY DISKETTES AFTER AN EXCEPTIONAL STATUS OR SYSTEM CRASH. THE $LPT DUMP (SHOWN IN FIGURE F-1) CAN HELP YOU PIN-POINT THE PROBLEM; THE DISKETTE DUMP WILL HELP DATA GENERAL IMPROVE THE DOS SYSTEM AND MINIMIZE FUTURE ERRORS. THE LINE PRINTER DUMP HAS THREE PARTS: THE LEFT COLUMN SHOWS A MEMORY ADDRESS, THE MIDDLE 8 COLUMNS SHOW THE CONTENTS OF EACH WORD IN THE ADDRESS, AND THE RIGHT COLUMN SHOWS THE ASCII VALUE (IF ANY) OF EACH BYTE IN THE ADDRESS. FIGURE F-1 CONTAINS A SAMPLE LINE PRINTER DUMP.

ON EXCEPTIONAL STATUS, THE CONSOLE WILL SHOW THE ACCUMULATORS AND AN ERROR CODE, FOLLOWED BY ONE OF THE FOLLOWING MESSAGES (DEPENDING ON THE TYPE OF SYSTEM YOU ARE RUNNING AND THE OPTION SELECTED AT SYSGEN TIME.

IF YOU WANT TO DUMP THE ENTIRE ADDRESS SPACE ON A LINE PRINTER DUMP, PRESS THE CONTINUE SWITCH TWICE. THE DUMP WILL EXECUTE, AND THE MESSAGE WILL RE-APPEAR. IF YOU WANT TO DUMP SELECTED PORTIONS OF MEMORY, PLACE THE STARTING ADDRESS IN THE DATA SWITCHES AND PRESS CONTINUE; THE CPU WILL HALT. ENTER THE ENDING ADDRESS IN THE SWITCHES AND PRESS CONTINUE AGAIN. THE DUMP WILL THEN PROCEED AND THE MESSAGE WILL THEN RETURN. TO DUMP ANOTHER SECTION OF MEMORY, REPEAT THE SEQUENCE WITH THE DATA SWITCHES. YOU CAN ABORT THE $LPT DUMP AT ANY TIME BY STRIKING ANY KEY ON THE CONSOLE; THE MESSAGE WILL THEN OCCUR AGAIN.

1) NOVA/MICRONOVA DOS - LINE PRINTER

```
CORE DUMP SYSGEN'ED FOR LINE PRINTER
DO YOU WISH TO CONTINUE? (Y OR N) Y
                                  -
   (CORE DUMP PROCEEDS)
*** DONE ***
CORE DUMP SYSGEN'ED FOR LINE PRINTER
DO YOU WISH TO CONTINUE? (Y OR N) N
                                  -
*** ABORTING CORE DUMP ROUTINE ***
```

2) NOVA/MICRONOVA DOS - SINGLE DENSITY DISKETTES

```
CORE DUMP SYSGEN'ED FOR SINGLE DENSITY DISKETTES
DO YOU WISH TO CONTINUE? (Y OR N) Y
                                -
PLACE SINGLE DENSITY DISKETTE INTO DPX      (WHERE "X" WAS SELECTED
STRIKE ANY KEY WHEN READY                    AT SYSGEN TIME)
   (CORE DUMP PROCEEDS)
*** DONE ***
CORE DUMP SYSGEN'ED FOR SINGLE DENSITY DISKETTES
DO YOU WISH TO CONTINUE? (Y OR N) N
                                -
*** ABORTING CORE DUMP ROUTINE ***
```

3) NOVA/MICRONOVA DOS - DOUBLE DENSITY DISKETTES

```
CORE DUMP SYSGEN'ED FOR DOUBLE DENSITY DISKETTES
DO YOU WISH TO CONTINUE? (Y OR N) Y
                                -
                                  DPX     (NOVA)
PLACE DOUBLE DENSITY DISKETTE INTO
                                  DEX     (MICRONOVA)
STRIKE ANY KEY WHEN READY
   (CORE DUMP PROCEEDS)
*** DONE ***
CORE DUMP SYSGEN'ED FOR DOUBLE DENSITY DISKETTES
DO YOU WISH TO CONTINUE? (Y OR N) N
                                -
*** ABORTING CORE DUMP ROUTINE ***
```

IN ALL CASES, THIS CORE DUMP ROUTINE ASSUMES YOU HAVE A 32KW SYSTEM AND WILL DUMP OUT THE ENTIRE ADDRESS SPACE, INCLUDING ANY ROM AT THE TOP OF MEMORY (MP200/MN601).

YOU MAY THEN PROCEED TO REBOOTSTRAP DOS ON A BACKUP DISK(ETTE). IF THE ERROR RECURS WITHOUT A PLAUSIBLE EXPLANATION, PLEASE ARRANGE TO DELIVER THE CORE DUMP DISKETTE OR LISTING AND A SOFTWARE TROUBLE REPORT (STR) TO YOUR DATA GENERAL REPRESENTATIVE.

PROCEDURE FOR TAKING A CORE DUMP AFTER A SYSTEM CRASH

WITH A PROGRAMMED CONSOLE, PRESS RESET AND TYPE 11/. WITH HARDWARE DATA SWITCHES, LIFT RESET AND ENTER 11 (OCTAL) IN THE DATA SWITCHES. LIFT EXAMINE. WITH A HANDHELD CONSOLE ON A MICRONOVA, PRESS RESET, AND CLR D, ENTER 000011 IN THE KEYS, PRESS MEM AND START.

NOTE THE NUMBER DISPLAYED OR RETURNED IN THE DATA LIGHTS. WITH A PROGRAMMED CONSOLE, TYPE THIS NUMBER IMMEDIATELY FOLLOWED BY AN "R". WITHOUT A PROGRAMMED CONSOLE, ENTER THIS NUMBER WITH KEYS OR SWITCHES AND PRESS RESET, THEN START. THE CONSOLE WILL THEN DISPLAY THE CONTENTS OF THE ACCUMULATORS, AN ERROR CODE, AND THE DUMP QUERY, DEPENDING ON THE OPTION SELECTED AT SYSGEN TIME. (1,2, OR 3 ABOVE). THEN PROCEED WITH THE SEQUENCE DESCRIBED FOR EXCEPTIONAL STATUS DUMPS.

HOW TO GENERATE YOUR DOS SYSTEM (093-000222-01)

CHAPTER 1

PAGE 1-7

INSERT THE FOLLOWING AFTER TABLE 1-1.
THE FOLLOWING TABLES SHOWS THE DISKS SUPPORTED BY MICRONOVA DOS, THEIR MNEMONICS, DEVICE CODES AND STORAGE CAPACITY.

MICRO NOVA	DISK TYPE	DISK MNEMONIC	DEVICE CODE
	6038	DP0	33
		DP1	
		DP2	73
		DP3	
		DP4	30
		DP5	
		DP6	70
		DP7	
	6095	DH0	27
		DH0F	
		DH1	67
		DH1F	
	6096 OR 6102 OR 6105	DE0	26
		DE1	
		DE2	
		DE3	
		DE4	66
		DE5	
		DE6	
		DE7	

DISK TYPE	STORAGE CAPACITY (BYTES)
6038	315,392
6096	1,261,568
6095	10,027,008
6102	12,582,912
6105	25,165,824

NOTES:

A. ONLY ONE 6102 OR 6105 HARD DISK PER CONTROLLER.

B. ONLY 6095 DISK DRIVES HAVE THE FIXED PLATTER, THOSE DISKS WITH MNEMONICS ENDING WITH AN 'F'. (E.G., DH1F OR DH0F)

C. THE 6101 UNIT CONSISTS OF TWO SEPARATE DISKS; A SINGLE 6102 DISK DRIVE (12.5MB) AND A SINGLE 6096 DISK DRIVE (1.2MB)

D. THE 6104 UNIT CONSISTS OF TWO SEPARATE DISKS; A SINGLE 6105 DISK DRIVE (250MB) AND A SINGLE 6096 DISK DRIVE (1.2MB).

PAGE 1-7

INSERT THE FOLLOWING AFTER TABLE 1-1.
THE FOLLOWING TABLES SHOW THE DISKS SUPPORTED BY NOVA DOS, THEIR MNEMONICS

DEVICE CODES AND STORAGE CAPACITY.

NOVA 3 NOVA 4	6030 OR 6045 OR 6097 OR 6099 OR 6103	DP0	33
		DP0F	
		DP1	
		DP1F	
		DP2	
		DP2F	
		DP3	
		DP3F	
		DP4	73
		DP4F	
		DP5	
		DP5F	
		DP6	
		DP6F	
		DP7	
		DP7F	

DISK TYPE	STORAGE CAPACITY (BYTES)
6030	315,392
6097	1,261,568
6045	10,027,008
6099	12,582,912
6103	25,165,824

NOTES:

A. ONLY ONE 6099 OR 6103 HARD DISK PER CONTROLLER

B. USE OF 6097/6099/6103 ON ONE CONTROLLER EXCLUDES THE USE OF 6030/6045 DISKS ON THE SAME CONTROLLER AND VICE VERSA.

C. ONLY THE 6045 DISK DRIVES HAVE THE FIXED PLATTER, THOSE DISKS WITH MNEMONICS ENDING WITH AN 'F'. (E.G. DP1F OR DP2F)

D. THE 6098 UNIT CONSISTS OF TWO SEPARATE DISK; A SINGLE 6099 DISK DRIVE (12.5MB) AND A SINGLE 6097 DISK DRIVE (1.2MB)

E. THE 6100 UNIT CONSISTS OF TWO SEPARATE DISK UNITS; A SINGLE 6103 DISK DRIVE (25.0MB) AND A SINGLE 6097 DISK DRIVE (1.2MB)

```
PAGE 2-3
--------
IN TABLE 2-1, BELOW "DOSINIT.SV"
ADD "MLM.MC    - SINGLE DENSITY DISKETTE (6038) MICRONOVA LINK MACRO
     NLM.MC    - SINGLE DENSITY DISKETTE (6030) NOVA LINK MACRO"

PAGE 2-10,2-13,3-9,3-11
-----------------------
AFTER STEP 25, ADD:
"RELEASE DP0
 REMOVE THE FIRST UTILITIES DISKETTE FROM DRIVE DP0 AND STORE IT SAFELY.
 INSERT THE SECOND UTILITIES DISKETTE IN DRIVE DP0 AND GO BACK TO THE
 BEGINNING OF STEP 25."

PAGE 4-2
--------
IN TABLE 4-1, ADD:
   "NLM.MC    - NOVA SINGLE DENSITY DISKETTE (6030) LINK MACRO
    MLM.MC    - MICRONOVA SINGLE DENSITY DISKETTE (6038) LINK MACRO"

IN TABLE 4-1,
CHANGE "MLM.MC   - SINGLE DENSITY DISKETTE LINK MACRO"
TO     "MLM.MC   - MICRONOVA SINGLE DENSITY DISKETTE (6038) LINK MACRO"

PAGE 5-3
--------
IN TABLE 5-1, ADD:
   "NLM.MC   - NOVA SINGLE DENSITY DISKETTE (6030) LINK MACRO
    MLM.MC   - MICRONOVA SINGLE DENSITY DISKETTE (6038) LINK MACRO"

PAGE 5-10
---------
CHANGE ALL OCCURENCES OF "MLM" TO "NLM".

PAGE 6-3
--------
AFTER ". SOFT ERROR REPORTING ("0"=NO "1"=YES)?",
CHANGE "TO DISKETTES ONLY"
TO     "TO SINGLE DENSITY DISKETTES (6030/6038) ONLY"

PAGE 6-4
--------
CHANGE "NUMBER OF 6096/6102 DISK CONTROLLERS (0-2)?"
TO     "NUMBER OF 6096/6102/6105 DISK CONTROLLERS (0-2)?"

CHANGE "A 6096/6102 DISK CONTROLLER CAN SUPPORT ONE SEALED SINGLE"
TO     "A 6096/6102/6105 DISK CONTROLLER CAN SUPPORT ONE SEALED SINGLE
        OR DUAL"

PAGE 6-5
--------
UNDER   ".NUMBER OF MAG TAPE DRIVES(0-8)"
DELETE  "FOR MICRONOVA SYSTEMS, TYPE 0). FOR NOVA SYSTEMS,"
```

PAGE 6-7

BEFORE "ALM?("0"=NO, "1"=YES)"

ADD "ULM? ("0"=NO "1"=YES)

IF YOU WANT THE NEW SYSTEM TO SUPPORT A UNIVERSAL LINE MULTIPLEXOR (ULM), ANSWER 1 <CR>. IF NOT, ANSWER 0 <CR>. IF YOU SPECIFY A ULM, SYSGEN WILL USE FILE ALMSPD.RB TO SET LINE CHARACTERISTICS FOR THE ULM LINES. FOR FUTURE SYSTEMS, YOU CAN SPECIFY YOUR OWN LINE CHARACTERISTICS BY EDITING FILE ALMSPD.SR (USING A TEXT EDITOR), AND THEN ASSEMBLING ALMSPD.SR USING THE MACRO-ASSEMBLER (MAC.SV). THIS WILL PRODUCE A NEW ALMSPD.RB WHICH FUTURE SYSGENS WILL USE TO IMPLEMENT THE LINE CHARACTERISTICS YOU WANT.

THE ULM MULTIPLEXOR LINES WILL HAVE DOS FILENAMES QTY:0 THROUGH QTY:3 OR (QTY:7) WHEN THE SYSTEM RUNS.

*DEVICE PRIMARY("0") OR SECONDARY("1")?

IF YOUR ULM IS ASSIGNED TO DEVICE CODE 34 OCTAL, ANSWER 0; IF IT IS ASSIGNED TO DEVICE CODE 44 OCTAL, ANSWER 1.

*LINE SPEED (BITS/SEC)? ("1"=19200 "2"=50 "3"=75
"4"=134.5 "5"=200 "6"=600 "7"=2400 "8"=9600
"9"=4800 "10"=1800 "11"=1200 "12"=2400 "13"=300
"14"=150 "15"=110)

YOU MUST SELECT THE BAUD RATE WHICH WILL BE USED AS A DEFAULT LINE SPEED FOR THOSE LINES WHOSE CHARACTERISTICS DID NOT CHANGE BY THE EDITING OF ALMSPD.SR AS DISCUSSED ABOVE.

*USE DEFAULT QTY/ALM/ULM INTERRUPT CHARACTERS ("0"=NO "1"=YES)?

THE DEFAULT INTERRUPT CHARACTERS FOR MUX LINES ARE CTRL-A AND CTRL-C. IF YOU WANT TO USE THESE CHARACTERS FOR GENERATING LINE INTERRUPTS, TYPE 1, OTHERWISE TYPE 0. IF YOU ANSWERED NO ("0") TO THIS QUESTION SYSGEN WILL ASK THE NEXT TWO QUESTIONS.

*FIRST CHARACTER (ASCII DECIMAL CODE OR 128=NONE)

ENTER THE INTERRUPT CHARACTER YOU WANT USED INSTEAD OF CTRL-A, IN THE DECIMAL VERSION OF ASCII (E.G. 27 FOR ESC), OR ENTER 128 TO OMIT AN INTERRUPT CHARACTER.

*SECOND CHARACTER (ASCII DECIMAL CODE OR 128=NONE)

ENTER THE INTERRUPT CHARACTER YOU WANT USED INSTEAD OF CTRL-C, OR ENTER 128 IF NO SECOND INTERRUPT CHARACTER IS DESIRED.

PAGE 6-8

BEFORE "THE CORE DUMP QUESTION.....",
ADD "IF YOU ANSWERED YES TO THE CORE DUMP FACILITY QUESTION, SYSGEN WANTS TO KNOW WHERE THE CORE DUMP SHOULD BE WRITTEN. FOR NOVA SYSTEMS, SYSGEN ASKS:

* CORE DUMP OUTPUT TO ("0"=LPT "1"=6030 "2"=6097)?

FOR MICRONOVA SYSTEMS, SYSGEN ASKS:

* CORE DUMP OUTPUT TO ("0"=LPT "1"=6038 "2"=6096)?

IF YOU SELECT EITHER 6030/6097 DISKETTES ON A NOVA SYSTEM OR 6038/6096 DISKETTES ON A MICRONOVA SYSTEM, SYSGEN ASKS FOR THE UNIT NUMBER OF THE DISKETTE WHICH WILL RECEIVE THE DUMP.

* UNIT NUMBER OF DISKETTE DRIVE? (0-7)

RESPOND WITH THE APPROPRIATE UNIT NUMBER.

FOR THOSE USERS WITH 6099/6103 OR 6102/6105 DISK DRIVES WITH 6097 OR 6096 DOUBLE DENSITY DISKETTES, BE AWARE OF THE SETTING OF THE DRIVE 0 SELECT SWITCH ON THE LOWER RIGHT HAND CORNER OF THE DRIVE FOR THAT CONTROLLER WHEN SELECTING UNIT NUMBERS 0,1,4,5.

PAGE 6-10

IN FIGURE 6-1,

AFTER "MAXIMUM NUMBER OF SUBDIRECTORIES ACCESSIBLE AT ONE TIME (0-32) $6"
ADD "ENTER NUMBER OF MAG TAPE DRIVES (0-8) $0"

AFTER "QTY? ("0"=NO "1"=YES)"
ADD "ULM? ("0"=NO "1"=YES)"

PAGE 6-10

DELETE TABLE 5-1 AND SUBSTITUTE THE FOLLOWING TABLE.

TABLE 1.1

DESCRIPTION	SIZE IN WORDS
SKELETAL DOS	
NOVA DOS (WITH SIX BUFFERS AND ONE STACK)	6164
MICRO-NOVA DOS (WITH SIX BUFFERS AND ONE STACK)	6166
HAND HELD CONSOLE	59
FIRST MICRO-NOVA DISKETTE (6038) CONTROLLER	537
EACH ADDITIONAL MICRO-NOVA DISKETTE (6038) CONTROLLER	33
EACH DISKETTE (6038) DRIVE	34
FIRST NOVA DISK (6030/6045/6097/6099) CONTROLLER	511
EACH ADDITIONAL NOVA DISK/DISKETTE CONTROLLER	33
EACH DISK/DISKETTE DRIVE	33
SOFT ERROR REPORTING	301
FIRST MICRO-NOVA 6095 DISK CONTROLLER	347
SECOND MICRO-NOVA 6095 DISK CONTROLLER	97
EACH DISK DRIVE (FIXED AND REMOVABLE)	68
FIRST MICRONOVA 6096/6102 DISK(ETTE) CONTROLLER	454
SECOND MICRONOVA 6096/6102 DISK(ETTE) CONTROLLER	33
EACH DISK(ETTE) DRIVE	33
BAD BLOCK REMAPPING (REQUIRED FOR ALL DISKS EXCEPT 6030/38)	71
EACH STACK (PLUS TWO CELLS)	243
EACH EXTRA BUFFER	270
EACH DIRECTORY	33
MAGNETIC TAPE CONTROLLER	484
EACH TAPE DRIVE	14
AUTO RESTART	
NOVA	180
MICRO-NOVA	188
REAL TIME CLOCK	0
PAPER TAPE READER	103
PAPER TAPE PUNCH	94
LINE PRINTER (FIRST)	82
LINE PRINTER (SECOND)	69
QTY MULTIPLEXOR INTERFACE	
NOVA	754
MICRO-NOVA	796
ULM MULTIPLEXOR	
ALM MULTIPLEXOR	1011
SECOND TTY	271
CORE DUMP FACILITY	135
NOVA	
LINE PRINTER	244
6030 DISKETTES	286
6097 DISKETTES	286
MICRONOVA	
LINE PRINTER	244
6038 DISKETTES	272
6096 DISKETTES	392

PAGE 6-11

IN FIGURE 6-2,
AFTER "QTY? ("0"=NO "1"=YES)"
ADD "ULM? ("0"=NO "1"=YES)"

PAGE 6-12

IN FIGURE 6-3,
AFTER "MAXIMUM NUMBER OF SUBDIRECTORIES ACCESSIBLE AT ONE TIME (0-32) $6"
ADD "ENTER NUMBER OF MAG TAPE DRIVES (0-8) $0"

IN FIGURES 6-3 AND 6-4,
AFTER "QTY? ("0"=NO "1"=YES)"
ADD "ULM? ("0"=NO "1"=YES)"

CHANGE "FIGURE 6-3. DOUBLE DENSITY DISKETTE BASED ...."
TO "FIGURE 6-3. SINGLE DENSITY DISKETTE BASED ...."

ADD THE FOLOWING FIGURE TO THE PAGE.

FIGURE 6-5. NOVA DOUBLE DENSITY DISKETTE (6097) BASED DOS SYSGEN DIALOG

```
DOS SYSGEN REV 3.30
VALID ANSWERS ARE IN PARENTHESES RESPOND ACCORDINGLY

CORE STORAGE (IN THOUSANDS OF WORDS 16-32) $32
IS THE SYSTEM FOR A MICRONOVA ("0"=NO "1"=YES)? $0
NUMBER OF DISK CONTROLLERS (1-2)? 1
  DEVICE PRIMARY ("0") OR SECONDARY ("1")? $0
  NUMBER OF DRIVES FOR CONTROLLER #1 (1-4)? $2
    ARE ANY 6045 TYPE ("0"=NO "1"=YES)? $0
    ARE ANY 6030 TYPE ("0"=NO "1"=YES)? $0
ENTER BAD BLOCK POOL SIZE IN BLOCKS (0-512) $12
ENTER NUMBER OF STACKS (1-10) $3
ENTER NUMBER OF EXTRA BUFFERS REQUIRED (0-32) $4
MAXIMUM NUMBER OF SUBDIRECTORIES ACCESSIBLE AT ONE TIME (0-32) $10
ENTER NUMBER OF MAG TAPE DRIVES (0-8) $1
AUTO RESTART ON POWER FAIL ("0"=NO "1"=YES)? $1
RTC? ("0"=NO "1"=YES) $1
  RTC PRIMARY ("0") SECONDARY ("1") OR INTERNAL ("2")? $0
    ENTER RTC FREQ (1=10HZ,2=50HZ,3=60HZ,4=100HZ,5=1000HZ) $1
PAPER TAPE READER? ("0"=NO "1"=YES) $0
PAPER TAPE PUNCH? ("0"=NO "1"=YES) $0
ENTER NUMBER OF LPT (0-2) $0
CARD READER? ("0"=NO "1"=YES) $0
PLOTTER? ("0"=NO "1"=YES) $0
QTY? ("0"=NO "1"=YES) $0
ULM? ("0"=NO "1"=YES) $0
ALM? ("0"=NO "1"=YES) $0
COLUMN SIZE FOR $TTO (80-132) $132
SECOND TTY? ("0"=NO "1"=YES) $0
CORE DUMP FACILITY?("0"=NO "1"=YES) $0
```

PAGE 7-5

AFTER "MASTER DEVICE RELEASED"
CHANGE "FLIP THE POWER SWITCH TO OFF"
TO "FLIP THE LOAD/READY SWITCH TO LOAD"

PAGE 7-4

CHANGE "DKINIT"
TO "DOSINIT"

PAGE 9-2

CHANGE "MICROBOOT.SV - MICRONOVA BOOTSTRAP INSTALLATION PROGRAM"

TO "MICROBOOT.SV - MICRONOVA (SINGLE DENSITY DISKETTE) BOOTSTRAP INSTALLATION PROGRAM.
MICRODBOOT.SV - MICRONOVA (DOUBLE DENSITY DISKETTE) BOOTSTRAP INSTALLATION PROGRAM.

DBURST.SV - NOVA SYSTEM DISK BACKUP PROGRAM

MBURST.SV - MICRONOVA SYSTEM DISK BACKUP PROGRAM

N3SAC3.RB - TO SAVE HARDWARE STACK AND FRAME POINTERS FOR NOVA 3'S

TBOOT.SV - BOOT FILE FOR MAG TAPES (NOVA DOS ONLY)"

CLI

A). CHANGES TO REV COMMAND

IF A MINOR OR MAJOR REVISION LEVEL NUMBER IS FOUND TO BE > 99, IT WILL BE DISPLAYED AS 99.

IF THE 180 OF THE MAJOR REVISION LEVEL NUMBER (BIT 0 OF THE REVISION LEVEL WORD) IS ON, THE CODE "PR" WILL BE DISPLAYED APPENDED TO THE REVISION LEVEL NUMBER TO INDICATE THAT THE SAVE FILE IS A "PRE-RELEASE" VERSION.

IF THE 180 OF THE MINOR REVISION LEVEL NUMBER (BIT 8 OF THE REVISION LEVEL WORD) IS ON, THE CODE " PATCHED" WILL BE DISPLAYED APPENDED TO THE REVISION LEVEL NUMBER TO INDICATE THAT THE SAVE FILE IS A "PATCHED" VERSION.

EXAMPLE: REV CLI
CLI.SV 05.03PATCHED

THE RESPONSE "CLI.SV 05.03PATCHED" INDICATES THAT THE MAJOR REVISION NUMBER OF CLI.SV IS 05, THAT THE MINOR REVISION NUMBER IS 03 AND THAT IT IS A PATCHED VERSION.

B.) CHANGES TO THE DUMP COMMAND

UNDER GLOBAL SWITCHES ADD:

/N - DUMP THE RESOLUTION FILES FOR ANY LINKS IN LIST. COMPLETE LINK PATH MUST EXIST WITH ALL DIRECTORIES INITED.

USER'S MANUAL - SYMBOLIC DEBUGGER (093-000044-04, 093-000140-00)

PAGE 15

IN THE SECTION CALLED "PROGRAM RESTART COMMANDS", THE $R COMMAND IS USED TO START THE PROGRAM INITIALLY.

A SECOND $R COMMAND CAUSES THE ERROR MESSAGE $R?. IN ORDER TO RESTART, ONE MUST USE THE COMMAND ADDRESS$R.

ASM (EXTENDED ASSEMBLER) (093-000040-01, 093-000139-00)

PAGE 6-17

THE .COMM PSEUDO-OP MUST COME BEFORE OTHER CODE, IMMEDIATELY AFTER THE .TITL PSEUDO-OP.

LFE (LIBRARY FILE EDITOR)

PAGE XX

THE 'X' FUNCTION OF LFE CANNOT EXTRACT A MODULE WHOSE TITLE (MAC'S .TITL PSEUDO-OP) CONTAINS A "." CHARACTER, UNLESS IT IS THE FIRST CHARACTER -- THEN IT IS CHANGED TO "$".

FOR EXAMPLE, .MAIN BECOMES $MAIN.RB

FDUMP/FLOAD

THE FOLLOWING DOCUMENTS THE MESSAGES DISPLAYED BY FDUMP AND/OR FLOAD. THIS OBSOLETES THE CLI MANUAL DOCUMENTATION OF FDUMP/FLOAD MESSAGES.

PLEASE NOTE:

FDUMP AND FLOAD ARE DESIGNED TO RUN UNDER RDOS- THEY USE NORMAL USER FACILITIES FOR DOING I/O. AS SUCH, ONLY DISKS WITH VALID FILE STRUCTURES SHOULD BE LOADED OR DUMPED. IF BAD DISKS ARE DUMPED OR LOADED ONTO, THERE IS A STRONG LIKELYHOOD OF AN UNRECOVERABLE ERROR OCCURRING.

MESSAGES COMMON TO FDUMP AND FLOAD

MESSAGE: SYS ERR RETN- OFFSET: N..N IN X..X
CONDITION: AN ERROR HAS BEEN ENCOUNTERED FOR WHICH THERE IS NO RECOVERY IMPLEMENTED. N..N IS THE RELATIVE OFFSET IN THE SOURCE MODULE X..X . THIS INFO. IS MEANT FOR DGC USE AND SHOULD BE PROVIDED WITH ANY CORRESPONDENCE WITH DGC. THE ERROR IS CAUSED BY A SYSTEM ERROR RETURN FROM A FDUMP/FLOAD REQUEST. AFTER THE ABOVE ERROR IS REPORTED BY FDUMP/FLOAD CONTROL IS RETURNED TO THE CLI WHICH ALSO DISPLAYS AN ERROR MESSAGE. THE CLI'S MESSAGE SHOULD BE USED TO DETERMINE THE SOURCE OF THE ERROR.
DISPOSITION: SEE THE LISTS BELOW UNDER FLOAD AND FDUMP MESSAGES.

MESSAGE: SYS ERR RETN- OFFSET: N..N IN MTIO
CONDITION: SEE THE DESCRIPTION ABOVE. WHERE N..N IS:
771 .XMT WAS ISSUED TO TAPE I/O TASK.
1001 .GCHAR WAS ISSUED TO GET OPER. KEY STROKE.
1102 .XMT WAS ISSUED TO TAPE I/O TASK.
1347 .XMT WAS ISSUED FROM TAPE I/O TASK.

MESSAGE: SYS ERR RETN- OFFSET: N..N IN GPSUB
CONDITION: SEE DESCRIPTION OF MESSAGE ABOVE. WHERE N..N IS:
372 .PCHAR WAS ISSUED FROM TYPE ROUTINE.
605 .CREATE WAS ISSUED FOR SPECIFIED LIST FILE.
610 .OPEN WAS ISSUED FOR SPECIFIED LIST FILE.
614 .WRL WAS ISSUED FOR SPECIFIED LIST FILE.
742 .OPEN WAS ISSUED FOR CLI COM.CM FILE.
746 .RDL WAS ISSUED TO CLI COM.CM FILE.
753 .RDS WAS ISSUED FOR CLI COM.CM FILE.
777 SAME AS 753
1047 .CLOSE WAS ISSUED FOR CLI COM.CM FILE.

MESSAGE: INVALID COMMAND STRING!
CONDITION: THE CLI COMMAND STRING PROVIDED CONTAINS AN ERROR.
DISPOSITION: CONSULT THE CLI MANUAL FOR THE CORRECT COMMAND SYNTAX.

MESSAGE: MOUNT NEXT REEL, STRIKE KEY WHEN READY.
CONDITION: END OF REEL HAS BEEN REACHED ON A MULTIREEL OPERATION AND NO ALTERNATE REEL HAS BEEN PROVIDED.
DISPOSITION: SELF EXPLANATORY.

MESSAGE: MTN NOT READY- MAKE IT READY!
CONDITION: INDICATED UNIT IS NOT ONLINE.
DISPOSITION: SIMPLY PUT UNIT ONLINE AND PROGRAM WILL CONTINUE.

MESSAGE: ERR CODE N..N RETURNED FROM MTDIO CALL.
CONDITION: A CALL WAS MADE TO RDOS' MTDIO MODULE WHICH DID AN ERROR RETURN FOR WHICH NO RECOVERY IS IMPLEMENTED. THE OPERATION IS TERMINATED AND THE CLI IS INVOKED- THE CLI IN TURN DISPLAYS THE INTERPRETATION FOR THE CODE SHOWN.
DISPOSITION: DETERMINE THE SOURCE OF THE ERROR FROM THE INFORMATION DISPLAYED AND RESTART AFTER CORRECTION IS MADE.

MESSAGE: STATUS N..N RETURNED FROM MTDIO CALL.
CONDITION: AN UNCORRECTABLE TAPE ERROR WAS ENCOUNTERED IN A PLACE WHICH IS FATAL TO FDUMP/FLOAD.
DISPOSITION: TRY TO DETERMINE SOURCE OF ERROR FROM STATUS GIVEN, CORRECT IF POSSIBLE, AND CONTINUE. CONSULT PERIPHERALS MANUAL FOR DEFINITION OF STATUS BITS SHOWN.

MESSAGE: ERR CODE N RETURNED BY MTIO.
CONDITION: MTIO IS AN INTERFACE SUBROUTINE TO RDOS' MTDIO. BOTH FDUMP AND FLOAD USE THIS ROUTINE FOR THEIR TAPE PROCESSING. WHEN CALLED, MTIO DOES SOME CONSISTENCY CHECKING- IT VERIFIES THAT IF A WRITE IS REQUESTED THE TARGET TAPE MUST HAVE BEEN PREVIOUSLY OPENED FOR WRITE, ETC. THE CODES RETURNED ARE AS FOLLOWS:

0- AN END OF FILE HAS BEEN ENCOUNTERED WHICH FLOAD HAS DETERMINED TO BE PREMATURE.
1- THE END OF THE DUMP HAS BEEN ENCOUNTERED AND FLOAD HAS DETERMINED IT TO BE PREMATURE.
2- INCONSISTENT CALL TO MTIO- OPEN WAS ISSUED AND FILE WAS ALREADY OPEN OR OPEN INCORRECTLY.
3- INCONSISTENT CALL TO MTIO- COMMAND WAS ISSUED AND FILE WAS NOT PREVIOUSLY OPENED OR WAS OPEN INCORRECTLY.
4- UNCORRECTABLE TAPE STATUS ERROR WAS RETURNED BY RDOS- THIS ERROR SHOULD ALWAYS BE REPORTED BY THE STATUS MESSAGE ABOVE IF THE ERROR WAS ENCOUNTERED IN A PLACE WHERE NO RECOVERY IS IMPLEMENTED.

DISPOSITION: THESE ERRORS ARE PROBABLY A RESULT OF SOME TAPE DRIVE PROBLEM OR SOME BUG IN THE SOFTWARE. IF IT IS DETERMINED TO BE ADVANTAGEOUS TRY RESTARTING THE OPERATION; OTHERWISE REPORT THE ERROR TO DGC, INCLUDING ALL INFORMATION AVAILABLE.

FDUMP MESSAGES

MESSAGE: TAPE WRITE PROTECTED, INSERT RING AND STRIKE ANY KEY.
CONDITION: SELF EXPLANATORY.
DISPOSITION: SELF EXPLANATORY.

MESSAGE: SYS ERR RETN: OFFSET: N..N IN FD
CONDITION: SEE DESCRIPTION OF MESSAGE ABOVE. WHERE N..N IS:

20	.STAT WAS ISSUED FOR CURRENT DIRECTORY'S SYS.DR
35	.GDIR WAS ISSUED TO GET CURRENT DIRECTORY.
60	.INIT FOR A DIRECTORY WAS ISSUED.
73	.ROPEN OF A SYS.DR WAS ISSUED.
100	.GTATR WAS ISSUED FOR A SYS.DR.
305	.RDB WAS ISSUED FOR A SYS.DR BLOCK.
311	.CLOSE WAS A SYS.DR WHICH WAS PREVIOUSLY .ROPEN'D.
341	.RLSE OF PREVIOUSLY INIT'D DIRECTORY.
371	.TASK ISSUED FOR DISK INPUT TASK.
445	.TASK ISSUED TO DISK INPUT TASK.
460	SAME AS 445
473	.CLOSE ISSUED FOR DISK FILE PREVIOUSLY .OPEN'D.
563	.XMT ISSUED FROM DISK INPUT TASK.
567	.RDB ISSUED IN DISK INPUT TASK.
615	.RDS ISSUED IN DISK INPUT TASK.

MESSAGE: X..X CAN'T OPEN- ERR CODE NNN.
CONDITION: ERROR RETURN FROM .OPEN OF A FILE WAS TAKEN.
DISPOSITION: FILE IS DISCARDED AND DUMPING CONTINUES. CONSULT CLI MANUAL FOR DESCRIPTION OF ERROR CODE DISPLAYED.

MESSAGE: X..X IS READ-LOCKED-- NOT DUMPED.
CONDITION/ SELF-EXPLANATORY
DISPOSITION:

FLOAD MESSAGES

MESSAGE: SYS ERR RETN- OFFSET: N..N IN FR
CONDITION: SEE DESCRIPTION OF MESSAGE ABOVE. WHERE N..N:

15	.GDIR ISSUED FOR CURRENT DIRECTORY.
22	.TASK ISSUED TO INITIATE DISK OUTPUT TASK.
73	.DIR ISSUED TO CHANGE CURRENT DIRECTORY.
133	.RLSE ISSUED FOR DIR. PREVIOUSLY DIR'D .
202	.CPAR WAS ISSUED.
351	.LINK WAS ISSUED.
422	.STAT FOR A FILE WAS ISSUED.
442	.CCONT WAS ISSUED.
475	.OPEN WAS ISSUED FOR A FILE.
513	.CHATR WAS ISSUED.
517	.CHLAT WAS ISSUED.
522	.CLOSE OF DISK FILE WAS ISSUED.
617	.SPOS FOR A FILE WAS ISSUED.
671	.XMT TO DISK OUTPUT TASK WAS ISSUED.
1143	.WRB ISSUED IN DISK OUTPUT TASK.
1150	.XMT ISSUED FROM DISK OUTPUT TASK.
1160	.WRS ISSUED FROM DISK OUTPUT TASK.

MESSAGE: TAPE HAS WRONG REEL NO.
CONDITION: FLOAD HAS DETERMINED THAT THE INCORRECT REEL OF A MULTIREEL DUMP HAS BEEN ENCOUNTERED.
DISPOSITION: FOLLOW THE INSTRUCTIONS PROVIDED BY THE MESSAGE DISPLAYED AFTER THIS ONE.

MESSAGE: RECORD COUNT DOES NOT AGREE WITH TAPE TRAILER!
CONDITION: WHEN DUMP WAS RUN A TRAILER LABEL CONTAINING A COUNT OF THE NO. OF TAPE BLOCKS WRITTEN, WAS WRITTEN AT THE END OF EACH TAPE REEL. WHEN TAPE IS READ BACK THE COUNT IS REGENERATED AND CHECKED- FLOAD HAS DETERMINED THAT A CHECK ERROR HAS OCCURRED.
DISPOSITION: PROBABLY A RESULT OF MALFUNCTIONING HARDWARE.

MESSAGE: X..X FILE ALREADY EXISTS- NOT LOADED.
CONDITION: SELF-EXPLANATORY
DISPOSITION:

MESSAGE: UNRECOVERABLE TAPE ERROR WHILE RESTORING FILE- X..X POSITIONING TO NEXT READABLE FILE.
CONDITION/ DISPOSITION: FLOAD HAS ENCOUNTERED AN UNRECOVERABLE TAPE READ ERROR WHILE GETTING A BLOCK OF A DATA FILE. THE FILE IS CLOSED ON THE DISK IN ITS INCOMPLETE FORM AND THE TAPE IS FORWARD POSITIONED TO THE BEGINNING OF THE NEXT READABLE FILE, IF ANY. TO DETERMINE WHAT FILES WERE LOST IT MAY BE USEFUL TO DO A FLOAD/N WHICH WILL DISPLAY A LIST OF THE FILES INCLUDED IN THE DUMP. THE LIST IS GENERATED FROM A HEADER FILE AT THE BEGINNING OF THE DUMP. THIS HEADER'S PURPOSE IS ONLY FOR DISPLAYING THE FILES INCLUDED IN THE DUMP. COMPARE THE 2 LISTINGS, THEN, TO DETERMINE WHAT WAS LOST.

MESSAGE: X..X IS WHERE CONTINUING.
CONDITION/ DISPOSITION: THIS IS THE CONTINUATION OF THE ABOVE DESCRIBED ERROR CONDITION. SEE THE INSTR. ABOVE.

MESSAGE: UNRECOVERABLE TAPE ERROR AFTER LAST NAME DISPLAYED.
CONDITION/ DISPOSITION: FLOAD WAS TRYING TO READ THE NEXT FILE HEADER, WHICH CONTAINS ITS NAME, ETC.(UFD IMAGE) WHEN THE UNRECOVERABLE ERROR OCCURRED. THE TAPE IS FORWARD SPACED TO THE NEXT READABLE FILE, IF ANY. SEE THE PRECEDING 2 ERROR MESSAGE DESCRIPTIONS.

MESSAGE: UNRECOV. TAPE ERR. RDING DUMP HDR_ REPOS. TO NEXT RDABLE FILE.
CONDITION/ DISPOSITION: THE HEADER AT THE BEGINNING OF THE DUMP HAS AN UNRECOVERABLE TAPE READ ERROR. SINCE THIS HEADER IS USED ONLY FOR DISPLAY THE NAMES ARE THE ONLY THING LOST IF RECOVERY IS SUCCESSFUL.

8. NEW DOCUMENTATION

PROGRAM LOADING ON AN MP/100 OR MP/200 SYSTEM (WITH SOFT CONSOLE)

DESCRIPTION OF CONSOLE

THE MP/100 OR MP/200 MICRONOVA CONSOLE HAS TWO PARTS;
THE 'HARD' CONSOLE AND THE 'SOFT' CONSOLE.

THE 'HARD' CONSOLE FOR THE MICRONOVAS HAS ONLY TWO ROCKER SWITCHES AND THREE LIGHTS.

SWITCHES

ON/OFF - TURNS THE POWER ON OR OFF.
RESET - CAUSES CONSOLE MODE (ODT) TO BE ENTERED AND THE COMPUTER SYSTEM TO BE RESET.
PROGRAM LOAD - THIS SWITCH IS ONLY MEANINGFUL WHEN THE COMPUTER IS IN CONSOLE MODE. WHEN PRESSED, IT CAUSES A PROGRAM LOAD TO OCCUR USING THE DEVICE CODE INDICATED BY THE CPU JUMPERS.

LIGHTS

RUN - IF ON, THE SYSTEM IS RUNNING BUT NOT IN CONSOLE MODE (ODT).
POWER - IF ON, POWER IS ON.
CONSOLE MODE - IF ON, THE SYSTEM IS IN CONSOLE MODE (ODT).

WITH RESPECT TO THE CONSOLE, THE SYSTEM CAN BE IN ONE OF THREE STATES:

1. RESET - IN THIS STATE, THE CPU AND CONSOLE ARE EFFECTIVELY STOPPED AND ARE INITIALIZED TO A STARTUP STATE. THIS STATE EXISTS WHENEVER THE RESET SWITCH ON THE HARD CONSOLE IS PRESSED OR WHEN THE POWER SUPPLY INDICATES THAT ITS OUTPUTS ARE OUT OF RANGE.

2. CONSOLE MODE - THIS MODE IS ENTERED UPON AN EXIT FROM THE RESET STATE, WHEN A HALT FROM RUN MODE OCCURS, OR WHEN A BREAK (STRIKING THE BREAK KEY) IS DETECTED FROM DEVICE TTI (TELETYPE INPUT). UPON ENTERING CONSOLE MODE, THE CPU BEGINS EXECUTION OF THE CONSOLE PROGRAM.

3. RUN MODE - IN THIS STATE, THE CPU IS EXECUTING INSTRUCTIONS FROM MAIN MEMORY AND CONSOLE FUNTIONS (EXCEPT "BREAK") ARE DISABLED. A HALT INSTRUCTION OR A TTI "BREAK" WILL CAUSE CONSOLE MODE (ODT) TO BE ENTERED FROM THIS STATE.

PROGRAM LOADING FROM A DISK(ETTE)

1) TURN THE POWER ON. THE POWER LIGHT SHOULD BE ON.

2) PUT YOUR CONSOLE ON LINE (SOFT CONSOLE/TERMINAL).

3) PRESS THE RESET SWITCH (ROCKER SWITCH ON HARD CONSOLE). THIS SHOULD PUT AN EXCLAMATION POINT ('!') ON YOUR TERMINAL. THIS IS AN INDICATION THAT THE MICRONOVA IS IN SOFT CONSOLE MODE (ODT).

4) SELECT THE DRIVE THAT YOU WISH TO BOOTSTRAP FROM ON THE FIRST DISK CONTROLLER (DEVICE CODE 33,30,26,27)).

   A) IF A DISKETTE DRIVE, INSERT THE DISKETTE AND CLOSE THE DRIVE DOOR. MAKE SURE THE DRIVE IS ON.

   B) IF A CARTRIDGE DISK, TURN THE DRIVE POWER ON, OPEN THE DRIVE, INSERT THE CARTRIDGE AND THE DUST COVER, THEN CLOSE THE DRIVE. FLIP THE LOAD/READY SWITCH TO READY AND WAIT FOR THE READY LIGHT TO GLOW.

   C) IF A DOUBLE DENSITY DISKETTE, INSERT THE DISKETTE AND CLOSE THE DRIVE DOOR. MAKE SURE THE DRIVE IS ON.

   D) IF A 125.0 MB DISK, TURN THE DRIVE POWER ON AND WAIT FOR THE READY LIGHT TO GLOW.

5) ON YOUR TERMINAL, PRESS THE 'BREAK' KEY AND ENTER:

'33L'	(NO CARRIAGE RETURN)	- SINGLE DENSITY DISKETTES
'30L'	(NO CARRIAGE RETURN)	- SINGLE DENSITY DISKETTES
'100026L'	(NO CARRIAGE RETURN)	- DOUBLE DENSITY DISKETTE OR 125.0 MB DISK
'100027L'	(NO CARRIAGE RETURN)	- CARTRIDGE DISK (5 MB)

6) IF THE DISK HAS A BOOTSTRAP ROOT ON IT (INSTALLED BY BOOT.SV), BOOT.SV SHOULD RESPOND WITH:

   FILENAME?

7) ENTER THE NAME OF THE DOS SYSTEM YOU WISH TO USE. (I.E. BOOTSYS,MYSYS, SYS....ETC.)

8) PLEASE REFER TO THE SOFTWARE MANUAL 'HOW TO GENERATE YOUR DOS SYSTEM' (093-000222-01) FOR FURTHER INFORMATION AND INSTRUCTIONS.

****

NOTE: IMPORTANT

WHILE ENTERING CLI COMMANDS FOLLOWED BY A CARRIAGE RETURN, ON A 6012 TERMINAL, YOU MIGHT ACCIDENTALLY STRIKE THE BREAK KEY SINCE IT IS NEXT TO THE CARRAIGE RETURN KEY. THIS WILL PUT YOUR SYSTEM INTO CONSOLE MODE. TO RESUME EXECUTION OF THE CLI AND EXIT CONSOLE MODE, ENTER A 'P' AND YOU WILL ONCE AGAIN BE ABLE TO ENTER CLI COMMANDS.

MAPPED OCTAL DEBUG TOOL (MODT) AND AUTOMATIC PROGRAM LOAD (APL)

DESCRIPTION:

THIS ODT IS USED WITH THE 602 CPU CHIP WHICH ALLOWS MICRONOVA SYSTEMS TO USE UP TO 64K WORDS OF MEMORY.

BIT 0 OF THE ADDRESS REFERS TO USER (0XXXXX) OR MAPPED (1XXXXX) MEMORY AND DOES NOT INDICATE INDIRECTION. THIS ODT ROM IS PHYSICALLY LOCATED AT 177000-177777 WITH RESERVED RAM LOCATIONS AT 100000-100017. THE ENTIRE MEMORY IS ACCESSIBLE FROM THE ODT. INSTRUCTION EMULATION IS USED BY THE ODT TO HANDLE THE NON-DELETING BREAKPOINT. THIS ALLOWS "ONE-STEP" AND "QUASI-SINGLE-STEP" COMMANDS TO BE USED TO DEBUG USER PROGRAMS. THE "O" AND "Q" COMMANDS ARE DESCRIBED BELOW WITH THEIR LIMITATIONS. THE "Q" COMMAND MAY BE USED TO SINGLE STEP PROGRAMS IN ROM.

CONVENTIONS AND SYMBOLS

THE FOLLOWING CONVENTIONS ARE USED BY THE ODT:

? - PRESSING ANY ILLEGAL KEY CAUSES THE ODT TO RESPOND WITH A "?".

! - ODT IS READY FOR A COMMAND

COMMAND STRUCTURE

AN ODT COMMAND HAS THE FOLLOWING FORMAT:

[ARGUMENT] [COMMAND]

AN ARGUMENT MAY BE ONE OF THE FOLLOWING:

EXP - AN OCTAL EXPRESSION CONSISTING OF OCTAL NUMBERS SEPERATED BY PLUS (+) OR MINUS (-) SIGNS. LEADING ZEROES NEED NOT BE TYPED.

ADR - AN ADDRESS IS THE SAME AS AN EXPRESSION. BIT 0 DETERMINES USER (0) OR MAPPED (1) MEMORY.

A COMMAND IS A SINGLE TELETYPE CHARACTER.

ODT COMMANDS

THE LOCATIONS THAT CAN BE EXAMINED AND MODIFIED BY THE USER ARE CALLED CELLS. THESE CELLS ARE OF TWO TYPES:

1) INTERNAL CPU CELLS
2) MEMORY LOCATIONS

1) OPENING INTERNAL CELLS

THE COMMAND TO OPEN ONE OF THE INTERNAL REGISTERS IS OF THE FORM "NA" WHERE N IS AN OCTAL EXPRESSION BETWEEN 0 AND 15.

N	DESCRIPTION
0	AC0
1	AC1
2	AC2
3	AC3
4	PC OF BREAKPOINT OR HALT INSTRUCTION OR PC-1 IF NMR
5	STACK POINTER
6	FRAME POINTER
7	CPU AND TTO STATUS

BIT	INTERPRETATION
15	1 IF TTO DONE WAS SET, 0 OTHERWISE
14	1 IF INTERRUPTS WERE ENABLED, 0 OTHERWISE
13	STATUS OF THE CARRY BIT

10	INSTRUCTION OF THE SET BREAKPOINT
11	ADDRESS OF THE LOCATION WHERE BREAKPOINT IS SET
12	TEMPORARY REGISTER
13	TEMPORARY REGISTER
14	TEMPORARY REGISTER
15	TEMPORARY REGISTER

2) OPENING MEMORY CELLS

ADR/ - OPEN THE CELL AND PRINT ITS CONTENTS.

./ - OPEN THE CELL CURRENTLY POINTED TO BY THE POINTER AND PRINT ITS CONTENTS.

.+ADR/ - ADD ADR TO THE POINTER, OPEN THE CELL AND PRINT ITS CONTENTS.

.-ADR/ - SUBTRACT ADR FROM THE POINTER, OPEN THE CELL AND PRINT ITS CONTENTS.

<CR> - THE RETURN KEY IS USED TO CLOSE THE OPEN CELL WITH OR WITHOUT MODIFICATION.

<LF> - LINE FEED IS USED TO CLOSE THE CURRENT CELL WITH OR WITHOUT MODIFICATION AND TO OPEN THE SUCCEEDING CELL AND PRINT OUT ITS CONTENTS.

/ - CLOSE THE OPEN CELL WITHOUT MODIFICATION, AND OPEN THE CELL POINTED TO BY ITS CONTENTS AND PRINT OUT ITS CONTENTS.

+ADR/ - CLOSE THE OPEN CELL WITHOUT MODIFICATION, AND OPEN THE CELL POINTED TO BY ITS CONTENTS + ADR AND PRINT OUT ITS CONTENTS.

-ADR/ - CLOSE THE OPEN CELL WITHOUT MODIFICATION, AND OPEN THE CELL POINTED TO BY ITS CONTENTS - ADR AND PRINT OUT ITS CONTENTS.

MODIFICATION OF A CELL

ONCE A CELL HAS BEEN OPENED, ITS CONTENTS CAN BE MODIFIED BY TYPING THE NEW VALUE THE CELL IS TO CONTAIN IN THE FORM OF AN OCTAL EXPRESSION FOLLOWED BY A <CR> OR <LF>. IF A PLUS (+) OR MINUS (-) SIGN IS TYPED AS THE FIRST CHARACTER OF THE EXPRESSION THEN THE VALUE OF THE EXPRESSION IS ADDED OR SUBTRACTED FROM THE OLD CONTENTS OF THE CELL. THE CURRENT ADDRESS ITSELF OR AN EXPRESSION RELATIVE TO THE ADDRESS CAN BE DEPOSITED BY TYPING A "." OR ".+/-OCTAL EXPRESSION".

3) OTHER ODT COMMANDS

RUBOUT - THIS KEY IS USED TO DELETE ERRONEOUSLY TYPED DIGITS OR CHARACTERS. EACH TIME THIS KEY IS PRESSED, THE RIGHTMOST CHARACTER OR DIGIT IS DELETED AND ECHOED ON THE TERMINAL. IF THE RUBOUT KEY IS HIT IMMEDIATELY AFTER OPENING A CELL, THE RIGHTMOST DIGIT OF ITS CONTENTS IS DELETED. THIS CELL CAN NOW BE MODIFIED AS IF ITS CONTENTS WERE TYPED IN BY THE USER JUST BEFORE THE RUBOUT KEY WAS PRESSED.

NL - PERFORM A PROGRAM LOAD WITH N EQUAL TO OCTAL CODE FOR I/O DEVICE. FOR EXAMPLE: 100027L

K - KILL THE STRING TYPED SO FAR. THE ODT RESPONDS WITH A "?" AND THE OPEN CELL IS CLOSED WITHOUT MODIFICATION.

ADRB - WILL SET A BREAKPOINT AT LOCATION ADR. IF A BREAKPOINT IS ALREADY SET, THE ODT RESPONDS WITH A "?".

B - LIST ADDRESS OF EXISTING BREAKPOINT. IF BUFFER=0, THEN THE BREAKPOINT IS NOT SET. NO BREAKPOINTS MAY BE SET AT LOCATIONS 0 AND 100000.

D - DELETE EXISTING BREAKPOINT.

ADRR - START EXECUTION AT ADR.

R - START EXECUTION AT LOCATION ZERO (0).

P - RESTART THE EXECUTION OF THE PROGRAM AT LOCATION POINTED TO BY 4A (CURRENT PC) IF ODT WAS ENTERED BY BREAKPOINT, OTHERWISE RESTART AT PC+1.

O - COMPUTE AND SET THE BREAKPOINT AT THE NEXT PC, EXECUTE PRESENT BREAKPOINT INSTRUCTION AND DELETE THE BREAKPOINT.

Q - OPERATION IS THE SAME AS THE "O" COMMAND EXCEPT THAT INTERRUPTS ARE NEVER ENABLED BECAUSE ODT IS NEVER EXITED.

NOTE: EMULATION OF ANY STACK OPERATION IS NOT ALLOWED AND ODT RESPONDS WITH A "?". ODT MUST BE ENTERED BY A BREAKPOINT OR 4A MUST MATCH BREAKPOINT ADDRESS SET FOR PROPER OPERATION OF "P", "O", AND "Q" COMMANDS.

PROGRAM LOADING ON A NOVA 4 (WITH SOFT CONSOLE)

DESCRIPTION OF CONSOLE

THE NOVA 4 CONSOLE HAS TWO PARTS; THE 'HARD' CONSOLE AND THE 'SOFT' CONSOLE.

THE 'HARD' CONSOLE FOR THE NOVA 4 HAS ONLY TWO ROCKER SWITCHES AND THREE LIGHTS.

SWITCHES

ON/OFF - TURNS THE POWER ON OR OFF.
RESET - CAUSES CONSOLE MODE TO BE ENTERED AND THE COMPUTER SYSTEM TO BE RESET.
PROGRAM LOAD - THIS SWITCH IS ONLY MEANINGFUL WHEN THE COMPUTER IS IN CONSOLE MODE. WHEN PRESSED, IT CAUSES A PROGRAM LOAD TO OCCUR USING THE DEVICE CODE INIDICATED BY IN THE CPU RESIDENT JUMPERS.

LIGHTS

RUN - IF ON, THE SYSTEM IS RUNNING BUT NOT IN CONSOLE MODE.
POWER - IF ON, POWER IS ON.
CONSOLE MODE - IF ON, THE SYSTEM IS IN CONSOLE MODE.

WITH RESPECT TO THE CONSOLE, THE SYSTEM CAN BE IN ONE OF THREE STATES:

1. RESET - IN THIS STATE, THE CPU AND CONSOLE ARE EFFECTIVELY STOPPED AND ARE INITIALIZED TO A STARTUP STATE. THIS STATE EXISTS WHENEVER THE RESET SWITCH ON THE HARD CONSOLE IS PRESSED OR WHEN THE POWER SUPPLY INDICATES THAT ITS OUTPUTS ARE OUT OF RANGE.

2. CONSOLE MODE - THIS MODE IS ENTERED UPON AN EXIT FROM THE RESET STATE, WHEN A HALT FROM RUN MODE OCCURS, OR WHEN A BREAK (STRIKING THE BREAK KEY) IS DETECTED FROM DEVICE TTI (TELETYPE INPUT). UPON ENTERING CONSOLE MODE, THE CPU BEGINS EXECUTION OF THE CONSOLE PROGRAM.

3. RUN MODE - IN THIS STATE, THE CPU IS EXECUTING INSTRUCTIONS FROM MAIN MEMORY AND THE CONSOLE FUNTIONS (EXCEPT "BREAK") ARE DISABLED. A HALT INSTRUCTION OR A TTI "BREAK" WILL CAUSE CONSOLE MODE TO BE ENTERED FROM THIS STATE.

CONSOLE DEVICE COMMANDS DURING CONSOLE MODE

THE DATA MANIPULATED BY THE FOLLOWING COMMANDS IS INITIALIZED TO THE DATA PRESENT UPON ENTRY INTO CONSOLE MODE.

COMMAND	MEANING
ADR/	OPEN THE MAIN MEMORY LOCATION "ADR", THEN DISPLAY ITS CONTENTS. "ADR" IS A 20 BIT OCTAL VALUE.
<CR>	CLOSE AND/OR UPDATE ANY OPEN REGISTER OR MEMORY LOCATION
<NL>	CLOSE AND/OR UPDATE ANY OPEN REGISTER OR MEMORY LOCATION. THEN OPEN AND DISPLAY THE SUBSEQUENT MEMORY LOCATION.
/	CLOSE AND/OR UPDATE ANY OPEN REGISTER OR MEMORY LOCATION. THEN OPEN AND DISPLAY THE MEMORY LOCATION ADDRESSED BY THE CONTENTS OF THE PREVIOUSLY OPENED LOCATION.
P	PROCEED USING THE CURRENT VALUE OF THE PC (PROGRAM COUNTER). EXITS FROM CONSOLE MODE.
NR	RESTART AT LOGICAL LOCATION "N". EXITS FROM CONSOLE MODE. "N" IS A 15 BIT OCTAL VALUE.
I	INITIALIZE. ISSUE AN IORST.
NL	PERFORM AN INITIAL PROGRAM LOAD WITH "N" EQUIVALENT TO THE SWITCHES DURING A TRADITIONAL PROGRAM LOAD. "N" IS A 16 BIT OCTAL VALUE, LIKE 100033.
F	PERFORM A FIELD SERVICE CASSETTE BOOTSTRAP LOAD.
NA	MANIPULATE REGISTERS. OPEN REGISTER "N" FOR MODIFICATION. "N" IS A 4 BIT OCTAL NUMBER WHOSE VALUES CORRESPOND TO ENTRIES IN THE FOLLOWING TABLE.

N	DESCRIPTION
0	ACCUMULATOR 0 (AC0)
1	ACCUMULATOR 1 (AC1)
2	ACCUMULATOR 2 (AC2)
3	ACCUMULATOR 3 (AC3)
4	BITS 1-15 ARE THE PROGRAM COUNTER. BIT 0 IS THE CARRY BIT.
5	STACK POINTER (NOVA 3 ONLY)
6	FRAME POINTER (NOVA 3 ONLY)
7	ION
10	MAP STATUS REGISTER
11	SWITCH REGISTER (CURRENT SETTING OF SWITCHES)

PROGRAM LOADING FROM A DISK(ETTE)

1) TURN THE POWER ON. THE POWER LIGHT SHOULD BE ON.

2) PUT YOUR CONSOLE ON LINE (SOFT CONSOLE/TERMINAL).

3) PRESS THE RESET SWITCH (ROCKER SWITCH ON HARD CONSOLE). THIS SHOULD PUT AN EXCLAMATION POINT ('!') ON YOUR TERMINAL. THIS IS AN INDICATION THAT THE NOVA 4 IS IN SOFT CONSOLE MODE.

4) SELECT THE DRIVE THAT YOU WISH TO BOOTSTRAP FROM ON THE FIRST DISK CONTROLLER (DEVICE CODE 33). SET ITS DRIVE NUMBER TO 0 (ZERO) BY ROTATING THE THUMBWHEEL SWITCH UNTIL IT SHOWS ZERO. NO OTHER DRIVE ON THAT CONTROLLER SHOULD HAVE 0 (ZERO) ON IT.

   A) IF A DISKETTE DRIVE, INSERT THE DISKETTE AND CLOSE THE DRIVE DOOR. MAKE SURE THE DRIVE IS ON.

   B) IF A CARTRIDGE DISK, TURN THE DRIVE POWER ON, OPEN THE DRIVE, INSERT THE CARTRIDGE AND THE DUST COVER, THEN CLOSE THE DRIVE. FLIP THE LOAD/READY SWITCH TO READY AND WAIT FOR THE READY LIGHT TO GLOW.

   C) IF A NON-REMOVABLE DISK (6099), TURN THE DRIVE POWER ON AND WAIT FOR THE READY LIGHT TO GLOW.

5) ON YOUR TERMINAL, HIT THE 'BREAK' KEY AND ENTER:

   '100033L' (NO CARRIAGE RETURN)

6) IF THE DISK HAS A BOOTSTRAP ROOT ON IT (INSTALLED BY BOOT.SV), BOOT.SV SHOULD RESPOND WITH:

   FILENAME?

7) ENTER THE NAME OF THE DOS SYSTEM YOU WISH TO USE. (I.E. BOOTSYS,MYSYS, SYS....ETC.)

8) PLEASE REFER TO THE SOFTWARE MANUAL 'HOW TO GENERATE YOUR DOS SYSTEM' (093-000222-01) FOR FURTHER INFORMATION AND INSTRUCTIONS.

****

NOTE: IMPORTANT

WHILE ENTERING CLI COMMANDS FOLLOWED BY A RETURN, ON A 6012 TERMINAL, YOU MIGHT ACCIDENTALLY STRIKE THE BREAK KEY SINCE IT IS NEXT TO THE RETURN KEY. THIS WILL PUT YOUR SYSTEM INTO CONSOLE MODE. TO RESUME EXECUTION OF THE CLI AND EXIT CONSOLE MODE, ENTER A 'P' AND YOU WILL ONCE AGAIN BE ABLE TO ENTER CLI COMMANDS.

****
DBURST (6099 DISK BACKUP UTILITY)

PROGRAM DOCUMENTATION

MBURST (6102 DISK BACKUP UTILITY)
****

INTRODUCTION

DBURST AND MBURST ARE NEW STANDALONE BACK-UP UTILITIES FOR 6099,6103,6102 AND 6105 DISKS USING DISKETTES AS A BACK-UP MEDIUM. YOU MAY USE THIS PROGRAM TO SAVE THE CONTENTS OF THE ABOVE MENTIONED DISKS ON EITHER SINGLE DENSITY (6030) OR DOUBLE DENSITY (6096) DISKETTES. USE DBURST WITH NOVA SYSTEMS AND MBURST ON MICRONOVA SYSTEMS.

ENVIROMENT

THESE UTILITIES REQUIRE 32K WORDS OF MEMORY AND SUPPORT ONLY DISKS WHICH USE THE STANDARD DOS DISK STRUCTURE.

COMMANDS

DBURST AND MBURST WILL PERFORM THE FOLLOWING COMMANDS:

1) DUMP: DUMP A DISK IMAGE TO DISKETTES.
2) LOAD: LOAD A DISK IMAGE FROM DISKETTES.

THE UTILITY WILL NOT PERFORM THE FOLLOWING FUNCTIONS:

1) IT WILL NOT LIST THE FILES ON DISK WHEN THE DISK IS DUMPED.
2) IT WILL NOT SELECTIVELY DUMP OR LOAD FILES OR DIRECTORIES.
3) IT WILL NOT LOAD A DISK IMAGE ONTO A DISK OF ANOTHER TYPE.

RUNNING THE PROGRAM

BEFORE YOU CAN DUMP YOUR 6099/6103/6102/6105 DISK TO DISKETTES, YOU MUST HAVE FULLY INITIALIZED ALL DISKETTES WITH DOSINIT OR DKINIT. 6030/6038 SINGLE DENSITY DISKETTES MUST NOT HAVE ANY BAD BLOCKS ENTERED. IF YOU ATTEMPT TO USE A SINGLE DENSITY DISKETTE WHICH HAS BAD BLOCKS ENTERED, THE DISK BACKUP UTILITY WILL HANG.

TO RUN THE PROGRAM, SIMPLY TYPE IN:

```
      BOOT DBURST      (NOVA DOS)
      -----------
OR    BOOT MBURST      (MICRONOVA DOS)
      -----------
```

BURST WILL RESPOND WITH:

```
      ** 6099/6102 DISK BACKUP/RESTORE - REV NN.NN **
      COMMAND?
```

YOU SHOULD RESPOND WITH THE APPROPRIATE COMMAND (DUMP OR LOAD), FOLLOWED WITH A CARRIAGE RETURN.

USING THE DUMP COMMAND

TO DUMP YOUR DISK TO DISKETTES, RESPOND TO "COMMAND?" WITH "DUMP".

THE PROGRAM WILL THEN ASK:

"INPUT DISK UNIT?

YOU SHOULD RESPOND WITH THE UNIT NAME, SUCH AS:

"DP0" (NOVA DOS)
OR
"DE0" (MICRONOVA DOS)

AS APPROPRIATE. THE PROGRAM WILL THEN ASK:

"DISKETTE UNIT?

YOU SHOULD RESPOND WITH THE UNIT NAME WHERE YOU WISH TO DUMP THE DISK SUCH AS:

"DP1" (NOVA OR MICRONOVA DOS)
OR
"DE1" (MICRONOVA DOS)

THE PROGRAM WILL THEN PROMPT:

"I AM ABOUT TO COPY DP0 TO DP1" (NOVA DOS)
OR
"I AM ABOUT TO COPY DE0 TO DE1" (MICRONOVA DOS)

"SHALL I CONTINUE? (TYPE "Y" TO PROCEED)"

IF YOU HAVE ENTERED THE PROPER UNITS, TYPE "Y". IF NOT, STRIKE ANY OTHER KEY TO RESTART.

AT THIS POINT, IF YOU ANSWERED "Y" TO THE QUESTION, THE PROGRAM WILL BEGIN DUMPING YOUR DISK TO DISKETTES.

WHEN THE END OF THE FIRST DISKETTE IS REACHED, THE PROGRAM WILL PROMPT:

"LOAD DISKETTE XXX, (STRIKE "R" WHEN READY)."

(WHERE XXX IS THE DISKETTE SEQUENCE NUMBER IN OCTAL FORMAT)

REPLACE THE CURRENT DISKETTE WITH THE NEXT ONE. WHEN YOU STRIKE "R" ON THE TERMINAL, THE DUMP WILL CONTINUE.

KEEP LOADING NEW DISKETTES AS NEEDED UNTIL THE PROGRAM ISSUES THE MESSAGE:

"DO YOU WISH TO VERIFY YOUR DUMP? (TYPE "Y" TO PROCEED)"

IF YOU WISH TO HAVE YOUR DUMP VERIFIED, TYPE "Y". IF YOU TYPE ANY OTHER LETTER, THE PROGRAM WILL TYPE OUT THE MESSAGE:

"*** DISK TO DISKETTE DUMP COMPLETE ***"

AFTER VERIFICATION, THE PROGRAM WILL TYPE OUT THE MESSAGE:

"*** DISKETTE VERIFICATION COMPLETE ***"

AND HALT. IT IS STRONGLY RECOMMENDED THAT YOU VERIFY YOUR DUMP, SINCE MEDIA ERRORS ARE MORE LIKELY TO BE DETECTED WHEN VERIFYING THAN WHEN DUMPING. MOREOVER, THIS WILL BE YOUR ONLY OPPORTUNITY TO VERIFY YOUR DUMP.

USING THE LOAD COMMAND:

THIS COMMAND WILL CAUSE THE PROGRAM TO ASK ROUGHLY THE SAME QUESTIONS AS THE DUMP COMMAND DOES, BUT IN A DIFFERENT ORDER. RESPOND APPROPRIATELY, AS DESCRIBED ABOVE. THE PROGRAM WILL MAKE SURE THAT THE DISKETTES ARE LOADED IN THE CORRECT ORDER.

**NOTE: THE DISK TO BE RESTORED MUST BE INITED PRIOR TO THE LOAD FROM DISKETTES.

EXECUTION SPEED

THE FOLLOWING FIGURES PROVIDE A ROUGH ESTIMATE OF EXECUTION TIME FOR THE BACKUP PROGRAMS.

	FULL DISK BACK-UP TIME (MINUTES)	HALF DISK BACK-UP TIME (MINUTES)	TIME PER 6030 DISKETTE (SECONDS)	TIME PER 6038 DISKETTE (SECONDS)	TIME PER 6097 DISKETTE (SECONDS)	TIME PER 6096 DISKETTE (SECONDS)
6099	20	10	30	---	60	---
6103	40	20	30	---	60	---
6102	30	15	---	40	---	80
6105	60	30	---	40	---	80

MEDIA REQUIREMENTS

	NUMBER OF 6030/6038 DISKETTES	NUMBER OF 6097/6096 DISKETTES
6099/6102	42	10
6103/6105	84	20

DUE TO THE NUMBER OF DISKETTES REQUIRED TO CONTAIN A HARD DISK BACKUP, IT IS SUGGESTED THAT THE DISKETTES BE NUMBERED AND USED IN NUMERICAL ORDER TO PRODUCE THE BACKUP DUMP. THE DISKETTES MUST BE LOADED IN EXACTLY THE SAME SEQUENCE TO RESTORE THE DISK, SHOULD IT BE NECESSARY TO DO SO.

ERROR PROCESSING

THE FOLLOWING IS A LIST OF ERROR MESSAGES WHICH THE PROGRAM WILL ISSUE, AS APPROPRIATE.

1. "UNKNOWN COMMAND - COMMANDS ARE DUMP AND LOAD"

   THIS INDICATES YOU HAVE MISTYPED THE COMMAND.

2. "INVALID UNIT NAME"

   YOU HAVE MISTYPED THE UNIT NAME. VALID TYPES ARE "DE", "DP" AND "DH".

3. "DISK ERROR ON UNIT DPN. BAD BLOCK = NNNNN."

   YOUR DISK HAS A BAD BLOCK (HARD ERROR). YOU MUST USE THE "ENTER" COMMAND IN DOSINIT OR DKINIT TO ENTER THE BLOCK INTO THE BAD BLOCK TABLE BEFORE YOU CAN DUMP OR LOAD YOUR DISK.

4. "WRITE FAILURE ON DISKETTE UNIT."

   YOU USED A BAD DISKETTE.

5. "DISK ERROR ON UNIT DPN.
   BLOCK NNNNN CANNOT BE RESTORED ON HARD DISK."

   THE PROGRAM WAS UNABLE TO READ ONE OF THE BLOCKS ON THE DISKETTE. BECAUSE OF THIS, IT WAS UNABLE TO RESTORE ONE OF THE BLOCKS ON THE HARD DISK.

6. "SYSTEM ERROR CODE NNNNNN"

   THIS INDICATES A BUG IN THE PROGRAM; SUBMIT AN STR.

7. "DISKETTE HAS WRONG SEQUENCE NUMBER.
   LOAD DISKETTE XXX, (STRIKE "R" WHEN READY)."

   (WHERE XXX IS THE DISKETTE SEQUENCE NUMBER IN OCTAL FORMAT)

   YOU HAVE LOADED THE WRONG DISKETTE. LOAD THE CORRECT DISKETTE AND STRIKE "C" TO CONTINUE.

8. "DISKETTE WRITE PROTECTED. ATTACH WRITE TAB AND
   STRIKE ANY KEY."

   YOU MUST ATTACH A WRITE-ENABLE TAB TO THE DISKETTE BEFORE CONTINUING.

9. PROGRAM PANICS -- PROGRAM WRITES SOMETHING OF THE FORM:
   000000 000041 034334 021705 100006
   THIS GENERALLY OCCURS IF THE PROGRAM IS UNABLE TO "INIT" YOUR DISK.

MICROBOOT PROGRAM DOCUMENTATION

MICRONOVA BOOTSTRAP INSTALLATION PROGRAM: MICROBOOT.SV

NOTE: THIS PROGRAM DOES NOT CURRENTLY SUPPORT DOUBLE DENSITY DISKETTES.

MICROBOOT IS USED TO INSTALL THE BOOTSTRAP FOR A MICRONOVA DISK WHILE RUNNING ON A NOVA. THE USE OF MICROBOOT PERMITS A MICRONOVA DISKETTE TO BE BUILT COMPLETELY ON A NOVA OR ECLIPSE SYSTEM. MICROBOOT IS DESIGNED TO RUN IN A STAND-ALONE ENVIRONMENT, AND THUS IS STARTED BY EITHER THE RDOS/DOS COMMAND:

BOOT MICROBOOT

OR BY DOING A PROGRAM LOAD AND ANSWERING THE FILENAME? QUESTION WITH MICROBOOT:

(PROGRAM LOAD FROM CONSOLE)
FILENAME? MICROBOOT

MICROBOOT THEN RESPONDS WITH:

MICRONOVA DISKETTE BOOTSTRAP INSTALLER REV 0.00

INSTALL BOOTSTRAP ON WHAT DISK?

RESPOND WITH THE UNIT THAT CONTAINS THE DISKETTE THAT WILL RECEIVE THE BOOTSTRAP (ANSWER, FOR EXAMPLE, DP1).

INSTALL BOOTSTRAP FOR MICRONOVA DISK (DP0,DP2,DP4,DP6)?

RESPOND WITH THE UNIT THAT THE DISKETTE WILL BE BOOTSTRAPPED FROM ON THE MICRONOVA. A DISKETTE WITH A DP0 BOOTSTRAP CANNOT BE PROGRAM LOADED FROM ANY UNIT OTHER THAN DP0, AND THE DOS BOOT COMMAND WILL ONLY WORK IF THAT DISKETTE IS IN DP0 OR DP1. THIS FOLLOWS FOR DP2 AND DP3, ETC.

INSTALL BOOTSTRAP (Y OR N)?

RESPOND WITH A "Y" TO INSTALL THE BOOTSTRAP. THE COMPUTER HALTS AFTER BOOTSTRAP INSTALLATION, OR IF AN "N" IS ENTERED. MICROBOOT MAY BE RESTARTED BY PRESSING THE CONTINUE SWITCH ON THE FRONT PANEL.

MICRODBOOT PROGRAM DOCUMENTATION

MICRONOVA DOUBLE DENSITY DISKETTE BOOTSTRAP INSTALLATION PROGRAM:

MICRODBOOT.SV

MICRODBOOT IS USED TO INSTALL THE BOOTSTRAP FOR A MICRONOVA DISK WHILE RUNNING ON A NOVA. THE USE OF MICRODBOOT PERMITS A MICRONOVA DISKETTE TO BE BUILT COMPLETELY ON A NOVA OR ECLIPSE SYSTEM. MICRODBOOT IS DESIGNED TO RUN IN A STAND-ALONE ENVIRONMENT, AND THUS IS STARTED BY EITHER THE RDOS/DOS COMMAND:

```
BOOT MICRODBOOT
```

OR BY DOING A PROGRAM LOAD AND ANSWERING THE FILENAME? QUESTION WITH : MICRODBOOT. (PROGRAM LOAD FROM CONSOLE)

```
FILENAME? MICRODBOOT
```

MICRODBOOT THEN RESPONDS WITH:

```
MICRONOVA DISKETTE BOOTSTRAP INSTALLER  REV  3.20

INSTALL BOOTSTRAP ON WHAT DISK?
```

RESPOND WITH THE UNIT THAT CONTAINS THE DISKETTE THAT WILL RECEIVE THE BOOTSTRAP (ANSWER, FOR EXAMPLE, DP5).

```
INSTALL BOOTSTRAP FOR MICRONOVA DISK (DE0,DE4)?
```

RESPOND WITH THE UNIT THAT THE DISKETTE WILL BE BOOTSTRAPPED FROM ON THE MICRONOVA. A DISKETTE WITH A DE0 BOOTSTRAP CANNOT BE PROGRAM LOADED FROM ANY UNIT OTHER THAN DE0.

```
INSTALL BOOTSTRAP (Y OR N)?
```

RESPOND WITH A "Y" TO INSTALL THE BOOTSTRAP. THE COMPUTER HALTS AFTER BOOTSTRAP INSTALLATION, OR IF AN "N" IS ENTERED. MICROBOOT MAY BE RESTARTED BY PRESSING THE CONTINUE SWITCH ON THE FRONT PANEL.

****

PROM BURNER SOFTWARE DOCUMENTATION

****

PROGRAM NAME:

PROM

PURPOSE:

TO BURN ALL OR PARTS OF PROM-IMAGE FILES ONTO PROM CHIPS INSERTED IN THE 8574 PROM-BOARD. PROM CAN BE USED UNDER DOS ON MN601 BASED MICRONOVA SYSTEMS: THIS DOES NOT INCLUDE MP/100 OR MP/200 SYSTEMS.

NOTE: THIS ASSUMES THE READER IS REASONABLY FAMILIAR WITH:

- THE 8574 PROM HARDWARE AND ITS FUNCTIONALITY
- THE DOS SYSTEM, ITS CLI AND FILE ACCESS METHODS
- ALL ASSOCIATED TERMINOLOGY

FUNCTIONALITY:

PROM IS A DOS UTILITY PROGRAM WHICH ACCEPTS PROM-IMAGE FILES, PROGRAMS PROM CHIPS INSERTED IN THE 8574 PROM-BOARD, AND PERFORMS BOTH PRE-WRITE AND POST-WRITE CHECKS OF THE PROM CHIPS. WHEN DATA CANNOT BE 'BURNED' INTO A SPECIFIED LOCATION, ALL BAD CHIP LOCATIONS WILL BE REPORTED ON THE CONSOLE.

THE PROM PROGRAM IS EXECUTED FROM THE DOS CLI BY TYPING IN THE FOLLOWING CALLING SEQUENCE:

PROM[/SWITCHES] [FILENAME] [LISTFILENAME/L] [NUMBER/F] [NUMBER/T]

GLOBAL SWITCHES

/A PROM-BOARD IS SET FOR 2048 WORDS (4 BY 256 BIT). THIS IS THE DEFAULT PROM SIZE IN THE ABSENCE OF BOTH /A AND /B SWITCHES.
/B PROM-BOARD IS SET FOR 4096 WORDS (4 BY 512 BIT)
/C COMPARE CONTENTS OF PROM-BOARD WITH "FILENAME"
/N DO NOT PERFORM FINAL VERIFY PASS
/O PRINT OCTAL CONTENTS OF PROM-BOARD
/X DO NOT PERFORM PROM-BOARD PRE-CHECK OF DATA
/Z CHECK PROM-BOARD FOR "ALL-ZEROS" RATHER THAN VALID DATA

LOCAL SWITCHES

N/F THE OCTAL OFFSET (FROM 0) IN THE PROM WHERE PROGRAMMING IS TO BEGIN. THE DEFAULT FOR THIS OPTIONAL PARAMETER IS ZERO (0). IF AN ARGUMENT IS SPECIFIED, IT MUST BE LESS THAN THE PROM SIZE INDICATED BY THE GLOBAL /A OR /B SWITCH AND LESS THAN ANY ARGUMENT SPECIFIED FOR THE OPTIONAL N/T LOCAL SWITCH.

/L LISTING FILENAME

N/T THE OCTAL OFFSET (FROM 0) IN THE PROM WHERE PROGRAMMING IS TO END (INCLUSIVE). THE DEFAULT FOR THIS OPTIONAL PARAMETER IS THE END OF THE FILE OR THE END OF THE PROM, WHICHEVER COMES FIRST. IF AN ARGUMENT IS SPECIFIED, IT MUST BE LESS THAN THE PROM SIZE INDICATED BY THE GLOBAL /A OR /B SWITCH AND GREATER THAN ANY ARGUMENT SPECIFIED FOR THE OPTIONAL N/T LOCAL SWITCH.

N/I THE OCTAL OFFSET (FROM 0) IN THE FILE [FILENAME] WHERE PROGRAMMING IS TO BEGIN. THE DEFAULT FOR THIS OPTIONAL PARAMETER IS ZERO (0).

[FILENAME]

THE FULLY QUALIFIED NAME OF THE FILE TO BE PROGRAMMED. THIS FILE MUST CONTAIN AN IMAGE OF THE PROM MEMORY TO BE PROGRAMMED.

THE FEATURES OF THE PROM PROGRAM ARE SUMMARIZED BELOW INTO 3 MAIN FUNCTIONALITIES:

A. PROGRAMMING THE PROM BOARD
B. OCTAL DUMP OF THE PROM BOARD
C. FILE COMPARE OF PROM MEMORY WITH A FILE AN DISK

A.) PROGRAMMING PROM BOARD

NOTE: ERROR MESSAGES FOR ERRORS THAT OCCUR ARE SELF EXPLANATORY AND ARE NOT ITEMIZED IN THIS DOCUMENTATION.

SYNTAX:

PROM[/A][/B][/N][/X][/Z] <FILENAME> [<LISTFILE>/L] [<NN>/F] [<NN>/T]

THE CONTENTS OF <FILENAME> WILL BE PROGRAMMED(BURNED) INTO THE CORRESPONDING LOCATIONS OF THE 2K OR 4K PROM BOARD. PRIOR TO BURNING EACH PROM LOCATION WILL BE PRE-TESTED FOR EITHER ALL ZERO'S(/Z) OR VALID DATA(DEFAULT). UP TO 256 ATTEMPTS WILL BE MADE TO SUCCESSFULLY BURN EACH WORD. AFTER ALL LOCATIONS ARE BURNED A FINAL VERIFICATION PASS WILL BE PERFORMED UNLESS THE /N SWITCH IS INDICATED. IF NO LISTING FILE IS DESIGNATED, ALL MESSAGES WILL BE OUTPUT ON THE CONSOLE.

EXAMPLES:

PROM FOO

PRECHECK THAT ALL DATA IN FILE FOO CAN BE BURNED INTO THE LOCATIONS ON THE PROM BOARD. IF ALL LOCATIONS CAN BE BURNED(I.E. NO 1'S WHERE A 0 MUST BE) PERFORM THE BURNING OF EACH LOCATION AND COMPARE THE ALL LOCATIONS WITH THE FILE ONCE ALL LOCATIONS HAVE BEEN SUCCESSFULLY BURNED.

PROM/Z/N FOO TMP/L 100/T

PRECHECK THE FIRST 100 OCTAL LOCATIONS FOR ALL 0'S. IF THE PRECHECK PASSES BURN THE FIRST 100 OCTAL LOCATIONS WITH THE CORRESPONDING DATA IN THE FIRST 100 LOCATIONS OF FILE FOO. DO NOT PERFORM THE FINAL FILE COMPARE. REPORT ALL MESSAGES TO FILE TMP.

B.) FILE COMPARE OF PROM BOARD

SYNTAX:

PROM/C [/A][/B] <FILENAME> [<LISTFILE>/L] [<NN>/F] [<NN>/T]

COMPARE THE CONTENTS OF <FILENAME> WITH THE CORRESPONDING LOCATIONS ON THE PROM BOARD AND REPORT TO <LISTFILE>(DEFAULT TO CONSOLE) ALL LOCATIONS WHICH DO NOT COMPARE. COMPARISONS ARE DONE FROM LOCATION 0 THRU 3777(/A) OR 7777(/B OR DEFAULT) UNLESS OTHERWISE SPECIFIED BY THE /F AND /T LOCAL SWITCHES.

EXAMPLES:

PROM/C FOO

COMPARE ALL LOCATIONS OF FILE FOO UP TO EITHER 4K OR THE SIZE OF FOO WITH THE CORRESPONDING DATA ON THE PROM BOARD. REPORT ALL NON-COMPARISONS TO THE CONSOLE.

C.) OCTAL DUMP OF PROM BOARD

SYNTAX:

PROM/O [/A][/B] [<LISTFILE>/L] [<NN>/F] [<NN>/T]

THE CONTENTS OF THE PROM BOARD ARE OUTPUT IN OCTAL FORMAT TO EITHER THE <LISTFILE> OR CONSOLE(DEFAULT). LOCATIONS 0 THRU 2K(/A) OR 4K(/B OR DEFAULT) WILL BE OUTPUT UNLESS OTHERWISE SPECIFIED BY THE /F OR /T LOCAL SWITCHES.

EXAMPLES:

PROM/O

DUMP THE ENTIRE CONTENTS OF THE 4K PROM LOCATIONS TO THE CONSOLE.

PROM/O/A FOO/L 100/F 200/T

DUMP THE CONTENTS OF LOCATIONS 100 TO 200 OR THE 2K PROM BOARD TO FILE FOO.

****** END OF DOS RELEASE NOTICE ******