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09.00.00 DIAGNOSTIC UTILITY PROGRAM (ID 38F9)

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09.05.00 HALT CODES FOR MESSAGES (NORMAL AND ERROR)

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09.06.00 DIAGNOSTIC DISKETTE FORMAT:

09.06.01 VTOC ENTRY FORMAT:
09.06.02 CONFIGURATION TABLE ENTRY FORMAT:
09.06.03 PROGRAM DATA SET FORMAT:
09.06.04 SYSTEM TEST/FRIEND DISKETTE FORMAT:

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09.01.00 PURPOSE:

THIS PROGRAM IS TO AID IN THE FIELD MAINTENANCE OF THE DIAGNOSTIC PROGRAM DISKETTE(S) FOR THE SERIES/1 PROCESSING UNITS AND THEIR FEATURE(S) AND I/O DEVICES.

09.02.00 PREREQUISITE:

09.02.10 PROGRAM:

THIS PROGRAM WILL RUN UNDER CONTROL OF DCP(3800).

09.02.20 EQUIPMENT:

A SERIES/1 PROCESSING UNIT, AT LEAST ONE 43FD DISKETTE DRIVE AND OTHER SUITABLE I/O DEVICES.

09.02.30 ASSUMED:

ALL PROCESSING UNIT AND DISKETTE DIAGNOSTICS HAVE RUN WITHOUT ERROR.

09.03.00 OPERATING PROCEDURE:

```
*****
*THIS PROGRAM IS ONLY ON DISKETTE P/N 1635001.*
*TO MAINTAIN DATA ON THE OTHER DISKETTE(S):*
*LOAD 38F9 FROM P/N 1635001. WHEN THE MENU *
*IS DISPLAYED (HALT 388B) INSERT THE DISKETTE *
*TO BE CHANGED AND SELECT THE OPTION. *
*****
```

THE STANDARD DCP LOADING, OPERATING AND TERMINATION PROCEDURES ARE USED IN THIS PROGRAM.

TO LOAD THE UTILITY ENTER:

B38F9 ENTER/RETURN (WHEN USING A KEYBOARD CONSOLE).

(B),B,(I),(B),3,8,F,9,(I),(I) (WHEN USING THE PROGRAMMER CONSOLE).

WHEN LOADED, THIS PROGRAM WILL DISPLAY THE FOLLOWING:

```
OPTION MENU
00 LIST VTOC
01 DUMP PROGRAM
02 CHANGE PROGRAM
03 DUMP SECTOR(S)
04 CHANGE SECTOR(S)
05 COMPRESS
06 COPY PROGRAM
07 DELETE PROGRAM
08 MENU PRINT CONTROL
09 TERM
0A FORMAT
0B READ VERIFY ONE SIDED DISKETTE
0C READ VERIFY TWO SIDED DISKETTE
SELECT ONE OPTION
ENTER
```

AT THIS TIME SPECIFIC PROCEDURES FOR EACH OPTION MUST BE FOLLOWED. ALL OPERATOR INPUT WILL USE THE DCP COMMAND 'F' (REPLY TO PROGRAM) EXCEPT WHEN A QUESTION IS ANSWERED 'YES' OR 'NO'. TO ANSWER A QUESTION 'YES' OR 'NO' USE DCP COMMAND '1' OR '0'.

FOR COMMAND/DATA ENTRY FROM THE PROGRAMMER'S CONSOLE SEE MAP 0010 SECTION 07.01.00.

IN THE FOLLOWING EXAMPLES THE DATA TO BE ENTERED BY THE OPERATOR WILL BE FOLLOWED BY **.

THE OPTIONS WILL BE DESCRIBED IN THE FOLLOWING PARAGRAPHS.

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MAP 0014-2

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09.04.00 MENU OF OPTIONS:

THE FOLLOWING OPTIONS ARE SUPPORTED BY THIS PROGRAM:

```

00 LIST VTOC
01 DUMP A PROGRAM
02 CHANGE A PROGRAM
03 DUMP A SPECIFIC SECTOR
04 CHANGE A SPECIFIC SECTOR
05 COMPRESS A DISKETTE
06 COPY A PROGRAM (USED TO COPY A
PROGRAM FROM DISKETTE TO DISKETTE)
07 DELETE A PROGRAM
08 CONTROL DISPLAYING THE MENU
09 TERMINATE THE UTILITY PROGRAM
0A FORMAT THE DISKETTE
0B READ VERIFY ONE SIDED DISKETTE
0C READ VERIFY TWO SIDED DISKETTE

```

09.04.01 OPTION 00:

THIS OPTION IS TO LIST THE INFORMATION IN THE VTOC OF THE DISKETTE. TO USE THIS OPTION, ENTER 'F00'. THE UTILITY WILL PROMPT FOR INFORMATION. THE FIRST QUESTION WILL BE 'DEVICE ADDRESS'. ANSWER THIS QUESTION WITH THE DEVICE ADDRESS (00-FF) OF THE DEVICE YOU DESIRE THE OPTION TO USE. WHEN THE QUESTION 'DATA SET NAME IS' IS ANSWERED BY A '00' THE COMPLETE CONTENTS OF THE VTOC WILL BE DISPLAYED.

THE FOLLOWING IS AN EXAMPLE:

SELECT ONE OPTION

ENTER

F00 **

DEVICE ADDRESS

ENTER

F02 **

DATA SET NAME IS

ENTER

F00 **

VTOC DISPLAY

VTOC	C	H	S	C	H	S	T	PC	PART NUM	EC NUM
VTOC00	12	0	01	73	1	15	D	00	1635001	578468
C20A10	00	0	01	00	0	15	D	00	1635033	578468
C20A20	04	0	01	05	1	15	D	00	1635035	578468
C38000	10	0	01	10	1	15	D	00	1635013	578468
C38010	12	0	01	12	0	03	P	00	1635200	578468
C38020	42	0	06	42	0	08	P	00	1635202	578468
D3C000	42	0	09	42	1	08	P	00	1635082	578468
U38F90	71	0	03	71	1	14	P	00	1635018	578468
I40000	12	1	07	13	0	10	P	00	1635221	578468
I40010	13	0	11	13	1	12	P	00	1635224	578468
I44000	13	1	13	14	0	09	P	00	1635038	578468
I44100	14	0	10	14	1	11	P	00	1635040	578468

END OF VTOC

NOTE: ' C H S ' ' C H S ' FOR ENTRY VTOC00 DESCRIBES ALL USES OF THE PROBLEM PROGRAM AREA. SEE 09.06.00. FOR ALL OTHER ENTRIES THESE ARE 'SOF' AND 'EOE' OF THE SPECIFIC DATA SET.

WHEN THE QUESTION 'DATA SET NAME IS' IS ANSWERED BY A SPECIFIC DATA SET NAME, THEN THAT ENTRY IS DISPLAYED.

THE FOLLOWING IS AN EXAMPLE:

SELECT ONE OPTION

ENTER

F00 **

DATA SET NAME IS

ENTER

F38F9 **

VTOC DISPLAY

VTOC	C	H	S	C	H	S	T	PC	PART NUM	EC NUM
U38F90	71	0	03	71	1	14	P	00	1635018	578446

END OF VTOC

WHERE:

C = CYLINDER (0-76).

H = HEAD (0 OR 1).

S = SECTOR (1-15).

T WILL BE P FOR PROGRAM DATA SET AND D FOR FIXED SECTOR DATA SETS OR NOT EXECUTABLE CODE.

PC IS THE NUMBER OF TIMES THE DATA SET HAS BEEN CHANGED.

PART NUM IS THE PART NUMBER OF THE DECK.

EC/REA NUM IS THE EC OR REA NUMBER OF THE DECK.

THE FIRST EXTENT BEING THE START OF EXTENT(SOE).

THE SECOND EXTENT BEING THE END OF EXTENT(EOE).

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MAP 0014-3

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09.04.02 OPTION 01:

THIS OPTION WILL DISPLAY THE DATA OF PROGRAMS THAT ARE FOUND IN THE VTOC OF THE DISKETTE.
 TO USE THIS OPTION, ENTER 'F01'. THE UTILITY WILL PROMPT FOR INFORMATION. THE PROGRAM WILL START DISPLAYING THE CONTENTS OF THE START ADDRESS AND WILL DISPLAY TO THE END ADDRESS. THE PROGRAM PRINTOUT ADDRESS WILL APPEAR IN THE LEFT COLUMN.

THE FOLLOWING IS AN EXAMPLE:

```

SELECT ONE OPTION
ENTER
F01          **
DATA SET NAME IS
ENTER
F38F9       **
START ADDRESS
ENTER
F1800       **
END ADDRESS
ENTER
F1808       **
DSN = 38F9
1800 F3F8 C6F9 04FF 1DB2 1812
DUMP COMPLETE
  
```

09.04.03 OPTION 02:

THIS OPTION IS TO MAKE A PERMANENT CHANGE TO A DATA SET ON THE DIAGNOSTIC DISKETTE.
 TO USE THIS OPTION, ENTER 'F02'. THE UTILITY WILL PROMPT FOR THE FOLLOWING INFORMATION: DATA SET NAME, START ADDRESS (PROGRAM LIST ADDRESS), WORD COUNT (HEXADECIMAL NUMBER), AND DATA.

THE FOLLOWING IS AN EXAMPLE:

```

SELECT ONE OPTION
ENTER
F02          **
DATA SET NAME IS
ENTER
F38F9       **
START ADDRESS
ENTER
F1800       **
WORD COUNT
ENTER
F0001       **
DATA
ENTER
FAAAA       **
CHANGE COMPLETE
  
```

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MAP 0014-4

09.04.04 OPTION 03:

THIS OPTION WILL DISPLAY THE DATA OF A SPECIFIC SECTOR FROM THE DISKETTE. TO USE THIS OPTION, ENTER 'F03' THE UTILITY WILL PROMPT FOR THE FOLLOWING INFORMATION: CYLINDER(0-76), HEAD(0 OR 1), SECTOR(1-15), NUMBER OF SECTORS. THE SECTOR OR SECTORS WILL BE OUTPUTTED. THE LEFT HAND COLUMN IS THE DECIMAL ADDRESS RELATIVE TO THE START ADDRESS OF THE SECTOR.

THE FOLLOWING IS AN EXAMPLE:

SELECT ONE OPTION

ENTER F03 **

CYL ENTER F0010 **

HEAD ENTER F0000 **

SECTOR ENTER F0001 **

NUMBER OF SECTORS ENTER F0001 **

CYL 10 HEAD 00 SECTOR 01
0000 6802 1862 0230 02F4 0248 0A1A 0248 09A0
0008 0296 094A 0260 0A30 0000 0000 027E 0C9A
0016 0000 0000 0000 0000 0000 0000 0000 0000
0024 050A 050A 050A 050A 050A 050A 050A 050A
0032 050A 050A 050A 050A 050A 050A 050A 050A
0040 050A 050A 050A 050A 050A 050A 050A 050A
0048 050A 050A 050A 050A 050A 050A 050A 050A
0056 050A 050A 050A 050A 050A 050A 050A 050A
0064 050A 050A 050A 050A 050A 050A 050A 050A
0072 050A 050A 050A 050A 050A 050A 050A 050A
0080 050A 050A 050A 050A 050A 050A 050A 050A
0088 050A 050A 050A 050A 050A 050A 050A 050A
0096 050A 050A 050A 050A 050A 050A 050A 050A
0104 050A 050A 050A 050A 050A 050A 050A 050A
0112 050A 050A 050A 050A 050A 050A 050A 050A
0120 050A 050A 050A 050A 050A 050A 050A 050A
DUMP COMPLETE

09.04.05 OPTION 04:

THIS OPTION WILL MAKE A PERMANENT CHANGE TO A SPECIFIC SECTOR ON THE DIAGNOSTIC DISKETTE. TO USE THIS OPTION, ENTER 'F04' THE UTILITY WILL PROMPT FOR THE FOLLOWING INFORMATION: CYLINDER(0-76), HEAD(0 OR 1), SECTOR(1-15), NUMBER OF WORDS TO BE CHANGED, STARTING ADDRESS(RELATIVE TO THE START OF THE SECTOR), AND THE DATA. TO AID THE OPERATOR TO DETERMINE THE RELATIVE ADDRESS, USE THE OPTION (03) TO DUMP THE DESIRED SECTOR AND THE RELATIVE ADDRESS WILL BE DISPLAYED IN THE LEFT HAND COLUMN.

THE FOLLOWING IS AN EXAMPLE:

SELECT ONE OPTION

ENTER F04 **

CYL ENTER F0010 **

HEAD ENTER F0000 **

SECTOR ENTER F0001 **

WORD COUNT ENTER F0001 **

START ADDRESS ENTER F0060 **

DATA ENTER FBBBB **

CHANGE COMPLETE

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09.04.06 OPTION 05:

THIS OPTION WILL COMPRESS THE DATA SETS ON THE DISKETTE THAT IS LOADED ON THE IPL DEVICE. TO USE THIS OPTION, ENTER 'F05'. THE UTILITY WILL COMPRESS THE VTOC FIRST, REMOVING ALL ENTRIES THAT HAD BEEN DELETED, THEN THE DATA SETS WILL ALL BE MOVED TO USE THE AREAS THAT HAVE BEEN DELETED.

NOTE: WHILE THIS OPTION IS EXECUTING A RECORD NUMBER WILL BE DISPLAYED IN THE DATA LAMPS. THE DISPLAY IN THE LAMPS IS ONLY TO LET THE OPERATOR KNOW THE OPTION IS EXECUTING.

THE FOLLOWING IS AN EXAMPLE:

```
SELECT ONE OPTION
ENTER
F05      **
```

09.04.07 OPTION 06:

THIS OPTION WILL CAUSE A DIAGNOSTIC TO BE COPIED. TO USE THIS OPTION, ENTER 'F06'. THE UTILITY WILL PROMPT FOR THE FOLLOWING INFORMATION: DATA SET NAME, 'FROM ADDRESS', 'TO ADDRESS', IS THE FROM DISKETTE LOADED?, AND IS THE TO DISKETTE LOADED?

THE FOLLOWING IS AN EXAMPLE OF A COPY FROM ONE DISKETTE TO ANOTHER ON A SYSTEM WITH A SINGLE DISKETTE DRIVE.

SELECT ONE OPTION

```
ENTER
F06      **
DATA SET NAME IS
ENTER
F38F9    ** (UTILITY PROGRAM)
FROM ADDRESS
ENTER
F02      ** (DISKETTE DRIVE IS AT ADDRESS 02)
TO ADDRESS
ENTER
F02      ** (SAME DEVICE ADDRESS)
IS THE 'FROM' DISKETTE LOADED?
ENTER
1 (LOAD THE 'FROM' DISKETTE AND CLOSE THE DRIVE COVER, THEN ANSWER)
1 ** (DCP COMMAND 1=YES)
(THE DATA SET IS READ INTO STORAGE.)
IS THE 'TO' DISKETTE LOADED?
ENTER
1 (REMOVE THE 'FROM' DISKETTE, LOAD THE 'TO' DISKETTE AND CLOSE THE DISKETTE
DRIVE COVER, THEN ANSWER)
1 ** (YES)
THE DATA SET IS WRITTEN TO THE DISKETTE.
ANY MORE TO DO USING THE SAME FROM AND TO DEVICE ADDRESS?
0      ** (NO)
```

NOTE: TWO DISKETTES MAY BE USED.

THE FOLLOWING IS AN EXAMPLE:

```
SELECT ONE OPTION
ENTER
F06      **
DATA SET NAME IS
ENTER
F38F9    **
FROM ADDRESS
ENTER
F02      **
TO ADDRESS
ENTER
F22      **
IS THE FROM DISKETTE LOADED?
ENTER
1 **
IS THE TO DISKETTE LOADED?
ENTER
1 **
ANY MORE TO DO USING THE SAME FROM AND TO DEVICE ADDRESS?
0      ** (NO)
```

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MAP 0014-6

09.04.08 OPTION 07:

THIS OPTION WILL CAUSE A DIAGNOSTIC TO BE DELETED FROM THE DIAGNOSTIC DISKETTE. TO USE THIS OPTION, ENTER 'F07'. THE UTILITY WILL PROMPT FOR THE FOLLOWING INFORMATION: DATA SET NAME. THE VTOC WILL BE SEARCHED FOR THE DATA SET ENTERED. THE ORIGINAL DATA SET NAME WILL BE CHANGED TO SCRATCH. THE DATA SECTORS WILL BE WRITTEN WITH ZEROS.

THE FOLLOWING IS AN EXAMPLE BEFORE THE DATA SET IS DELETED.

SELECT ONE OPTION

ENTER

F00 **

DATA SET NAME IS

ENTER

F00 **

VTOC DISPLAY

	C	H	S	C	H	S	T	PC	PART NUM	EC NUM
VTOC00	12	0	01	73	1	15	D	00	1635001	578468
C20A10	00	0	01	00	0	15	D	00	1635033	578468
C20A20	04	0	01	05	1	15	D	00	1635035	578468
C38000	10	0	01	10	1	15	D	00	1635013	578468
C38010	12	0	01	12	0	03	P	00	1635200	578468
C38020	42	0	06	42	0	08	P	00	1635202	578468
D3C000	42	0	09	42	1	08	P	00	1635082	578468
U38F90	71	0	03	71	1	14	P	00	1635018	578468
I4C000	12	1	07	13	0	10	P	00	1635221	578468
I40010	13	0	11	13	1	12	P	00	1635224	578468
I44000	13	1	13	14	0	09	P	00	1635038	578468
I44100	14	0	10	14	1	11	P	00	1635040	578468
I44200	14	1	12	15	1	03	P	00	1635042	578468

END OF VTOC

THE FOLLOWING IS AN EXAMPLE OF DELETING A DATA SET.

SELECT ONE OPTION

ENTER

F07 **

DATA SET NAME IS

ENTER

F38F9 **

THE FOLLOWING IS AN EXAMPLE AFTER DELETING THE DATA SET.

SELECT ONE OPTION

ENTER

F00 **

DATA SET NAME IS

ENTER

F00 **

VTOC DISPLAY

	C	H	S	C	H	S	T	PC	PART NUM	EC NUM
VTOC00	12	0	01	42	1	08	D	00	1635001	578468
C20A10	00	0	01	00	0	15	D	00	1635033	578468
C20A20	04	0	01	05	1	15	D	00	1635035	578468
C38000	10	0	01	10	1	15	D	00	1635013	578468
C38010	12	0	01	12	0	03	P	00	1635200	578468
C38020	42	0	06	42	0	08	P	00	1635202	578468
D3C000	42	0	09	42	1	08	P	00	1635082	578468
SCRATCH										
I40000	12	1	07	13	0	10	P	00	1635221	578468
I40010	13	0	11	13	1	12	P	00	1635224	578468
I44000	13	1	13	14	0	09	P	00	1635038	578468
I44100	14	0	10	14	1	11	P	00	1635040	578468
I44200	14	1	12	15	1	03	P	00	1635042	578468

END OF VTOC

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09.04.09 OPTION 08:

THIS OPTION WILL CONTROL THE DISPLAYING OF THE OPTION MENU EACH TIME. TO USE THIS OPTION, ENTER 'F08'. THE UTILITY WILL OUTPUT THE OPTION MENU EACH TIME A OPTION IS COMPLETED. WHEN THIS OPTION IS SELECTED THE OPTION MENU WILL NOT BE DISPLAYED BUT A MESSAGE 'SELECT ONE OPTION' WILL APPEAR. ENTER 'F08' AGAIN WILL CAUSE THE OPTION MENU TO START DISPLAYING AGAIN. THIS OPTION IS USED IN MOST EXAMPLES.

THE FOLLOWING IS AN EXAMPLE:

```
OPTION MENU
00 LIST VTOC
01 DUMP PROGRAM
02 CHANGE PROGRAM
03 DUMP SECTOR(S)
04 CHANGE SECTOR(S)
05 COMPRESS
06 COPY PROGRAM
07 DELETE PROGRAM
08 MENU PRINT CONTROL
09 TERM
0A FORMAT
0B READ VERIFY ONE SIDED DISKETTE
0C READ VERIFY TWO SIDED DISKETTE
SELECT ONE OPTION
ENTER
F08      **
SELECT ONE OPTION
ENTER
```

09.04.10 OPTION 09:

THIS OPTION WILL CAUSE THE UTILITY PROGRAM TO BE TERMINATED. TO USE THIS OPTION, ENTER 'F09'. THIS OPTION WILL NOT EXECUTE WHILE ANOTHER OPTION IS BEING EXECUTED.

THE FOLLOWING IS AN EXAMPLE:

```
SELECT ONE OPTION
ENTER
F09      **
PT
RDY
ENTER
```

09.04.11 OPTION 0A:

```
***** CAUTION *****
* THE FOLLOWING OPTION WILL *
* WRITE ON THE IPL DEVICE. *
*****
```

THIS OPTION WILL CAUSE THE UTILITY TO FORMAT THE DISKETTE LOADED ON THE IPL DEVICE. TO USE THIS OPTION, ENTER 'FOA'. THE DISKETTE LOADED ON THE IPL DEVICE WILL HAVE EACH SECTOR INITIALIZED TO ZEROS. TRACK 0 WILL CONTAIN 26-128 BYTE SECTORS, ALL OTHER TRACKS WILL CONTAIN 15-256 BYTE SECTORS. A DUMMY VTOC ENTRY IS MADE SO DATA SETS CAN BE ADDED TO THE DISKETTE.

NOTE: IF THE IPL DEVICE IS A 4966 THE DISKETTE TO BE FORMATTED MUST BE IN POSITION 01.

WHILE THIS OPTION IS EXECUTING A RECORD NUMBER WILL BE DISPLAYED IN THE DATA LAMPS. THE DISPLAY IN THE DATA LAMPS IS TO LET THE OPERATOR KNOW THE OPTION IS EXECUTING.

THE FOLLOWING IS AN EXAMPLE:

```
SELECT ONE OPTION
ENTER
FOA      **
LOAD THE DISKETTE TO BE FORMATTED ON THE IPL DEVICE
IS THE DISKETTE LOADED?
ENTER
1        **
SELECT ONE OPTION
ENTER
```

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MAP 0014-8

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09.04.12 OPTION 0B:

THIS OPTION WILL CAUSE THE UTILITY TO READ VERIFY HEAD ZERO OF THE DISKETTE LOADED ON THE IPL DEVICE. TO USE THIS OPTION, ENTER 'FOB'. THE UTILITY WILL PROMPT FOR INFORMATION. AN OPTION TO RETRY EACH ERROR 8 TIMES IS PERMITTED.

NOTE: IF THE IPL DEVICE IS A 4966 THE DISKETTE TO BE VERIFIED MUST BE IN POSITION 01.

WHILE THIS OPTION IS EXECUTING A RECORD NUMBER WILL BE DISPLAYED IN THE DATA LAMPS. THE DISPLAY IN THE DATA LAMPS IS TO LET THE OPERATOR KNOW THE OPTION IS EXECUTING.

THE FOLLOWING IS AN EXAMPLE:

```

SELECT ONE OPTION
ENTER
FOB      **
LOAD THE DISKETTE TO BE VERIFIED ON THE IPL DEVICE
IS THE DISKETTE LOADED?
ENTER
1        **
DO YOU DESIRE TO RETRY EACH ERROR?
ENTER
0        **

```

IF A READ VERIFY ERROR IS FOUND THE FOLLOWING TYPE MESSAGE WILL BE DISPLAYED

CYL	HEAD	SECT	SECTOR	FORMAT
04	0	05	256	

```

SELECT ONE OPTION
ENTER

```

09.04.13 OPTION 0C:

THIS OPTION WILL CAUSE THE UTILITY TO READ VERIFY HEAD ZERO AND ONE, OF THE DISKETTE LOADED ON THE IPL DEVICE. TO USE THIS OPTION, ENTER 'FOC'. THE UTILITY WILL PROMPT FOR INFORMATION. AN OPTION TO RETRY EACH ERROR 8 TIMES IS PERMITTED.

NOTE: IF THE IPL DEVICE IS A 4966 THE DISKETTE TO BE VERIFIED MUST BE IN POSITION 01.

WHILE THIS OPTION IS EXECUTING A RECORD NUMBER WILL BE DISPLAYED IN THE DATA LAMPS. THE DISPLAY IN THE DATA LAMPS IS TO LET THE OPERATOR KNOW THE OPTION IS EXECUTING.

THE FOLLOWING IS AN EXAMPLE:

```

SELECT ONE OPTION
ENTER
FOC      **
LOAD THE DISKETTE TO BE VERIFIED ON THE IPL DEVICE
IS THE DISKETTE LOADED?
ENTER
1        **
DO YOU DESIRE TO RETRY EACH ERROR?
ENTER
1        **

```

IF AFTER 8 RETRIES THE ERROR REMAINS THE FOLLOWING TYPE MESSAGE WILL BE DISPLAYED

CYL	HEAD	SECT	SECTOR	FORMAT
04	0	05	256	
05	1	05	256	

```

SELECT ONE OPTION
ENTER

```

09.05.00 HALT CODES FOR MESSAGES (NORMAL AND ERROR MESSAGES): NO ALTERNATE CONSOLE. IF YOU HAVE ANY PROBLEM WITH ENTRY, PRESS SYSTEM RESET AND START OVER.

PROGRAMMER OR C E CONSOLE DATA LAMPS MESSAGES.

CODE	DESCRIPTION	COMMENTS
3871	LOAD IPL DISKETTE	LOAD THE DISKETTE ON THE IPL DEVICE.
3872	SECTOR # ERROR	RESET, START, ENTER OPTION, ETC.
3874	WORD COUNT ERROR	RESET, START, ENTER OPTION, ETC.
3875	CHANGE AREA ERROR	RESET, START, ENTER OPTION, ETC.
3876	FROM DISKETTE LOADED?	LOAD DISKETTE. ENTER (B), 1, (I), (I)
3877	TO DISKETTE LOADED?	LOAD DISKETTE. ENTER (B), 1, (I), (I)
3878	READ VERIFY ERROR	R3 POINTS TO DATA IN STORAGE. ENTER (B), 6, (I), (I) TO CONTINUE.
3879	LOAD DISKETTE	LOAD THE DISKETTE IN THE IPL DEVICE. THEN ANSWER 1. (B), 1, (I), (I)
387A	DATA AVAILABLE	R3 POINTS TO DATA IN STORAGE. ENTER 6. (B), 6, (I), (I). SEE 09.05.10.
387B	RETRY EACH ERROR	ENTER (B), X, (I), (I). 1=YES 2=NO
387C	DATA SET NAME IS?	ENTER 4 CHARACTERS. SEE BELOW *
387D	DATA START ADDRESS IS?	ENTER 4 CHARACTERS (SEE 09.05.13) (B), 1, F, (I), (B), X, X, X, X, (I), (I)
387E	WORD COUNT IS?	ENTER 4 CHARACTERS. SEE BELOW *
387F	CYLINDER # IS?	ENTER 4 CHARACTERS (0000-0076) (B), 1, F, (I), (B), X, X, X, X, (I), (I)
3880	HEAD # IS?	ENTER 4 CHARACTERS (0000-0001) (B), 1, F, (I), (B), X, X, X, X, (I), (I)
3881	SECTOR # IS?	ENTER 4 CHARACTERS (0001-0015) (B), 1, F, (I), (B), X, X, X, X, (I), (I)
3882	SECTOR COUNT IS?	ENTER 4 CHARACTERS. SEE BELOW *
3883	ENTER DATA	SEE 07.01.00, COMMAND F
3884	DISKETTE FULL	SEE 09.04.06, COMPRESS
3885	VTOC FULL	SEE 09.04.06, COMPRESS
3886	START ADDRESS HIGH	RESET, START, ENTER OPTION, ETC.
3887	END ADDRESS HIGH	RESET, START, ENTER OPTION, ETC.
3888	DISKETTE POSITION	ENTER 4 CHARACTERS (0100-2300) (B), 1, F, (I), (B), X, X, 0, 0, (I), (I)
3889	ANY MORE TO DO	ENTER (B), X, (I), (I). 1=YES 2=NO
388A	DEVICE ADDRESS	ENTER 4 CHARACTERS. SEE BELOW **
388B	SELECT 1 OPTION	ENTER 4 CHARACTERS. (SEE 09.03.00). (B), 1, F, (I), (B), X, X, 0, 0, (I), (I)
388C	'FROM' ADDRESS IS?	ENTER 4 CHARACTERS. SEE BELOW **
388D	'TO' ADDRESS IS?	ENTER 4 CHARACTERS. SEE BELOW **
388E	START ADDRESS LOW.	RESET, START, ENTER OPTION, ETC.
388F	END ADDRESS IS?	ENTER 4 CHARACTERS. SEE BELOW *
		* TO ENTER FOUR CHARACTERS: (B), 1, F, (I), (B), X, X, X, X, (I), (I)
		** TO ENTER FOUR CHARACTERS: (B), 1, F, (I), (B), X, X, 0, 0, (I), (I)

THE CODES ARE DESCRIBED IN MORE DETAIL IN THE FOLLOWING PARAGRAPHS.

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09.05.01 CODE 3871:

LOAD THE IPL DISKETTE

WHEN DISPLAYED, THIS CODE WILL INDICATE THAT THE COPY OPTION (F05) HAS BEEN SELECTED AND THE PROCESSING UNIT STORAGE SIZE IS 16K.

09.05.02 CODE 3872:

SECTOR ERROR

WHEN DISPLAYED, THIS CODE WILL INDICATE THAT A NUMBER OTHER THAN 1-15 WAS ENTERED FOR A SECTOR NUMBER, DURING OPTIONS (03,04) OR SECTOR ONE ENTRY WAS HIGHER THAN SECTOR TWO DURING OPTION (04).

09.05.03 CODE 3873:

SPARE - TO BE USED FOR FUTURE EXPANSION

09.05.04 CODE 3874:

WORD COUNT ERROR

WHEN DISPLAYED, THIS CODE INDICATES A ZERO WORD COUNT WAS ENTERED WHEN CHANGING A SECTOR OR A DATA SET ON A DISKETTE.

09.05.05 CODE 3875:

CHANGE IN DS AREA OR OUTSIDE PROGRAM LIMITS

WHEN DISPLAYED, THIS CODE INDICATES THE CHANGE WAS ATTEMPTED IN AN AREA RESERVED BY A DS STATEMENT OR AN AREA OUTSIDE THE LIMITS OF THE PROGRAM. THE PROGRAM THAT WRITES THE DISKETTE DOES NOT RESERVE SPACE FOR AREAS RESERVED BY A DS STATEMENT.

09.05.06 CODE 3876:

IS THE FROM DISKETTE LOADED?:

THIS CODE INDICATES THE OPERATOR SHOULD, AT THIS TIME, INSERT THE FROM DISKETTE. THIS CODE WILL APPEAR DURING THE OPTION (06). REPLY YES (1) WHEN READY.

09.05.07 CODE 3877:

IS THE TO DISKETTE LOADED?:

THIS CODE INDICATES THE OPERATOR SHOULD, AT THIS TIME, INSERT THE TO DISKETTE. THIS CODE WILL APPEAR DURING THE OPTION (06). REPLY YES (1) WHEN READY.

09.05.08 CODE 3878:

VERIFY ERROR

WHEN DISPLAYED, THIS CODE WILL INDICATE AN ERROR DURING THE READ VERIFY OPTION (0B). R3 WILL POINT TO THE DATA. THE DATA IS IN EBCDIC AND WILL BE FORMATTED AS SHOWN IN THE EXAMPLE AT 09.04.12 (INCLUDING SPACES). ENTER 6 TO CONTINUE.

09.05.09 CODE 3879:

DISKETTE LOADED

WHEN DISPLAYED, THIS CODE INDICATES THE DISKETTE TO BE FORMATTED OR VERIFIED IS TO BE LOADED ON THE IPL DEVICE OPTIONS (0A,0B,0C) REPLY YES (1) WHEN READY.

09.05.10 CODE 387A:

LINE OF DATA

THIS CODE INDICATES A LINE OF DATA IS TO BE DISPLAYED. R3 WILL POINT TO THE DATA. THE DATA IS IN EBCDIC AND WILL BE FORMATTED AS SHOWN IN EXAMPLES (INCLUDING SPACES):

OPTION	EXAMPLE
LIST VTOC	SEE 09.04.01.
DUMP PROGRAM	SEE 09.04.02.
DUMP SECTOR(S)	SEE 09.04.04.

(HEADING LINES DO NOT CAUSE A HALT.)
ENTER 6 TO CONTINUE.

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09.05.11 CODE 387B:

RETRY EACH ERROR?

THIS CODE INDICATES THE PROGRAM WANTS TO KNOW IF AN ERROR SHOULD BE RETRIED 8 TIMES. A NO (0) REPLY WILL OUTPUT EACH ERROR AS IT IS FOUND. A YES (1) REPLY WILL RETRY THE COMMAND UP TO 8 TIMES, IF A RETRY EXECUTES WITHOUT ERROR, NO MESSAGE WILL OCCUR.

09.05.12 CODE 387C:

DATA SET NAME IS

THIS CODE INDICATES THE OPERATOR SHOULD ENTER THE 4 CHARACTER DATA SET NAME FOR THE DATA SET. WHEN LIST VTOC IS SELECTED, IF THE DATA SET NAME IS ANSWERED WITH A F00, THE COMPLETE VTOC WILL BE DISPLAYED.

09.05.13 CODE 387D:

START ADDRESS

THIS CODE INDICATES THE OPERATOR SHOULD ENTER THE START ADDRESS FOR THE OPTIONS (01,02,04). USE THE PROGRAM LIST ADDRESS FOR OPTIONS 01 AND 02. USE THE WORD ADDRESS IN THE SECTOR FOR OPTION 04.

09.05.14 CODE 387E:

WORD COUNT

THIS CODE INDICATES THE OPERATOR SHOULD ENTER THE WORD COUNT FOR THE OPTIONS (02,04).

09.05.15 CODE 387F:

CYLINDER

THIS CODE INDICATES THE OPERATOR SHOULD ENTER THE CYLINDER NUMBER FOR THE OPTIONS (03,04), (CYLINDER 00-76).

09.05.16 CODE 3880:

HEAD

WHEN DISPLAYED, THIS CODE IS REQUESTING THE HEAD TO BE ENTERED (0 OR 1).

09.05.17 CODE 3881:

SECTOR

WHEN DISPLAYED, THIS CODE IS REQUESTING THE SECTOR TO BE ENTERED (1-15).

09.05.18 CODE 3882:

NUMBER OF SECTORS

WHEN DISPLAYED, THIS CODE IS REQUESTING THE NUMBER OF SECTORS TO BE ENTERED FOR THE OPTION (03).

09.05.19 CODE 3883:

DATA

WHEN DISPLAYED, THIS CODE IS REQUESTING THE DATA TO BE ENTERED FOR THE OPTIONS (03 OR 05).

09.05.20 CODE 3884:

NOT ENOUGH ROOM ON THE DISKETTE

WHEN DISPLAYED, THIS CODE IS INDICATING ON THE OPTION (06) THAT THERE WAS NOT ENOUGH SECTORS LEFT TO ADD THE PROGRAM. EITHER COMPRESS THE DISKETTE AND THEN ADD THE PROGRAM OR IF THE PROGRAM IS ON THE DISKETTE, DELETE IT THEN COMPRESS AND ADD THE PROGRAM.

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09.05.21 CODE 3885:

VTOC FULL, DATA SET NOT ADDED

WHEN DISPLAYED, THIS CODE IS INDICATING ON THE OPTION (06) THAT THERE WAS NOT ENOUGH ROOM IN THE VTOC. COMPRESS THE DISKETTE AND THEN ADD THE PROGRAM.

09.05.22 CODE 3886:

START ADDRESS HIGH

THIS CODE INDICATES THE START ADDRESS ENTERED ON THE OPTION (01) WAS HIGHER THAN THE END ADDRESS OF THE PROGRAM.

09.05.23 CODE 3887:

END ADDRESS TOO HIGH

THIS CODE INDICATES THE END ADDRESS ENTERED ON THE OPTION (01) WAS HIGHER THAN THE END ADDRESS OF THE PROGRAM.

09.05.24 CODE 3888:

DISKETTE POSITION

THIS CODE INDICATES A 4966 IS THE DEVICE ADDRESS USED AND THE UTILITY NEEDS TO KNOW THE POSITION TO USE (01-23).

09.05.25 CODE 3889:

ANY MORE TO DO?.

WHEN DISPLAYED DURING OPTIONS (06 OR 07) THIS UTILITY NEEDS TO KNOW IF THERE IS MORE ADDING OR DELETING OF DATA SETS TO BE DONE USING THE SAME DEVICE ADDRESS.

09.05.26 CODE 388A:

DEVICE ADDRESS.

WHEN DISPLAYED, THIS CODE IS REQUESTING THE DEVICE ADDRESS OF THE DEVICE TO BE USED FOR OPTIONS (00,0B OR 0C).

09.05.27 CODE 388B:

SELECT ONE OPTION

THIS CODE INDICATES THE OPERATOR SHOULD SELECT ONE OPTION FROM THE OPTION MENU.

09.05.28 CODE 388C:

ENTER FROM ADDRESS

THIS CODE INDICATES THE OPERATOR SHOULD ENTER THE FROM (4964) ADDRESS FOR THE OPTION (06).

09.05.29 CODE 388D:

ENTER TO ADDRESS

THIS CODE INDICATES THE OPERATOR SHOULD ENTER THE TO (4964) ADDRESS FOR THE OPTION (06).

09.05.30 CODE 388E:

START ADDRESS LOW

THIS CODE INDICATES DURING THE OPTIONS (01,02) THE START ADDRESS ENTERED WAS BELOW THE START ADDRESS OF THE PROGRAM.

09.05.31 CODE 388F:

ENTER THE END ADDRESS

THIS CODE INDICATES THE OPERATOR IS TO ENTER THE END ADDRESS FOR THE OPTION (01). (USE PROGRAM LIST ADDRESS).

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09.06.00 DIAGNOSTIC DISKETTE FORMAT: (SEE 09.06.04 FOR SYSTEM TEST DISKETTE.)

THE FOLLOWING IS THE DESCRIPTION OF THE DIAGNOSTIC DISKETTE FORMAT:
 NOTE TRACK 0 (IPL TRACK) IS FORMATTED 128 BYTES/SECTOR, 26 SECTORS/TRACK.
 ALL OTHER TRACKS ARE FORMATTED 256 BYTES/SECTOR, 15 SECTORS/TRACK.

START		END		DESCRIPTION	
CYL	HEAD	CYL	HEAD		
0	0	0	1	PROCESSING UNIT TEST (20A1) OR 25A0	**
1	0	3	1	DISKETTE DIAGNOSTIC TEST TRACKS	**
4	0	5	1	PROCESSING UNIT TEST PROGRAM (20A2)	**
8	0	9	1	RESERVED	**
10	0	10	1	DCP PROGRAM (3800)	**
11	0	11	1	VTOC (VOLUME TABLE OF CONTENTS)	**
12	0	73	1	PROBLEM PROGRAM SPACE	**
				MDI SUPERVISOR	**
				MDI MAPS	**
				DCP UTILITIES	**
				DCP ROUTINES	**
				NOT EXECUTABLE DATA SETS	**
				ERAP	**
				CONFIGURATION RECORD	**
				4978 KEYBOARD TABLE	**
				4978 CONTROL STORAGE LOAD MODULE	**
				4978 CHARACTER IMAGE TABLE	**
				DEVICE UTILITIES AND EXERCISERS	**
				OTHER DIAGNOSTICS	**
74	0	76	1	DISKETTE DIAGNOSTIC TEST TRACKS	**

** ONLY ON NOT IPL DISKETTE(S).
 ** ONLY ON DISKETTE P/N 1635001.

FOR A SPECIFIC BOE USE THE DISPLAY VTOC OPTION. SEE 09.04.01.

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09.06.01 VTOC ENTRY FORMAT:

THE FOLLOWING IS THE FORMAT OF A VTOC ENTRY:

EACH ENTRY IS 32 BYTES IN LENGTH WITH 8 ENTRIES/SECTOR.

BYTES	DESCRIPTION
0- 5	DATA SET NAME IN EBCDIC.
6- 7	STARTING RECORD NUMBER OF THE PROGRAM (SOE).
8- 9	ENDING RECORD NUMBER+1 OF THE PROGRAM (EOE).
10-11	RESERVED
12	TYPE OF DATA SET - 'P' PROGRAM DATA SET. - 'D' NOT EXECUTABLE DATA SET.
	SEE 09.04.01.
13-16	RESERVED.
17	CHANGE COUNT (TIMES PROGRAM HAS BEEN CHANGED).
18-24	PROGRAM PART NUMBER.
25-31	PROGRAM EC NUMBER.

09.06.02 CONFIGURATION TABLE ENTRY FORMAT:

FOR FORMAT OF THE CONFIGURATION TABLE (DATA SET 38F1) SEE MAP 3880 SECTION 08.01.04.

09.06.03 PROGRAM DATA SET ENTRY FORMAT:

THE FOLLOWING IS THE FORMAT OF A DATA SET CONTAINING A PROGRAM.

FIRST SECTOR OF PROGRAM:

BYTES:	
0- 1	LENGTH OF PROGRAM IN BYTES.
2- 3	ADDRESS PROGRAM IS TO START EXECUTION AT.
4- 5	NUMBER DATA SECTORS IN DATA SET.
6- 9	RESERVED.
10- 11	ADDRESS OF 1ST DATA WORD (MUST BE AN EVEN-NUMBERED ADDRESS)
12- 13	NUMBER DATA WORDS IN RECORD.
14-239	113 WORDS OF CODE.
240-255	RELOCATION FLAGS. BIT 0 IS THE RELOCATION FLAG FOR THE 1ST DATA WORD. BIT 1 FOR THE 2ND DATA WORD ETC..... BIT ON INDICATES THE DATA WORD IS RELOCATABLE.

REMAINING SECTORS OF PROGRAM:

BYTES:	
0- 1	THE ADDRESS OF 1ST THE DATA WORD (MUST BE AN EVEN ADDRESS)
2- 3	THE NUMBER OF DATA WORDS IN THE RECORD.
4-239	118 DATA WORDS OF CODE.
240-255	RELOCATION FLAGS. (SEE ABOVE).

09.06.04 SYSTEM TEST DISKETTE FORMAT:

THE FOLLOWING IS THE DESCRIPTION OF THE SYSTEM TEST/FRIEND DISKETTE FORMAT:

NOTE TRACK 0 (IPL TRACK) IS FORMATTED 128 BYTES/SECTOR, 26 SECTORS/TRACK.
ALL OTHER TRACKS ARE FORMATTED 256 BYTES/SECTOR, 15 SECTORS/TRACK.

START		END		DESCRIPTION
CYL	HEAD	CYL	HEAD	
0	0	0	1	PROCESSING UNIT TEST (34A1)
1	0	3	1	DISKETTE DIAGNOSTIC TEST TRACKS
4	0	5	1	PROCESSING UNIT TEST PROGRAM (34A2)
6	0	7	1	PROCESSING UNIT TEST PROGRAM (34A3)
8	0	9	1	RESERVED
10	0	10	1	ECP PROGRAM (3400)
11	0	11	1	VTOC (VOLUME TABLE OF CONTENTS)
12	0	73	1	PROBLEM PROGRAM SPACE SYSTEM TEST SUPERVISOR FRIEND SUPERVISOR SYSTEM TEST ROUTINES FRIEND ROUTINES ERAP DCP ROUTINES DCP UTILITIES NOT EXECUTABLE DATA SETS CONFIGURATION RECORD DEVICE UTILITIES AND EXERCISERS OTHER DIAGNOSTICS
74	0	76	1	DISKETTE DIAGNOSTIC TEST TRACKS

FOR A SPECIFIC EOE USE THE DISPLAY VTOC OPTION. SEE 09.04.01.