

DMP-11

OMV-11

DMP/V-11 FUNC TEST 1

CZDMTFO

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.TITLE CZDMTFO DMP/V-11 FCTNL TST #1
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IDENTIFICATION

PRODUCT CODE: AC-E237F-MC
PRODUCT NAME: CZDMTFO DMP/V-11 FUNCTIONAL TEST 1
PRODUCT DATE: NOVEMBER 1984
MAINTAINER: MERRIMACK DISTRIBUTED SYSTEMS
SOFTWARE ENGINEERING

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HISTORY

REV	DATE	REASON
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A	18-AUG-80	INITIAL RELEASE DMP ONLY
B	14-JAN-81	DMP11 BUGS FIXED
C	1-APR-81	DMV11 SUPPORT ADDED
D	15-FEB-82	DMP11 BUGS FIXED (11/24 RELATED)
E	1-SEP-83	DMP11 ETCH AND MICROCODE CHANGE (TEST 16 FAILED) **JPB DMP11 CABLE LOOP AND H3254.5 TURN AROUND MODE FAILED. ***JPB DMP11 MODEM LOCAL LOOP FAILED TEST 16. ****JPB
F	8-NOV-84	TIMING VALUE IN "WAIT50" ROUTINE WAS TOO SHORT. VALUE (AT LOCATION 4250) WAS 200 DECIMAL, 310 BINARY. CHANGED THE VALUE TO 4000 DECIMAL, 7640 BINARY. REQUIRED BECAUSE THE J-11 IS A FAST PROCESSOR.

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1.0 INTRODUCTION

THE DMP AND DMV OPTIONS ARE COMMUNICATION OPTIONS THAT IMPLEMENT THE DDCMP PROTOCOL IN A MULTIDROP ENVIRONMENT. THE DMP IS USED WITH UNIBUS SYSTEMS WHILE THE DMV IS A Q BUS OPTION. THE PURPOSE OF THIS FUNCTIONAL TEST IS TO VERIFY AND EXERCISE THE MICROCODE USED IN THIS OPTION. THIS IS DONE BY PERFORMING THE FOLLOWING TESTS.

CSR ADDRESSING TESTS, ROM VERIFICATION BY CRC TESTS, RUNNING MICRO DIAGNOSTICS, RUNNING INTERFACE DIAGS. (DMP ONLY), CHECKS FOR RDO AND RDI, CHECKS FOR VARIOUS PROCEDURE ERRORS, MODE DEFINITION CHECKS, TEST FOR ALL CONTROL IN COMMANDS AND TESTS FOR ALL CONTROL AND INFORMATION OUT COMMANDS, TRANSMIT, AND RECEIVE MESSAGE TESTS OF VARIOUS LENGTHS, TO AND FROM VARIOUS BUFFERS.

THE FUNCTIONAL DIAGNOSTIC TEST WILL PROVIDE EXTENSIVE TROUBLESHOOTING CAPABILITIES, SUCH AS TIGHT SCOPE LOOPS, SWITCH OPTIONS, AND ABILITY TO "LOCK" ONTO INTERMITTENT ERRORS. IN ADDITION TESTS WILL BE DESIGNED AND STRUCTURED TO ACHIEVE MAXIMUM FAULT RESOLUTION AND FACILITATE REPLACEMENT OF THE SMALLEST FIELD REPLACEABLE UNIT.

THIS PROGRAM WILL BE IMPLEMENTED USING THE DIAGNOSTIC SUPERVISOR AND A STRUCTURED PROGRAMMING APPROACH. BECAUSE THE DESIGN WILL CONFORM TO THE SUPERVISOR (STANDALONE VERSION) THE PROGRAM WILL BE COMPATIBLE WITH ACT, APT, XXDP+, AND SLIDE.

THROUGH DIALOGUE WITH OPERATOR, THE PROGRAM WILL ALLOW MODIFICATION OF DEVICE PARAMETERS, SUCH AS UNIBUS ADDRESS, VECTOR ADDRESSES AND DEVICE PRIORITY. IN ADDITION, THE OPERATOR CAN SPECIFY PARTICULAR TESTS TO BE RUN AND A VARIETY OF LOOPING, RUNNING, AND REPORTING MODES

DEVICE ERRORS WILL BE REPORTED AS THEY OCCUR. THE REPORT WILL INCLUDE A TEST NUMBER AND DESCRIPTION OF THE ERROR, GOOD AND BAD TEST DATA, AND APPLICABLE DEVICE REGISTER CONTENTS.

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2.0 HARDWARE REQUIREMENTS

THE FOLLOWING HARDWARE IS REQUIRED TO RUN THE DMP/DMV-11
FUNCTIONAL TESTS:

FOR DMP:
PDP-11/04,05,10,20,30,34,35,40,45,50,60, OR 70
DMP-11

FOR DMV:
LSI-11/03,23,238
DMV-11

FOR BOTH:
16K MEMORY
CONSOLE TERMINAL

3.0 PRELIMINARY PROGRAM REQUIREMENTS

FOR DMP:
THE M8207 STATIC DIAGNOSTICS AND THE M8203 STATIC
DIAGNOSTICS SHOULD BE RUN BEFORE RUNNING THIS FUNCTIONAL
DIAG.

FOR DMV:
THE M8053/64 MICROCONTROL AND LINE UNIT STATIC LOGIC TESTS
(5 PROGRAMS) SHOULD BE RUN BEFORE RUNNING THIS FUNCTIONAL DIAG.

4.0 GENERAL PROGRAM CONSIDERATIONS

4.1 DIAGNOSTIC SUPERVISOR

THIS PROGRAM IS COMPATIBLE WITH THE STANDALONE DIAGNOSTIC
SUPERVISOR, AND MUST BE LOADED TO BE CO-RESIDENT WITH THE
SUPERVISOR, OR BE PREVIOUSLY COMBINED WITH THE SUPERVISOR
AND LOADED AS A SINGLE FILE. IN EITHER CASE, THE COMBINED
PROGRAM WILL NOT EXCEED 16K OF MEMORY.

4.2 EXECUTION TIME

THE TOTAL TIME REQUIRED TO RUN THE DMP-11 FUNCTIONAL TESTS
IS ABOUT 120 SECONDS PER PASS (DMP-11) OR ??? SECONDS (DMV-11)
FOR EACH UNIT.

4.3 XXDP.

THIS PROGRAM MAY BE LOADED UNDER XXDP., AND MAY BE RUN IN
DUMP MODE OR CHAIN MODE.

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4.4 ACT/SLIDE

THIS PROGRAM MAY BE LOADED UNDER ACT OR SLIDE AND MAY BE RUN IN DUMP MODE OR CHAIN MODE.

4.5 APT

THIS PROGRAM MAY BE LOADED BY THE APT SYSTEM (INCLUDING APT-RO) AND RUN IN PROGRAM MODE OR SCRIPT MODE.

4.6 MEMORY MANAGEMENT

IT IS USED IN TX AND RX TESTS.

4.7 MEMORY PARITY OPTION

IF PARITY MEMORY IS INSTALLED, MEMORY PARITY TRAPS ARE DISABLED BY THE PROGRAM.

4.8 ERROR LOGGING

THE NUMBER OF ERRORS WHICH HAVE OCCURRED ON EACH DEVICE UNDER TEST SINCE THE LAST START OR RESTART COMMAND IS KEPT IN AN ERROR LOG. THIS LOG MAY BE PRINTED BY USING THE "PRINT" COMMAND (SEE SECTION 6.3.8).

5.0 PROGRAM LOAD MEDIA

THIS PROGRAM CAN BE LOADED FROM PAPER TAPE USING THE ABSOLUTE LOADER OR FROM ACT, SLIDE, OR APT SYSTEMS, OR FROM ANY MEDIA SUPPORTED BY XXDP+. WHEN USING THE PAPER TAPE ABSOLUTE LOADER, THE PROGRAM SHOULD BE LOADED FIRST, FOLLOWED BY THE DIAGNOSTIC SUPERVISOR. WHEN USING XXDP+, THE DIAGNOSTIC SUPERVISOR SHOULD BE LOADED FIRST, FOLLOWED BY THE DIAGNOSTIC PROGRAM.

6.0 OPERATING INSTRUCTIONS

6.1 LOADING AND STARTING PROCEDURES

6.1.1 LOADING PROCEDURES

THIS PROGRAM MAY BE LOADED FROM PAPER TAPE USING THE ABSOLUTE LOADER. IT MAY ALSO BE LOADED FROM ANY XXDP+ LOAD MEDIA. WHEN LOADED UNDER XXDP+ THE DIAGNOSTIC SUPERVISOR WILL BE LOADED AUTOMATICALLY.

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6.1.2 STARTING PROCEDURES

THE PROGRAM STARTS AT LOCATION 200. USE STANDARD DEC PROCEDURES TO START THE PROGRAM.

6.1.3 STEPS FOR QUICK AND SIMPLE EXECUTION

THE DIAGNOSTIC CAN BE EXECUTED STANDALONE WITHOUT READING THE REMAINDER OF THIS DOCUMENT, AS FOLLOWS:

- A) LOAD AND START THE DIAGNOSTIC USING THE RUN COMMAND
- B) RECEIVE DIAGNOSTIC SUPERVISOR IDENTIFICATION PROMPT (DR)
- C) ENTER STA<CR>
- D) ANSWER HARDWARE AND SOFTWARE QUESTIONS
- E) GET END OF PASS MESSAGES OR ERROR MESSAGES
- F) TO END EXECUTION, ENTER CONTROL/C

6.2 INITIAL DIALOGUE

AFTER THE PROGRAM AND THE SUPERVISOR ARE LOADED THE PROGRAM IS STARTED. THE FOLLOWING IDENTIFICATION IS TYPED:

DRS LOADED
 DIAG. RUN-TIME SERVICES
 CZDMT-F-0
 DMP/V-11 FUNCTIONAL DIAG.
 UNIT IS DMP-11 OR DMV-11
 DR>

THE OPERATOR THEN PROCEEDS BY TYPING ONE OR MORE OF THE COMMANDS DESCRIBED IN THE FOLLOWING SECTION 6.3. (FOR MORE INFORMATION, REFER TO THE DIAGNOSTIC SUPERVISOR FUNCTIONAL SPECIFICATION).

6.3 PROGRAM OPTIONS

6.3.1 START COMMAND

 STA(RT)/TESTS:<TEST-LIST>/PASS:<PASS-CNT>/FLAGS:
 <FLAG-LIST>/EOP:<INCR>

6.3.1.1 TESTS SWITCH (/TESTS:<TEST-LIST>)

<TEST-LIST> IS A SEQUENCE OF DECIMAL NUMBERS (1:2 ETC.) OR RANGES OF DECIMAL NUMBERS (1-5:8-10 ETC.) THAT SPECIFY THE TESTS TO BE EXECUTED. THE NUMBERS ARE SEPARATED BY COLONS.

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THE NUMBERS RANGE FROM 1 TO THE LARGEST TEST NUMBER IN THE DIAGNOSTIC. THEY MAY BE SPECIFIED IN ANY ORDER. TESTS WILL BE EXECUTED IN NUMERICAL ORDER REGARDLESS OF THE ORDER OF SPECIFICATION. THE DEFAULT IS TO EXECUTE ALL TESTS. ON THIS AND ALL SWITCHES, THE ANGLE BRACKETS <> ARE PUNCTUATION USED IN THE DEFINITION ONLY, AND ARE NOT TO BE TYPED BY THE OPERATOR. SEE EXAMPLE AT END OF 6.3.1.5.

6.3.1.2 PASS SWITCH (/PASS:<PASS-CNT>)

<PASS-CNT> IS A DECIMAL NUMBER INDICATING THE DESIRED NUMBER OF PASSES. A PASS IS DEFINED AS THE EXECUTION OF THE FULL DIAGNOSTIC (ALL SELECTED TESTS) AGAINST ALL UNITS SUBMITTED. THE DEFAULT IS NON-ENDING EXECUTION. IN THIS CASE EXIT FROM THE PROGRAM IS ACCOMPLISHED EITHER BY TYPING A CONTROL/C OR BY OCCURRENCE OF AN ERROR WITH THE HALT ON ERROR FLAG BEING SET. THE EXIT IS A RETURN TO COMMAND MODE. SEE EXAMPLE AT END OF 6.3.1.5.

6.3.1.3 FLAGS SWITCH (/FLAGS:<FLAG-LIST>)

<FLAG-LIST> IS A SEQUENCE OF ELEMENTS OF THE FORM <FLAG>, <FLAG=1>, OR <FLAG=0>, SEPARATED BY COLONS, WHERE <FLAG> HAS ONE OF THE FOLLOWING VALUES:

HOE	HALT ON ERROR, CAUSING COMMAND MODE TO BE ENTERED WHEN AN ERROR IS ENCOUNTERED
LOE	LOOP ON ERROR, CAUSING THE DIAGNOSTIC TO LOOP CONTINUOUSLY WITHIN THE SMALLEST DEFINED BLOCK OF CODING (SEGMENT, SUBTEST, OR TEST) CONTAINING THE ERROR
IER	INHIBIT ERROR REPORTING
IBE	INHIBIT BASIC ERROR REPORTS
IXE	INHIBIT EXTENDED ERROR REPORTS
PRI	DIRECT ALL MESSAGES TO A LINE PRINTER
PNT	PRINT NUMBER OF TEST BEING EXECUTED
BOE	BELL ON ERROR
UAM	RUN IN UNATTENDED MODE, BYPASSING MANUAL INTERVENTION TESTS
ISR	INHIBIT STATISTICAL REPORTS
IDU	INHIBIT DROPPING OF UNITS BY DIAGNOSTIC
LOT	LOOP ON TEST

THE FLAGS NAMED OR EQUATED TO 1 ARE SET, THOSE EQUATED TO 0 ARE CLEARED. A FLAG NOT SPECIFIED IS CLEARED. IF THE FLAGS SWITCH IS NOT GIVEN ALL FLAGS ARE CLEARED. SEE EXAMPLE AT END OF 6.3.1.5.

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6.3.1.4 END OF PASS SWITCH (/EOP:<INCR>)

<INCR> IS A DECIMAL NUMBER INDICATING HOW OFTEN (IN TERMS OF PASSES) IT IS DESIRED THAT THE END OF PASS MESSAGE BE PRINTED. THE DEFAULT IS AT THE END OF EVERY PASS. SEE EXAMPLE AT END OF 6.3.1.5.

6.3.1.5 EFFECT OF START COMMAND

THE EFFECT OF THE START COMMAND IS TO INITIATE THE HARDWARE PARAMETER DIALOGUE, THE SOFTWARE PARAMETER DIALOGUE, AND THEN THE DIAGNOSTIC TESTS THEMSELVES.

THE HARDWARE PARAMETER DIALOGUE COMMENCES WITH THE QUESTION "# UNITS?" TO WHICH THE OPERATOR REPLIES WITH A DECIMAL NUMBER N FROM 1 TO 16. THE TERM "UNIT" REFERS TO THE DEVICE TO WHICH THIS SERIES OF DIAGNOSTICS IS DEDICATED. FOLLOWING THIS ARE THE QUESTIONS WHEREBY THE P-TABLES THEMSELVES WILL BE BUILT. EACH P-TABLE IS A CORE-RESIDENT TABLE CONTAINING ALL THE HARDWARE INFORMATION FOR ONE UNIT. THE OPERATOR MUST SUPPLY N (NUMBER OF UNITS) VALUES FOR EACH QUESTION. HE MAY DO THIS BY GIVING ONE ANSWER TO EACH QUESTION (IN WHICH CASE THE SERIES OF QUESTIONS WILL BE POSED N TIMES) OR BY GIVING N VALUES, SEPARATED BY COMMAS, TO EACH QUESTION (SERIES WILL BE POSED ONCE). EACH QUESTION IS FOLLOWED BY THE RESPONSE RADIX (D FOR DECIMAL, B FOR BINARY, O FOR OCTAL, L FOR YES/NO) IN PARENTHESES AND THE DEFAULT VALUE AFTER THE PARENTHESES.

FOLLOWING THE HARDWARE QUESTIONS ARE THE SOFTWARE QUESTIONS TO BUILD THE SOFTWARE TABLES, WHICH DEFINE THE MODE (QUICK VERIFY ETC.) THAT THE DIAGNOSTIC WILL EXECUTE IN.

WHEN THE QUESTION "# UNITS?" IS ANSWERED, MEMORY STORAGE IS ALLOCATED FOR THE P-TABLES, AND IF THERE IS NOT ENOUGH TO ACCOMMODATE THEM THE MESSAGE "TOO MANY UNITS" IS ISSUED. IN THIS CASE THE DIAGNOSTIC MUST BE EXECUTED MORE THAN ONCE TO TEST ALL UNITS.

EXAMPLE:

STA/TESTS:1:2-4:6:8-10/PASS:3/FLAGS:IER:HOE=1:UAM:LOE

THIS COMMAND WILL CAUSE THREE PASSES TO BE MADE, EACH PASS CONSISTING OF TESTS 1,2,3,4,6,8,9, AND 10 EXECUTED AGAINST ALL UNITS. THERE IS NO DIFFERENCE BETWEEN SAYING <FLAG> AND SAYING <FLAG=1>. THE NOTATION <FLAG=0> IS MEANINGFUL ONLY ON A COMMAND OTHER THAN START TO CLEAR A FLAG THAT WAS PREVIOUSLY SET. NOTE THAT ON ALL COMMANDS ONLY THE FIRST THREE LETTERS ARE SCANNED.

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6.3.2 RESTART COMMAND

```
*****
RES(TART)/TESTS:<TEST-LIST>/PASS:<PASS-CNT>/FLAGS:
  <FLAG-LIST>/UNITS:<UNIT-LIST>
*****
```

6.3.2.1 TESTS, PASS, AND FLAGS SWITCHES

<TEST-LIST>, <PASS-CNT>, AND <FLAG-LIST> ARE AS IN THE START COMMAND.

6.3.2.2 UNITS SWITCH (/UNITS:<UNIT-LIST>)

<UNIT-LIST> IS A SEQUENCE OF DECIMAL NUMBERS (0,1 ETC.) OR RANGES OF DECIMAL NUMBERS (0-5, 8-10 ETC.) THAT SPECIFY THE UNITS TO BE TESTED. THE NUMBERS ARE SEPARATED BY COLONS. THE NUMBERS MAY RANGE FROM 0 THRU N-1 (N IS THE NUMBER OF UNITS SPECIFIED IN THE PREVIOUS START COMMAND). THE NUMBER INDICATES THE POSITION OF THE P-TABLE AS THE DATA WAS ENTERED DURING THE HARDWARE DIALOGUE. THE UNITS WHICH ARE SELECTED MUST NOT HAVE BEEN DROPPED BY THE DROP COMMAND. SEE THE DISCUSSION OF ADD AND DROP COMMANDS BELOW. DEFAULT IS TO TEST ALL UNITS WHICH HAVE NOT BEEN DROPPED BY A DROP COMMAND.

6.3.2.3 EFFECT OF RESTART COMMAND

THE RESTART COMMAND DIFFERS FROM THE START COMMAND IN THAT THE P-TABLES FROM THE PREVIOUS START COMMAND (THERE MUST HAVE BEEN ONE) ARE USED, INSTEAD OF NEW ONES BEING BUILT. THE UNITS SWITCH GIVES THE ABILITY TO SELECT A SUBSET OF THESE. THE SOFTWARE DIALOGUE MAY OPTIONALLY BE REEXECUTED (OPERATOR WILL BE ASKED). THE COMMAND CAN BE USED AFTER COMMAND MODE HAS BEEN REENTERED IN ANY OF THE THREE NORMAL WAYS: A) THE REQUESTED NUMBER OF PASSES HAVE BEEN MADE B) AN ERROR WAS ENCOUNTERED WITH THE HALT ON ERROR FLAG SET C) A CONTROL/C WAS ENTERED BY THE OPERATOR.

6.3.3 CONTINUE COMMAND

```
*****
CON(TINUE)/PASS:<PASS-CNT>/FLAGS:<FLAG-LIST>
*****
```

6.3.3.1 PASS SWITCH (/PASS:<PASS-CNT>)

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<PASS-CNT> IS SAME AS IN START COMMAND, BUT THE DEFAULT IS THE UNSATISFIED PASS-CNT FROM THE PREVIOUS START OR RESTART. IF NONE REMAINS, THE DEFAULT IS NON-ENDING EXECUTION.

6.3.3.2 FLAG SWITCH (/FLAGS:<FLAG-LIST>)

<FLAG-LIST> IS SAME AS IN START COMMAND, BUT UNSPECIFIED FLAGS RETAIN THEIR CURRENT VALUE.

6.3.3.3 EFFECT OF CONTINUE COMMAND

CONTINUE MUST FOLLOW A START OR RESTART, AND COMMAND MODE MUST HAVE BEEN ENTERED DUE TO A HALT ON ERROR OR A CONTROL/C. THE EFFECT OF THE COMMAND IS TO GO TO THE BEGINNING OF THE TEST THAT WAS BEING EXECUTED WHEN THE HALT OR CONTROL/C TOOK PLACE. SOFTWARE DIALOGUE MAY OPTIONALLY BE REEXECUTED. HARDWARE PARAMETERS MAY NOT BE CHANGED.

6.3.4 PROCEED COMMAND

 PRO(CEED)/FLAGS:<FLAG-LIST>

6.3.4.1 FLAGS SWITCH (/FLAGS:<FLAG-LIST>)

<FLAG-LIST> IS AS IN THE START COMMAND, BUT UNSPECIFIED FLAGS RETAIN THEIR CURRENT VALUE.

6.3.4.2 EFFECT OF PROCEED COMMAND

PROCEED MUST FOLLOW A START, RESTART, OR CONTINUE. COMMAND MODE MUST HAVE BEEN ENTERED VIA A HALT ON ERROR. THE EFFECT OF THE COMMAND IS TO BEGIN EXECUTION AT THE LOCATION FOLLOWING THE ERROR CALL. NEITHER HARDWARE NOR SOFTWARE PARAMETERS MAY BE ALTERED.

6.3.5 ADD COMMAND

 ADD/UNITS:<UNIT-LIST>

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6.3.5.1 UNITS SWITCH (/UNITS:<UNIT-LIST>)

<UNIT-LIST> IS AS IN THE RESTART COMMAND.

6.3.5.2 EFFECT OF ADD COMMAND

THE UNITS SPECIFIED ARE ADDED TO THE TEST SEQUENCE. EACH UNIT MUST HAVE A P-TABLE IN MEMORY DUE TO AN EARLIER HARDWARE DIALOGUE. THIS COMMAND MUST BE FOLLOWED BY A RESTART OR CONTINUE. THE UNITS SWITCH MUST BE SPECIFIED. THE ADD COMMAND IS MEANINGFUL ONLY FOR UNITS THAT WERE PREVIOUSLY DROPPED.

6.3.6 DROP COMMAND

 DRO(P)/UNITS:<UNIT-LIST>

6.3.6.1 UNITS SWITCH (/UNITS:<UNIT-LIST>)

<UNIT-LIST> IS AS IN THE RESTART COMMAND.

6.3.6.2 EFFECT OF DROP COMMAND

THE UNITS SPECIFIED WILL BE DROPPED FROM TESTING. THE UNITS WILL BE RESELECTED ONLY BY THE EXECUTION OF AN ADD OR START COMMAND. THE UNITS SWITCH MUST BE ENTERED. THIS COMMAND MUST BE FOLLOWED BY A RESTART OR A CONTINUE COMMAND.

6.3.7 PRINT COMMAND

 PRI(NT)

6.3.7.1 EFFECT OF PRINT COMMAND

THE TOTAL NUMBER OF ERRORS FOR EACH UNIT SINCE THE LAST START OR RESTART COMMAND ARE PRINTED. THE ISR (INHIBIT STATISTICAL REPORTING) FLAG IS CLEARED.

6.3.8 DISPLAY COMMAND

 DIS(PLAY)/UNITS:<UNIT-LIST>

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6.3.8.1 UNITS SWITCH (/UNIT'S:<UNIT-LIST>)

<UNIT-LIST> IS AS IN THE RESTART COMMAND.

6.3.8.2 EFFECT OF DISPLAY COMMAND

THE HARDWARE P-TABLES FOR ALL UNITS UNDER TEST ARE PRINTED OUT IN THE FORMAT IN WHICH THEY WERE ENTERED. ANY UNITS THAT WERE DROPPED BY THE OPERATOR "DROP" COMMAND ARE SO DESIGNATED.

6.3.9 FLAGS COMMAND

 FLA(GS)

6.3.9.1 EFFECT OF FLAGS COMMAND

THE CURRENT SETTINGS OF ALL FLAGS ARE PRINTED.

6.3.10 ZFLAGS COMMAND

 ZFL(AGS)

6.3.10.1 EFFECT OF ZFLAGS COMMAND

ALL FLAGS ARE CLEARED.

6.3.11 CONTROL CHARACTERS

A CONTROL C (C) ENTERED DURING THE EXECUTION OF A DIAGNOSTIC CAUSES A RETURN TO COMMAND MODE.

A CONTROL Z (Z) ENTERED DURING ONE OF THE THREE OPERATOR DIALOGUES- INITIAL DIALOGUE (SEE 6.2), HARDWARE DIALOGUE (SEE 6.3.1.5), OR SOFTWARE DIALOGUE (SEE 6.3.1.5) CAUSES THE DEFAULTS TO BE TAKEN FOR THE REMAINDER OF THAT DIALOGUE.

A CONTROL O (O) ENTERED DURING THE EXECUTION OF A DIAGNOSTIC CAUSES ALL TELETYPE OUTPUT TO BE SUPPRESSED FOR THE REMAINDER OF THE DIAGNOSTIC OR UNTIL ANOTHER O IS TYPED, WHICH RESTORES NORMAL TELETYPE OUTPUT.

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6.3.12 HARDWARE PARAMETERS

THE FOLLOWING QUESTIONS WILL BE ASKED ON A START COMMAND.
 THE VALUE LOCATED TO THE LEFT OF THE QUESTION MARK IS THE
 DEFAULT VALUE THAT WILL BE TAKEN ON A CARRIAGE RETURN
 RESPONSE.

SELECT OPTION TYPE (0=8207'DMP',1=8053'DMV',2=8064'DMV): (0) 0 ?
 DEVICE CSR ADDRESS : (0) 160170 ?
 DEVICE VECTOR ADDRESS : (0) 300 ?
 DEVICE PRIORITY LEVEL : (0) 5 ?
 TURNAROUND TYPE -(0=M3254H3255,1=CABLE,2=MOD LOC,3=MOD REM,
 4=NONE) (0) 0 ?
 PLEASE SELECT BAUD RATE; TYPE '0' FOR 2.4K; '1' FOR 4.8K;
 '2' FOR 9.6K; '3' FOR 19.2K; '4' FOR 56K; '5' FOR 250K;
 OR '6' FOR 500K BAUDS (0) 4 ?
 SELECT INTERFACE TYPE (1=INTEGRAL,2=EIA,3=V.35,4=422): (0) 2 ?

6.3.13 SOFTWARE PARAMETERS

NO SOFTWARE PARAMETER QUESTIONS ARE ASKED BY THE DMP/V-11
 FUNCTIONAL TEST

6.3.14 EXTENDED DISCUSSION OF P-TABLE DIALOGUE

THE FULL CAPABILITY OF THE HARDWARE DIALOGUE IS REVEALED BY
 THE FOLLOWING DISCUSSION OF WHAT HAPPENS INTERNALLY

AS SOON AS THE QUESTION "N UNITS?" IS ANSWERED (WITH THE
 NUMBER N, SAY) SPACE IN CORE IS ALLOCATED FOR N P-TABLES.
 ALL OF THE P-TABLES ARE OF THE SAME FORMAT, AND THERE IS A
 ONE-TO ONE CORRESPONDENCE BETWEEN THE HARDWARE PARAMETER
 QUESTIONS AND THE SLOTS IN THE P-TABLE FORMAT.

ON THE FIRST TRIP THRU THE QUESTIONS, ALL OF THE SLOTS IN
 ALL OF THE P-TABLES ARE FILLED. IF THE OPERATOR TYPES IN
 LESS THAN N EXPLICIT VALUES IN RESPONSE TO A PARTICULAR
 QUESTION, THESE VALUES ARE PLACED IN THE P-TABLES (ONE VALUE
 GOING INTO THE PROPER SLOT OF EACH P-TABLE BEGINNING WITH
 THE FIRST P-TABLE) UNTIL THE STRING OF VALUES IS EXHAUSTED.
 THE LAST VALUE IN THE STRING BECOMES THE NEW DEFAULT AND IS
 USED TO FILL THAT SLOT IN THE REMAINING P-TABLES.

ON SUBSEQUENT TRIPS THRU THE QUESTIONS, THE SAME PROCESS IS CARRIED OUT, EXCEPT THAT THE EARLIEST P-TABLE NOT TO HAVE RECEIVED AN EXPLICIT VALUE IN ANY OF ITS SLOTS NOW ASSUMES THE ROLE THAT TABLE NUMBER ONE PLAYED IN THE FIRST TRIP.

THE SERIES OF QUESTIONS IS REISSUED UNTIL AT LEAST ONE QUESTION HAS RECEIVED N EXPLICIT VALUES FROM THE OPERATOR.

IN GIVING A STRING OF VALUES, COMMAS WITHOUT INTERVENING VALUES MAY BE USED TO INDICATE A REPETITION OF THE LAST NAMED VALUE.

A STRING OF VALUES MAY BE GIVEN AS A RANGE (6-10 FOR EXAMPLE). IF THE VALUES REPRESENT PURE NUMERICAL DATA, THIS SAMPLE RANGE TRANSLATES TO THE STRING 6,7,8,9,10 (AN INCREMENT OF 1). IF THE VALUES ARE ADDRESSES, THE SAMPLE RANGE TRANSLATES TO THE STRING 6,8,10 (AN INCREMENT OF 2).

NOW LET US SEE HOW WE COULD USE THESE CAPABILITIES TO CONSTRUCT A SET OF P-TABLES. ASSUME THAT WE HAVE 16 UNITS, AND THAT THERE ARE THREE HARDWARE PARAMETERS FOR EACH (THREE SLOTS IN THE P-TABLE, THREE HARDWARE QUESTIONS IN THE DIALOGUE). LET THE DESIRED VALUE FOR THE FIRST PARAMETER BE THE NUMBER 75 FOR ALL 16 TABLES. LET THE DESIRED VALUE FOR THE SECOND PARAMETER BE EQUAL TO THE UNIT NUMBER (0,1,2,...,15) EXCEPT FOR UNIT 12, WHICH SHOULD RECEIVE THE VALUE 11. LET THE DESIRED VALUE FOR THE THIRD PARAMETER BE THE NUMBER 76 FOR THE FIRST 7 UNITS AND THE NUMBER 77 FOR THE LAST 9 UNITS.

THE FOLLOWING DIALOGUE WOULD ACCOMPLISH THIS GOAL:

0 UNITS (0) ? 16

UNIT 1

<QUESTION 1> ? 75
<QUESTION 2> ? 0-6
<QUESTION 3> ? 76

UNIT 21

<QUESTION 1> ?
<QUESTION 2> ? 7-11..13-15
<QUESTION 3> ? 77

THE FIRST TIME THE SERIES IS ASKED, SLOT ONE RECEIVES A 75 IN ALL 16 TABLES. SLOT TWO RECEIVES THE VALUES 0,1,2,...,6 IN TABLES 0 THRU 6 AND A CONSTANT 6 IN TABLES 7 THRU 15. SLOT THREE RECEIVES A CONSTANT 76 IN ALL 16 TABLES.

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THE SECOND TIME THRU THE SERIES, TABLES 16 THRU THE END ARE GOING TO BE AFFECTED (NOTE THAT THIS PIECE OF INFORMATION IS PRINTED OUT FOR THE THE OPERATOR IN THE FORM "UNIT XX" AT THE BEGINNING OF EACH SERIES). QUESTION 1 IS RESPONDED TO BY A <CR>, SO SLOT ONE STAYS AT CONSTANT 75 IN TABLES 7 THRU 15, SINCE NO NEW EXPLICIT VALUES ARE TYPED IN. SLOT TWO GETS THE VALUES 7,8,9,10,11 IN TABLES 7 THRU 11, AND GETS A 11 IN SLOT 12, AND GETS THE VALUES 13,14,15 IN TABLES 13 THRU 15. SLOT THREE GETS THE VALUE 77 IN TABLES 7 THRU 15.

THE DIALOGUE IS TERMINATED WHEN THE SOFTWARE RECOGNIZES THAT 16 EXPLICIT VALUES HAVE BEEN GIVEN FOR AT LEAST ONE QUESTION (NAMELY QUESTION 2).

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TEST DESCRIPTIONS

7.0

7.1 ADDRESS TEST (TEST-1)

VERIFIES THAT ALL ADDRESSES IN THE MCPU RESPOND.
THIS TEST IS USED TO VERIFY THAT THE OPTION
IS AT THE ADDRESS THE USER THINKS IT IS ON.

7.2 ROM VERIFICATION TESTS (TESTS 2-9) (2-7 DMP ONLY+...8 9 DMV ONLY)

THIS SERIES OF TESTS VERIFIES THAT ALL ROMS
ARE IN PLACE AND THAT THE THE CONTENTS ARE
CORRECT BY DOING A CRC CALCULATION ON THE
ROM CONTENTS. THE TEST ALSO PRINTS THE REV AND
ROM NUMBER OF THE ROM ON THE FIRST PASS OF THE
TEST.

7.3 INITIALIZATION TEST (TEST 10)

THIS TEST DOES A MASTER CLEAR TO THE DEVICE
AND WAITS FOR THE MICRO-DIAGNOSTICS TO COMPLETE
IF MICRO DIAGS FAIL TO COMPLETE THEN A TIME
OUT ERROR WILL BE REPORTED.

7.4 INTERFACE DIAGNOSTICS (TEST 11) (DMP ONLY)

THIS TEST RUNS ADDITIONAL MICRODIAGNOSTIC CODE IN THE
DMP THAT CHECKS OUT THE INTERRUPT LOGIC AND THE
NPR LOGIC.

7.5 RDI REMAINS SET TEST (TEST 12)

THIS TEST SETS RDI,WAITS FOR RDI TO SET,ISSUES
A "NO REQUEST" CONTROL IN AND LOOKS FOR RDI TO
REMAIN SET.

7.6 TEST FOR RDO SETTING (TEST 13)

THIS TEST DOES A CONTROL IN COMMAND OF "READ MODEM"
AND EXPECTS RDO TO SET WITH AN INFORMATION OUT CODE
OF RETURN MODEM STATUS.

7.7 CHECK FOR PROCEDURE ERROR 100 (TEST 14)

THIS TEST ISSUES A MASTER CLEAR WAITS FOR RUN TO
SET THEN ISSUES A CONTROL IN COMMAND AND EXPECTS
A PROCEDURE ERROR OF 100 "NON MODE DEFINITION COMMAND
AFTER A MASTER CLEAR". UNLESS MODE HAS BEEN DEFINED
IN THE SWITCHES THEN LOOK FOR INFORMATION OUT.

7.8 CHECK FOR PROCEDURE ERROR 104 (TEST 15)

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THIS TEST ISSUES A MASTER CLEAR , MODE DEFINITION, FOLLOWED BY A MODE DEF. COMMAND DEFINING A DIFFERENT TYPE OF MODE. THE TEST LOOKS FOR A PROCEDURE ERROR OF 104 "ILLEGAL MODE CHANGE".

7.9 TEST MODE CHANGE OF DUPLEX PORTION OF MODE (TEST 16)

THIS TEST ISSUES A MASTER CLEAR, MODE DEFINITION SEQUENCE (CONTROL STATION/FULL DUPLEX). THE TEST THEN ISSUES A MODE DEF. COMMAND TO CHANGE TO HALF DUPLEX. THEN THE TESTS WAITS AND MAKES SURE NO PROCEDURE ERROR OCCURS.

7.10 TEST FOR MAX TRIBS TO BE ESTABLISHED. (TEST 17)

THIS TEST ESTABLISHES MAX TRIBS THEN ATTEMPTS TO ESTABLISH MAX+1 TRIBS AND CHECKS FOR A PROCEDURE ERROR 114, "ATTEMPT TO ESTABLISH MORE THEN MAXIMUM NUMBER OF TRIBS". THE TEST THEN TRIES TO ESTABLISH A TRIB THAT HAS ALREADY BEEN ESTABLISHED AND CHECKS FOR A PROCEDURE ERROR OF 116 "ATTEMPT TO ESTABLISH ALREADY ESTABLISHED TRIB".

NOTE: MAX TRIBS FOR DMP = 32
MAX TRIBS FOR DMV = 12

7.11 READ/WRITE TRIBUTARY STATUS SLOTS TEST (TEST 18)

THIS TEST WRITES EACH TSS SLOT WITH VARIOUS DATA PATTERNS THEN READS THAT SLOT TO BE SURE THAT THE CORRECT OUTPUT COMMAND AND DATA IS RETURNED. THE SLOTS THAT ARE WRITTEN ARE TRIB STATUS SLOTS 30 THRU 37. THE DATA PATTERNS USED ARE: 0, 125252, 052525, 0, -1, 377, 177400, 562:OCTAL.

7.12 TESTS FOR PROCEDURE ERROR 132 (TEST 19-20)

THESE TESTS CHECK THAT A PROCEDURE ERROR OF 132 "ATTEMPT TO WRITE INTO A RESERVED AREA OF THE TRIBUTARY STATUS SLOTS" IS PRODUCED WHEN A WRITE TSS COMMAND IS ISSUED FOR ADDRESS 4. A READ/CLEAR TSS COMMAND IS ISSUED FOR ADDRESS 6.

7.13 TEST FOR READ/CLEAR COMMAND (TEST 21)

THIS TEST ISSUES A READ CLEAR COMMAND TO TRIBUTARY STATUS SLOT 7 AND MAKES SURE THAT NO ERRORS OCCUR.

7.14 TESTS FOR GLOBAL STATUS SLOTS (TEST 22)

THIS TEST READS ALL THE GLOBAL STATUS SLOTS THEN WRITES ALL THE GLOBAL SLOTS USING THE ADDRESSES AS DATA THEN READS THEM BACK AND MAKES SURE THE DATA IS CORRECT. THIS TEST ALSO CHECKS FOR THE LIMITS ON THE WRITE TSS COMMAND BY MAKING SURE A

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PROCEDURE ERROR OCCURES WHEN THE LIMITS ARE EXCEEDED. THIS TEST ALSO CHECKS THE READ/CLEAR COMMAND TO A GLOBAL STATUS SLOT.

7.15 HALT TRIB COMMAND TESTS (TEST 23)

THIS TEST CHECKS THE HALT TRIB COMMAND BY DOING THE FOLLOWING: MASTER CLEAR; MODE DEF; ESTABLISH TRIB; ISTRT TRIB; QUE UP REC BUFFER; ISSUE HALT TRIB COMMAND; CHECK FOR OUTPUT OF REC BUFFER UNUSED; CHECK FOR SECOND OUTPUT OF BUFFER RETURNED COMPLETE. THE TEST THEN ISSUES A SECOND HALT TRIB COMMAND AND CHECKS THAT AFTER A DELAY NO CONTROL OUT OCCURS

7.16 KILL TRIB COMMAND TESTS (TEST 24)

THIS TEST CHECKS THE KILL TRIB COMMAND BY DOING THE FOLLOWING: MASTER CLEAR; MODE DEF.; ESTABLISH TRIB; READ TSS SLOT 1 AND COMPARE FOR GOOD ADDRESS; PUT TRIB IN MAINT STATE; ISSUE KILL TRIB; CHECK FOR PROCEDURE ERROR 112 "KILL TO UNHALTED TRIB"; HALT TRIB; KILL TRIB; READ TSS SLOT 1 AND CHECK FOR PROCEDURE ERROR 106 "NON GLOBAL CONTROL IN COMMAND TO UNESTABLISHED TRIB".

7.17 CHECK FOR PROCEDURE ERROR 102 (TEST 25)

THIS TEST ISSUES ILLEGAL TYPE CODES OF 7 6 5 AND 3 AND CHECKS THAT EACH ONE PRODUCES A PROCEDURE ERROR 102 "ILLEGAL TYPE CODE USED IN AN INPUT COMMAND".

7.18 CHECK FOR PROCEDURE ERROR OF 110 (TEST 26)

THIS TEST ISSUES A MASTER CLEAR; MODE DEF; FOLLOWED BY AN ISTRT TO TRIB ADDRESS OF ZERO. IT THEN CHECKS FOR A PROCEDURE ERROR OF 110 "ATTEMPT TO PERFORM A NON-GLOBAL COMMAND FOR TRIBUTARY ADDRESS OF 0".

7.19 CHECK FOR PROCEDURE ERROR OF 120 (TEST 27)

THIS TEST ISSUES A CONTROL IN WITH A REQUEST KEY OF 7 AND ALSO A CONTROL IN WITH A REQUEST KEY OF 17 THEN IT CHECKS THAT BOTH CASES GIVE PROCEDURE ERROR 120 "ILLEGAL REQUEST KEY ON CONTROL IN."

7.20 CHECK FOR PROCEDURE ERROR OF 134 (TEST 28)

THIS TEST ISSUES A MASTER CLEAR, MODE DEF, AND ESTABLISH TRIB SEQUENCE, FOLLOWED BY AN ATTEMPT TO USE A RESERVED BIT IN BSEL 7 THEN CHECKS THAT THIS PRODUCES A PROCEDURE ERROR OF 134 "ATTEMPT TO USE RESERVED BIT IN BSEL 7 ON CONTROL IN "

7.21 LATCH/UNLATCH POLL CHECK (TEST 29)

THIS TEST CHECKS THE LATCH AND UNLATCH POLL COMMANDS BY DOING THE FOLLOWING SEQUENCE OF COMMANDS:

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MASTER CLEAR; MODE DEF; ESTABLISH TRIB; LATCH POLL
TO DEAD STATE; READ TSS SLOT 2 AND CHECK THAT DEAD
BIT IS ON; UNLATCH POLL; READ TSS SLOT 2; CHECK THAT ACTIVE
BIT IS ON.

7.22 SHORT MESSAGE SENDING TEST (TEST 30)

THIS TEST SENDS A 4 BYTE MESSAGE FROM AN EVEN TRANSMIT
BUFFER TO AN EVEN REC BUFFER IN DDCMP FORMAT CONFIGURED
AS A MULTIPOINT CONTROL STATION FULL DUPLEX. THE TEST
CHECKS THAT REC BUFFERS ARE RETURNED AND DATA IS CORRECT
AND THAT THE NEXT OUTPUT IS TRANSMIT BUFFER RETURNED.
THIS TEST IS ALWAYS DONE IN TTL LOOPBACK MODE.

7.23 CHECK FOR PROCEDURE ERROR 122 (TEST 31)

THIS TEST CHECKS FOR A PROCEDURE ERROR OF 122 BY
PERFORMING THE FOLLOWING: MASTER CLEAR; MODE DEF;
ESTABLISH BUFFER; CHECK FOR ERROR 122 "ATTEMPT
TO ASSIGN A BUFFER FOR AN UNESTABLISHED TRIB".

7.24 CHECK FOR PROCEDURE ERROR 124 (TEST 32)

THIS TEST CHECKS FOR A PROCEDURE ERROR OF 124 BY
PERFORMING THE FOLLOWING: MASTER CLEAR; MODE DEF;
ESTABLISH TRIB; ESTABLISH BUFFER; CHECK FOR ERROR
124 "ATTEMPT TO ASSIGN A BUFFER FOR A HALTED TRIB".

7.25 CHECK FOR PROCEDURE ERROR 126 (TEST 33)

THIS TEST CHECKS FOR A PROCEDURE ERROR OF 126 BY
PERFORMING THE FOLLOWING: MASTER CLEAR; MODE DEF;
ESTABLISH TRIB; PUT TRIB IN MAINT STATE; ESTABLISH
BUFFER WITH 0 BYTE COUNT; LOOK FOR ERROR 126
"ATTEMPT TO ASSIGN A BUFFER WITH A BYTE COUNT OF 0".

7.26 CHECK FOR PROCEDURE ERROR 130 (TEST 34)

THIS TEST CHECKS FOR A PROCEDURE ERROR OF 130 BY
PERFORMING THE FOLLOWING: MASTER CLEAR; MODE DEF;
ESTABLISH TX BUFFER TO TRIB; CHECK FOR ERROR
130 "ATTEMPT TO ASSIGN A TRANSMIT BUFFER FOR TRIB
0".

7.27 TRANSMIT/RECEIVE 256 BYTES, PTP, DDCMP (TEST 35)

THIS TEST WILL TRANSMIT A BUFFER OF 256 BYTES, STARTING
ON AN EVEN BYTE BOUNDARY TO A REC BUFFER STARTING ON AN
EVEN BYTE BOUNDARY. THE MODE DEFINED IS POINT TO POINT
FULL DUPLEX, DDCMP PROTOCOL. IF THERE IS EXTERNAL LOOP
BACK THEN THE TEST WILL BE DONE OVER THAT LOOPBACK; ELSE
THE LOOPBACK WILL BE SET TO INTERNAL (TTL).

7.28 DMV Q22 MODE TX/RX 256 BYTES, DDCMP (TEST 36) * DMV ONLY *

THIS TEST WILL TRANSMIT A BUFFER OF 256 BYTES, STARTING

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ON AN EVEN BYTE BOUNDARY TO A REC BUFFER STARTING ON AN EVEN BOUNDARY. THE MODE DEFINED IS Q22 FORMAT, POINT TO POINT FULL DUPLEX, DDCMP PROTOCOL. IF THERE IS EXTERNAL LOOPBACK THEN THE TEST WILL USE IT, OTHERWISE THE LOOPBACK WILL BE SET TO INTERNAL(TTL).

7.29 TRANSMIT/RECEIVE 255 BYTES, MTP, DDCMP (TEST 37)

THIS TEST WILL TRANSMIT A BUFFER OF 255 BYTES STARTING ON AN EVEN BYTE ADDRESS TO A REC BUFFER STARTING ON AN ODD BYTE ADDRESS. THE MODE IS FULL DUPLEX CONTROL STATION MULTIPOINT, DDCMP PROTOCOL. THE DATA IS COMPARED FOR CORRECTNESS. THE TEST IS DONE WITH INTERNAL LOOPBACK.

7.30 READ/WRITE MODEM REGISTER TESTS (TEST 38) (DMP ONLY)

THIS TEST WRITES THE MODEM REGS OVER THE VARIOUS INTERFACES WITH A PATTERN OF 100. THE MODEM REGS ARE THEN READ AND COMPARED FOR CORRECTNESS.

 * N O T E ----- THIS TEST ONLY RUNS IF LOOPBACK CONNECTORS
 ***** ARE ATTACHED

7.31 TEST OF MEM EXTENSION BITS. (TESTS 39-41)

THESE THREE TESTS CHECK THE ABILITY OF THE DEVICE TO DO TRANSFERS TO UPPER MEMORY (IF IT EXISTS). THE TRANSFERS ARE DONE BY TRANSMITTING AND RECEIVING A MESSAGE. (TTL LOOPBACK ONLY). THE THREE TESTS ARE DONE FOR BIT 16, BIT 17 AND BITS 16 AND 17 (DMV SET FOR Q18 MODE).

 * N O T E ----- THIS TEST USES MEMORY ONLY IF IT EXISTS

7.32 TEST FOR TX/RX 257 BYTES (TEST 42)

THIS TEST TRANSMITS A MESSAGE OF 257 BYTES FROM A TRANSMIT BUFFER STARTING WITH AN ODD BYTE BOUNDARY TO A RECEIVE BUFFER STARTING ON AN ODD BYTE BOUNDARY IN DDCMP MODE, POINT TO POINT. IF THERE IS EXTERNAL LOOPBACK THEN THE TEST WILL BE DONE OVER THAT LOOPBACK, ELSE THE LOOPBACK WILL BE SET TO INTERNAL(TTL).

7.33 TEST FOR TX/RX 1 BYTE (TEST 43)

THIS TEST TX'S AND REC'S A 1 BYTE MESSAGE FROM AN ODD TX BUFFER TO AN EVEN RX BUFFER IN MAINT MODE, MULTIPOINT CONTROL STATION.

7.34 POLLING STATE TESTS (TEST 44)

THIS TEST CHECKS THE DEGRADING OF THE POLLING STATES FROM ACTIVE TO INACTIVE TO POTENTIALLY DEAD TO DEAD THE SEQUENCE THAT IS EXECUTED IS AS FOLLOWS:

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MASTER CLEAR, MODE DEF(FULL DUP CONTROL STATION),
SET POLL DELAY(GSS ADD 37),ESTABLISH TRIB,SET SELECTION
TIMER(TSS ADD 36),SET NUMBER OF NO DATA MESSAGES TO
INACTIVE TO 10 AND THE NUMBER OF TIME OUTS TO POTENTIALLY
DEAD TO 4,ISTRT TRIB ,WAIT FOR RUN STATE,READ TSS (ADD 2),
CHECK FOR INACTIVE BIT,LOOP UNTIL INACTIVE OR TIME OUT,READ
THE SELECTION TIMER(TSS 11),COMPARE IT TO 10,CHANGE MODE
TO HALF DUPLEX,WAIT FOR TSS SLOT 2 TO INDICATE POT. DEAD,
READ SELECTION TIMER(TSS 16),COMPARE IT TO 4,WAIT FOR
CONTROL OUT INDICATING DEAD TRIB,READ SELECTION TIMER(TSS 16)
COMPARE IT TO 10.

8.0 ERROR INFORMATION

8.1 ERROR REPORTING

ERRORS ARE REPORTED BY THE PROGRAM AS THEY OCCUR (IF NOT INHIBITED). THE REPORT CONFORMS TO THE DIAGNOSTIC SUPERVISOR ERROR REPORT FORMAT, AND CONSISTS OF A DESCRIPTION OF THE ERROR, THE TEST NUMBER, SUBTEST NUMBER, PC OF THE ERROR CALL, DEVICE ADDRESS, AND BASIC AND EXTENDED ERROR INFORMATION.

THE FOLLOWING EXAMPLES PROVIDE TYPICAL ERROR REPORTS:

CZDMT DVC FTL ERR 00024 ON UNIT 00 TST 004 SUB 000 PC: 016170
ERROR IN ROM E04 READ = 177777 ; CALCULATED = 017327

FOR ALL OTHER ERRORS, THE REPORT MAY BE MORE EXTENSIVE AND REQUIRE ADDITIONAL DATA TO BE REPORTED.

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```
1100      ;
1101      002000      .-2000
1102
1103
1104
1105      000200      DRUN== 200
1106
1107
1108
1109
1110
1111
1112      000001      #LSTIN= 1
1113      000001      #LSTTAG= 1
1114      000000      SVCINS= 0      ; LIST INSTRUCTIONS, SHIFTED RIGHT
1115      000000      SVCTST= 0      ; LIST TEST TAGS, SHIFTED RIGHT
1116      000000      SVCSUB= 0      ; LIST SUBTEST TAGS, SHIFTED RIGHT
1117      000000      SVCGBL= 0      ; LIST GLOBAL TAGS, SHIFTED RIGHT
1118      000000      SVCTAG= 0      ; LIST OTHER TAGS, SHIFTED RIGHT
1119
1120      ;      CHANGE THE VALUES OF THE SVC... SYMBOLS TO BE ZERO IF YOU WISH
1121      ;      TO ALIGN THE MACRO CALLS AND THEIR EXPANSIONS.  CHANGE THE
1122      ;      SYMBOLS TO BE MINUS-ONE TO NOT LIST THE EXPANSIONS.  YOU MAY
1123      ;      CHANGE THE SYMBOLS AT ANY POINT IN YOUR PROGRAM.
1124
1125
```

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1126
1127
1128
1129
1130
1131
1132
1133
1134 002000
1135 002000 103
1136 002001 132
1137 002002 104
1138 002003 115
1139 002004 124
1140 002005 000
1141 002006 000
1142 002007 000
1143 002010
1144 002010 106
1145 002011
1146 002011 060
1147 002012
1148 002012 000000
1149 002014
1150 002014 003410
1151 002016
1152 002016 032622
1153 002020
1154 002020 000000
1155 002022
1156 002022 002264
1157 002024
1158 002024 000000
1159 002026
1160 002026 037740
1161 002030
1162 002030 000000
1163 002032
1164 002032 000000
1165 002034
1166 002034 000000
1167 002036
1168 002036 000000
1169 002040
1170 002040 002132
1171 002042
1172 002042 000340
1173 002044
1174 002044 000000
1175 002046
1176 002046 000000
1177 002050
1178 002050 003
1179 002051 003
1180 002052
1181 002052 000000

.SBTTL PROGRAM HEADER

; THE PROGRAM HEADER IS THE INTERFACE BETWEEN
; THE DIAGNOSTIC PROGRAM AND THE SUPERVISOR.

L\$NAME::		;DIAGNOSTIC NAME
	.ASCII /C/	
	.ASCII /Z/	
	.ASCII /D/	
	.ASCII /M/	
	.ASCII /T/	
	.BYTE 0	
	.BYTE 0	
	.BYTE 0	
L\$REV::		;REVISION LEVEL
	.ASCII /F/	
L\$DEPO::		;0
	.ASCII /O/	
L\$UNIT::		;NUMBER OF UNITS
	.WORD 0	
L\$TIML::		;LONGEST TEST TIME
	.WORD 1800.	
L\$HPCP::		;POINTER TO H.W. QUES.
	.WORD L\$HARD	
L\$SPCP::		;POINTER TO S.W. QUES.
	.WORD 0	
L\$HPTP::		;PTR. TO DEF. H.W. PTABLE
	.WORD L\$HW	
L\$SPTP::		;PTR. TO S.W. PTABLE
	.WORD 0	
L\$LADP::		;DIAG. END ADDRESS
	.WORD L\$LAST	
L\$STA::		;RESERVED FOR APT STATS
	.WORD 0	
L\$CO::		
	.WORD 0	
L\$DTYP::		;DIAGNOSTIC TYPE
	.WORD 0	
L\$APT::		;APT EXPANSION
	.WORD 0	
L\$DTP::		;PTR. TO DISPATCH TABLE
	.WORD L\$DISPATCH	
L\$PRIO::		;DIAGNOSTIC RUN PRIORITY
	.WORD PRI07	
L\$ENVI::		;FLAGS DESCRIBE HOW IT WAS SETUP
	.WORD 0	
L\$EXP1::		;EXPANSION WORD
	.WORD 0	
L\$MREV::		;SVC REV AND EDIT #
	.BYTE C\$REVISION	
	.BYTE C\$EDIT	
L\$EF::		;DIAG. EVENT FLAGS
	.WORD 0	

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1182	002054	000000		.WORD	0	
1183	002056		L\$SPC::	.WORD	0	
1184	002056	000000		.WORD	0	
1185	002060		L\$DEVP::	.WORD	L\$DVTYP	; POINTER TO DEVICE TYPE LIST
1186	002060	002564		.WORD	0	
1187	002062		L\$REPP::	.WORD	0	;PTR. TO REPORT CODE
1188	002062	000000		.WORD	0	
1189	002064		L\$EXP4::	.WORD	0	
1190	002064	000000		.WORD	0	
1191	002066		L\$EXP5::	.WORD	0	
1192	002066	000000		.WORD	0	
1193	002070		L\$AUT::	.WORD	L\$AU	;PTR. TO ADD UNIT CODE
1194	002070	C14544		.WORD	L\$DU	;PTR. TO DROP UNIT CODE
1195	002072		L\$DUT::	.WORD	0	
1196	002072	014540		.WORD	0	
1197	002074		L\$LUN::	.WORD	0	;LUN FOR EXERCISERS TO FILL
1198	002074	000000		.WORD	0	
1199	002076		L\$DESP::	.WORD	L\$DESC	;POINTER TO DIAG. DESCRIPTION
1200	002076	002606		.WORD	0	
1201	002100		L\$LOAD::	EMT	E\$LOAD	;GENERATE SPECIAL AUTOLOAD EMT
1202	002100	104035		.WORD	0	
1203	002102		L\$ETP::	.WORD	0	;POINTER TO ERR_TBL
1204	002102	000000		.WORD	0	
1205	002104		L\$ICP::	.WORD	L\$INIT	;PTR. TO INIT CODE
1206	002104	014036		.WORD	0	
1207	002106		L\$CCP::	.WORD	L\$CLEAN	;PTR. TO CLEAN-UP CODE
1208	002106	014534		.WORD	0	
1209	002110		L\$ACP::	.WORD	L\$AUTO	;PTR. TO AUTO CODE
1210	002110	014472		.WORD	0	
1211	002112		L\$PRT::	.WORD	L\$PROT	;PTR. TO PROTECT TABLE
1212	002112	002122		.WORD	0	
1213	002114		L\$TEST::	.WORD	0	;TEST NUMBER
1214	002114	000000		.WORD	0	
1215	002116		L\$DLY::	.WORD	0	;DELAY COUNT
1216	002116	000000		.WORD	0	
1217	002120		L\$HIME::	.WORD	0	;PTR. TO HIGH MEM
1218	002120	000000		.WORD	0	
1219						
1220	002122		L\$PROT::	.WORD	-1	
1221	002122	177777		.WORD	-1	
1222	002124	177777		.WORD	-1	
1223	002126	177777		.WORD	-1	
1224						

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DISPATCH TABLE

1225
1226
1227
1228
1229
1230 002130 000054
1231 002132
1232 002132 014546
1233 002134 014726
1234 002136 015260
1235 002140 015612
1236 002142 016144
1237 002144 016476
1238 002146 017030
1239 002150 017362
1240 002152 017522
1241 002154 017662
1242 002156 020046
1243 002160 021200
1244 002162 021312
1245 002164 021522
1246 002166 021766
1247 002170 022176
1248 002172 022454
1249 002174 022706
1250 002176 023172
1251 002200 023300
1252 002202 023406
1253 002204 023522
1254 002206 024250
1255 002210 024676
1256 002212 025324
1257 002214 025440
1258 002216 025524
1259 002220 025752
1260 002222 026200
1261 002224 026526
1262 002226 026622
1263 002230 026742
1264 002232 027110
1265 002234 027276
1266 002236 027414
1267 002240 027536
1268 002242 027700
1269 002244 027774
1270 002246 030422
1271 002250 030664
1272 002252 031126
1273 002254 031370
1274 002256 031506
1275 002260 031604
1276
1277
1278
1279
1280

.SBTTL DISPATCH TABLE

:/ THE DISPATCH TABLE CONTAINS THE STARTING ADDRESS OF EACH TEST.
:/ IT IS USED BY THE SUPERVISOR TO DISPATCH TO EACH TEST.

.WORD 44
L\$DISPATCH::

.WORD T1
.WORD T2
.WORD T3
.WORD T4
.WORD T5
.WORD T6
.WORD T7
.WORD T8
.WORD T9
.WORD T10
.WORD T11
.WORD T12
.WORD T13
.WORD T14
.WORD T15
.WORD T16
.WORD T17
.WORD T18
.WORD T19
.WORD T20
.WORD T21
.WORD T22
.WORD T23
.WORD T24
.WORD T25
.WORD T26
.WORD T27
.WORD T28
.WORD T29
.WORD T30
.WORD T31
.WORD T32
.WORD T33
.WORD T34
.WORD T35
.WORD T36
.WORD T37
.WORD T38
.WORD T39
.WORD T40
.WORD T41
.WORD T42
.WORD T43
.WORD T44

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 CZDMTF.P11 08-NOV-84 10:38 DEFAULT HARDWARE P-TABLE

.SBTTL DEFAULT HARDWARE P-TABLE

/////////
 ;// THE DEFAULT HARDWARE P-TABLE CONTAINS DEFAULT VALUES OF
 ;// THE TEST-DEVICE PARAMETERS. THE STRUCTURE OF THIS TABLE
 ;// IS IDENTICAL TO THE STRUCTURE OF THE RUN-TIME P-TABLE.
 ;/////////

1281
 1282
 1283
 1284
 1285
 1286
 1287
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 1289
 1290
 1291
 1292
 1293
 1294
 1295
 1296
 1297
 1298
 1299
 1300
 1301
 1302
 1303
 1304
 1305
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 1307
 1308
 1309
 1310
 1311
 1312
 1313
 1314
 1315
 1316
 1317

002262 000014
 002264
 002264

.WORD L10001-L10002
 L10001::
 DFPTBL::

002264 000000
 002266 160170
 002270 000300
 002272 005000
 002274 000003
 002276 000056
 002300 000000
 002302 000000
 002304 000004

.WORD 0
 .WORD 160170
 .WORD 300
 .WORD 5000
 .WORD 3
 .WORD 056
 .WORD 000
 .WORD 000
 .WORD 4

;HARDWARE TYPE
 ;M8200,4,7 CSR UNIBUS ADDRESS
 ;M8200,4,7 INTERRUPT VECTOR
 ;M8200,4,7 INTERRUPT PRIORITY LEVEL = 5
 ;LINE UNIT = M8203
 ;SWITCH PACK #1 (REG 11)
 ;SWITCH PACK #2 (REG 15)
 ;SWITCH PACK #3 (REG 16)
 ;0=M3251&M3252, 1=CABLE LOOPBACK,
 ;2=MODEM LOCAL, 3=MODEM REMOTE,
 ;4=NONE (INTERNAL LOOP DEFAULT)
 ;CONTAINS BAUD RATE 4=56K BAUD DEFAULT
 ;0=2.4K, 1=4.8K, 2=9.6K, 3=19.2K, 4=56K
 ;5=250K, 6=500K, 7=1 MEG BAUD
 ;NOTE: 1 MEG BAUD IS NOT ASKED. THIS IS
 ; USED IN MANUFACTURING TEST ONLY.
 ;DUMMY WORD FOR RUN
 ;1-INTEGRAL ;2-EIA; 3-V.35; 4=422

002306 000004

.WORD 4

002310 000000
 002312 000002

.WORD 0
 .WORD 2

L10001:

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CZDMTF.P11 08-NOV-84 10:38 SOFTWARE P-TABLE

```
1318 .SBTTL SOFTWARE P-TABLE
1319
1320 ;////////////////////////////////////
1321 ;// THE SOFTWARE P-TABLE CONTAINS THE VALUES OF THE PROGRAM
1322 ;// PARAMETERS THAT CAN BE CHANGED BY THE OPERATOR.
1323 ;////////////////////////////////////
1324
1325 002314 000000 .WORD L10002-L$SW/2
1326 002316 L$SW::
1327 002316 SFPTBL::
1328
1329
1330 002316 L10002:
1331
1332
1333
1334
1335
1336
```


CZDMTFO DMP/V-11 FCTNL TST #1
CZDMTF.P11 08-NOV-84 10:38

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SOFTWARE P-TABLE

```

1337
1338
1339      .SBTTL  GLOBAL EQUATES SECTION
1340
1341
1342      ; //////////////////////////////////////
1343      ;//      THE GLOBAL EQUATES SECTION CONTAINS PROGRAM EQUATES THAT
1344      ;//      ARE USED IN MORE THAN ONE TEST.
1345      ; //////////////////////////////////////
1346
1347      ;
1348      ; BIT DIFINITIONS
1349      ;
1350      100000      BIT15-- 100000
1351      040000      BIT14-- 40000
1352      020000      BIT13-- 20000
1353      010000      BIT12-- 10000
1354      004000      BIT11-- 4000
1355      002000      BIT10-- 2000
1356      001000      BIT09-- 1000
1357      000400      BIT08-- 400
1358      000200      BIT07-- 200
1359      000100      BIT06-- 100
1360      000040      BIT05-- 40
1361      000020      BIT04-- 20
1362      000010      BIT03-- 10
1363      000004      BIT02-- 4
1364      000002      BIT01-- 2
1365      000001      BIT00-- 1
1366      ;
1367      001000      BIT9--  BIT09
1368      000400      BIT8--  BIT08
1369      000200      BIT7--  BIT07
1370      000100      BIT6--  BIT06
1371      000040      BIT5--  BIT05
1372      000020      BIT4--  BIT04
1373      000010      BIT3--  BIT03
1374      000004      BIT2--  BIT02
1375      000002      BIT1--  BIT01
1376      000001      BIT0--  BIT00
1377      ;
1378      ; EVENT FLAG DEFINITIONS
1379      ; EF32:EF17 RESERVED FOR SUPERVISOR TO PROGRAM COMMUNICATION
1380      ;
1381      000040      EF.START-- 32.      ; START COMMAND WAS ISSUED
1382      000037      EF.RESTART-- 31.    ; RESTART COMMAND WAS ISSUED
1383      000036      EF.CONTINUE-- 30.   ; CONTINUE COMMAND WAS ISSUED
1384      000035      EF.NEW-- 29.        ; A NEW PASS HAS BEEN STARTED
1385      000034      EF.PWR-- 28.        ; A POWER-FAIL/POWER-UP OCCURRED
1386      ;
1387      ;
1388      ; PRIORITY LEVEL DEFINITIONS
1389      ;
1390      000340      PRI07-- 340
1391      000300      PRI06-- 300
1392      000240      PRI05-- 240

```


CZDMTFO DMP/V-11 FCTNL TST #1
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GLOBAL EQUATES SECTION

1393	000200	PRI04== 200
1394	000140	PRI03== 140
1395	000100	PRI02== 100
1396	000040	PRI01== 40
1397	000000	PRI00== 0
1398		;
1399		;OPERATOR FLAG BITS
1400		;
1401	000004	EVL== 4
1402	000010	LOT== 10
1403	000020	ADR== 20
1404	000040	IDU== 40
1405	000100	ISR== 100
1406	000200	UAM== 200
1407	000400	BOE== 400
1408	001000	PNT== 1000
1409	002000	PRI== 2000
1410	004000	IXE== 4000
1411	010000	IBE== 10000
1412	020000	IER== 20000
1413	040000	LOE== 40000
1414	100000	HOE== 100000
1415		
1416		
1417		;;*****
1418		;* PROGRAM EVENT FLAG DEFINITIONS
1419		;;*****
1420		
1421		;;*****
1422		;* MAINTENANCE REGISTER - BSEL1
1423		;;*****
1424	000200	RUN = BIT7
1425	000100	MCLR = BIT6
1426	000020	STEPLU = BIT4
1427	000010	LULOOP = BIT3
1428	000004	ROMO = BIT2
1429	000002	ROMI = BIT1
1430	000001	STEPMP = BIT0
1431		
1432		;;*****
1433		; OTHER BIT DEFINITIONS
1434		;;*****
1435	000010	Q22BIT =BIT3
1436	000200	RQI =200
1437	000020	RDI =020
1438	000200	RDO =200
1439		
1440		

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GLOBAL DATA SECTION

```

1441      .SBTTL  GLOBAL DATA SECTION
1442
1443      ;//////////
1444      ;//      THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
1445      ;//      IN MORE THAN ONE TEST.
1446      ;//////////
1447
1448      ;*****
1449      ;* MISCELLANEOUS STORAGE
1450      ;*****
1451      002316 000000 SAVE4: .WORD 0 ;SAVE LOC 4 HERE (ERROR TRAP VECTOR)
1452      002320 000000 SAVE6: .WORD 0
1453      002322 000000 PSTACK: .WORD 0
1454      002324 000000 SUBRPC: .WORD 0
1455      002326 000000 ERROR1: .WORD 0
1456      002330 000000 FRSTIM: .WORD 0
1457      002332 000000 LOGDEV: .WORD 0
1458      002334 000000 IFLAG: .WORD 0
1459      002336 000000 $GDDAT: .WORD 0 ;GOOD AND BAD DATA STORAGE
1460      002340 000000 $BDDAT: .WORD 0
1461      002342 000000 COUNT: .WORD 0
1462      002344 000000 REG: .WORD 0
1463      002346 000000 STARES: .WORD 0 ;INDICATES PASSES
1464      002350 000000 DEVMAP: .WORD 0
1465      002352 000000 DEVPTR: .WORD 0
1466      002354 000000 FRSPAS: .WORD 0
1467      002356 000000 MODINT: .WORD 0 ;MODEM INTERFACE SELECTION
1468      002360 000000 TRIBN: .WORD 0 ;POINTS TO CURRENT TRIP NUMBER.
1469      002362 000040 TRIBMX: .WORD 32. ;MAXIMUM NUMBER OF TRIBS
1470      002364 000000 TRIBH: .WORD 0 ;VALUE OF HIGHEST TRIB USED
1471
1472      002366 000000 ROMN: .WORD 0 ;CURRENT ROM AND USED FOR TEST #
1473      002370 000000 ROMN1: .WORD 0 ;CURRENT ROM NUMBER
1474      002372 000000 WORDT: .WORD 0 ;CURRENT ROM CONTENTS.
1475      002374 177777 CWORD: .WORD -1 ;CURRENT CRC CAL.
1476      002376 000000 MODQ22: .WORD 0 ;DMV Q22 FORMAT FLAG (Q22 MODE)
1477      002400 000000 EXLOOP: .WORD 0 ;DMV EXTERNAL LOOP FLAG
1478      002402 000000 ERRWRD: .WORD 0 ;ERROR OCCURRED.
1479      002404 000000 CADDR: .WORD 0 ;CURRENT ROM ADDR.
1480      002406 000000 ERRADD: .WORD 0 ;PC OF ERROR
1481      002410 000000 PERR: .WORD 0 ;PROCEDURE ERROR CHECKED
1482      002412 000000 TSSADD: .WORD 0 ;WORD FOR TSS ADD
1483      002414 003406 TYLST: .WORD 3406
1484      002416 002403 .WORD 2403
1485      002420 TYEND:
1486      002420 000000 TXADD: .WORD 0 ;TX BUFF ADDRESS
1487      002422 000000 RXADD: .WORD 0 ;RX BUFF ADDRESS
1488      002424 000000 RXCC: .WORD 0 ;RX CHAR COUNT
1489      002426 000000 TXCC: .WORD 0 ;TX CHAR COUNT
1490      002430 000000 CODEW: .WORD 0 ;LOCATION FOR ERROR CODES
1491      002432 000000 GENWRD: .WORD 0 ;USED FOR MAINT STATE AND EX MEM
1492      002434 000000 CRCCAL: .WORD 0 ;TEMP FOR CRC
1493      002436 000000 ROMADD: .WORD 0 ;ROM ADDRESS
1494
1495      ;***** CURRENT DEVICE PARAMETERS *****
1496      002440 BSEL0:

```

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GLOBAL DATA SECTION

1497	002440		SEL0:			
1498	002440	160170	MPCSR:	.WORD	160170	; POINTER TO M8200,4,7 CSR'S
1499	002442	160171	BSEL1:	.WORD	160171	; POINTER TO BSEL1
1500	002444		SEL2:			
1501	002444	160172	BSEL2:	.WORD	160172	
1502	002446	160173	BSEL3:	.WORD	160173	
1503	002450		BSEL4:			
1504	002450	160174	SEL4:	.WORD	160174	; POINTER TO SEL4
1505	002452	160175	BSEL5:	.WORD	160175	
1506	002454		BSEL6:			
1507	002454	160176	SEL6:	.WORD	160176	
1508	002456	160177	BSEL7:	.WORD	160177	
1509	002460		BSEL10:			
1510	002460	160200	SEL10:	.WORD	160200	; POINTER TO SEL10 (REQ'D FOR DMV Q22 MODE)
1511	002462		KMRVEC:			
1512	002462	000300	MPIVEC:	.WORD	300	; M8200,4,7 INPUT INTERRUPT VECTOR
1513	002464		KMTVEC:			
1514	002464	000304	MPOVEC:	.WORD	304	; M8200,4,7 OUTPUT INTERRUPT VECTOR
1515	002466	000000	SPEEDM:	.WORD	0	; SPEED OF LINE UNIT
1516	002470		KMRLVL:			
1517	002470		KMTLVL:			
1518	002470	000240	MPRIOR:	.WORD	240	; M8200,4,7 DEVICE PRIORITY
1519	002472	000000	OPTYP:	.WORD	0	; OPTION TYPE
1520	002474	000000	IFTYP:	.WORD	0	; INTERFACE TYPE
1521	002476	000000	TSTCON:	.WORD	0	; TEST CONNECTOR INDICATOR
1522	002500	000000	RETADR:	.WORD	0	; SUBR ERROR RETURN ADDRESS
1523	002502	000000	REDBYT:	.WORD	0	; LO BYTE CONTAINS BYTE READ FROM LU REG
1524	002504	000000	WRIBYT:	.WORD	0	; LO BYTE CONTAINS BYTE TO LOAD INTO LU REG
1525	002506	000000	AXNUM:	.WORD	0	; NUMBER (0-7) OF EXTENDED REG BYTE BEING TESTED
1526	002510	000000	DISILO:	.WORD	0	; CONTAINS CURRENT STATE OF DISSI IN BITS

CZDMTFO DMP/V-11 FCTNL TST #1
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GLOBAL DATA SECTION

```
1527          ;***** STORAGE FOR DATA READ IN ADDRESS TESTS *****
1528 002512      000      REDDAT: .BYTE 0
1529 002513      000          .BYTE 0
1530 002514      000          .BYTE 0
1531 002515      000          .BYTE 0
1532 002516      000          .BYTE 0
1533 002517      000          .BYTE 0
1534 002520      000          .BYTE 0
1535 002521      000          .BYTE 0
1536
1537          ;***** GENERAL PURPOSE SCRATCH STORAGE *****
1538 002522 000000      REG0: .WORD 0
1539 002524 000000      REG1: .WORD 0
1540 002526 000000      REG2: .WORD 0
1541 002530 000000      REG3: .WORD 0
1542 002532 000000      REG4: .WORD 0
1543 002534 000000      REG5: .WORD 0
1544 002536 000000      REG6: .WORD 0
1545 002540 000000      REG7: .WORD 0
1546
1547          ;***** SCRATCH STORAGE FOR MESSAGE REPORTING *****
1548 002542 000000      $TMP0: .WORD 0
1549 002544 000000      TMP0: .WORD 0
1550 002546 000000      TMP1: .WORD 0
1551 002550 000000      TMP2: .WORD 0
1552 002552 000000      TMP3: .WORD 0
1553 002554 000000      TMP4: .WORD 0
1554 002556 000000      TMP5: .WORD 0
1555 002560 000000      TMP6: .WORD 0
1556 002562 000000      TMP7: .WORD 0
1557
```

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GLOBAL DATA SECTION

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1597

.SBTTL GLOBAL TEXT SECTION

```
*****
;# THE GLOBAL TEXT SECTION CONTAINS FORMAT STATEMENTS,
;# MESSAGES, AND ASCII INFORMATION THAT ARE USED IN
;# MORE THAN ONE TEST.
*****
```

```
*****
;# NAMES OF DEVICES SUPPORTED BY PROGRAM
*****
```

```
L#DVTYP::
      .ASCIZ /DMP-11 OR DMV-11/
```

.EVEN

```
L#DESC::
      .ASCIZ /DMP OR DMV-11 FUNCTIONAL DIAG./
```

.EVEN

```
;
; FORMAT STATEMENTS USED IN PRINT CALLS
;
```

002564			
002564	046504	026520	030461
002572	047440	020122	046504
002600	026526	030461	000
	002606		
002606			
002606	046504	020120	051117
002614	042040	053115	030455
002622	020061	052506	041516
002630	044524	047117	046101
002636	042040	040511	027107
002644	000		
	002646		

CZDMTFO DMP/V-11 FCTNL TST #1
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GLOBAL SUBROUTINES

```

1598 .SBTTL GLOBAL SUBROUTINES
1599
1600 ;////////////////////
1601 ;// THE GLOBAL SUBROUTINES ARE CALLED BY MORE THAN ONE TEST
1602 ;////////////////////
1603
1604
1605 ;
1606
1607 ;*****
1608 ; FUNCTIONAL DESCRIPTION: WRDO.. WAITS FOR READY OUT
1609 ; FIRST SAVE THE CALLING ADDRESS
1610 ; IN ERRADD. THEN SEE IF TIME OUT OCCURED
1611 ; IF TIME OUT EXIT ROUTINE..ELSE SEE IF
1612 ; READY OUT SET IF READY OUT SET EXIT
1613 ; ROUTINE. IF NOT THEN WAIT A WHILE
1614 ; THEN SEE IF READY IN SET. IF READY IN
1615 ; IS SET REPORT ERROR AND EXIT ROUTINE.
1616 ; IF NOT READY IN THEN GO BACK AND CHECK
1617 ; FOR TIME OUT.
1618 ; NOTE: CAN BE ENTERED AT WRDO1 IF CALLING
1619 ; ADDRESS FROM R5 DOES NOT NEED TO BE SAVED.
1620
1621 ; INPUTS: R5=ADDRESS FROM WHERE ROUTINE WAS CALLED
1622
1623 ; OUTPUTS: ERRWRD= -1 IF ERROR OCCURED IN ROUTINE.
1624
1625 ; SUBORDINATE ROUTINES USED:
1626 ; TOUT - TIME OUT ROUTINE
1627 ; WAIT50 - SHORT DELAY ROUTINE
1628
1629 ; CALLING SEQUENCE:
1630 ; JSR R5,WRDO
1631 ;-----*****
1632 002646 010537 002406 WRDO: MOV R5,ERRADD ;STORE ERROR ADD. AWAY
1633 002652 004537 005070 WRDO1: JSR R5,TOUT ; GO TO TIME OUT ROUTINE
1634 002656 005737 002402 TST ERRWRD ;CHECK IF ERROR
1635 002662 100422 BMI WRDOE ;EXIT NOW
1636 002664 032777 000200 177552 BIT #RDO,#BSSEL2 ;RDO SET?
1637 002672 001016 BNE WRDOE ;EXIT IF RDO IS SET
1638 002674 004737 004244 JSR PC,WAIT50 ;ELSE DELAY A LITTLE
1639 002700 032777 000020 177536 BIT #RDI,#BSSEL2 ;THEN SEE IF RDI IS SET
1640 002706 001761 BEQ WRDO1 ;IF NOT THEN GO BACK TO START
1641
1642 ; ERROR -UNEXPECTED RDI SET
1643
1644 002710 104455 TRAP C#ERDF
1645 002712 000001 .WORD 1
1646 002714 012063 .WORD MEF14
1647 002716 010330 .WORD ERR26
1648 002720 005337 002402 DEC ERRWRD
1649 002724 105077 177514 CLRB #BSSEL2 ;CLEAR RDO
1650 002730 000205 WRDOE: RTS R5 ;EXIT
1651
1652

```


CZDMTFO DMP/V-11 FCTNL TST #1 MACY11 30A(1052) 08-NOV-84 10:42 PAGE 37
 CZDMTF.P11 08-NOV-84 10:38 GLOBAL SUBROUTINES

```

1653
1654
1655      ;*****
1656      ; FUNCTIONAL DESCRIPTION: WRDI - WAIT FOR READY IN
1657      ; THIS ROUTINE FIRST SAVES THE CALLING ADDRESS
1658      ; IN ERRADD, UNLESS ENTERED AT WRDI1.
1659      ; THEN CHECK FOR TIME OUT IF TIME OUT REPORT
1660      ; ERROR AND EXIT. IF NOT TIME OUT CHECK FOR
1661      ; READY IN. IF READY IN EXIT IF NOT READY IN
1662      ; DELAY A LITTLE AND CHECK FOR READY OUT. IF
1663      ; READY OUT REPORT ERROR AND EXIT ROUTINE.
1664      ; IF NOT READY OUT GO BACK AND CHECK FOR TIME OUT.
1665      ;
1666      ; INPUTS:      R5= CALLING ADDRESS
1667      ; JTPUTS:      ERRWRD= -1 IF ERROR OCCURED IN ROUTINE
1668      ; SUBORDINATE ROUTINES USED:
1669      ; TOUT- TIME OUT
1670      ; WAIT50- DELAY A LITTLE
1671      ; CALLING SEQUENCE:
1672      ; JSR      R5,WRDI      ;OR
1673      ; JSR      R5,WRDI1
1674      ;-----
1675      WRDI:  MOV      R5,ERRADD      ;STORE AWAY ERROR ADD.
1676      WRDI1: JSR      R5,TOUT        ;GO TO TIME OUT
1677      TST      ERRWRD              ;IF ERROR EXIT
1678      BMI      WRDIE              ;
1679      BIT      #20,88SEL2          ;RDI SET?
1680      BNE      WRDIE              ;YES-EXIT
1681      JSR      PC,WAIT50           ;SHORT DELAY
1682      BIT      #200,88SEL2         ;RDY0 SET?
1683      BEQ      WRDI1              ;NO-LOOP.
1684
1685      ;RDO INSTEAD OF RDI
1686
1687      TRAP     C4ERDF
1688      .WORD    2
1689      .WORD    MEF15
1690      .WORD    ERR26
1691      DEC      ERRWRD              ;SET ERROR OCCURRED
1692      CLRB     88SEL2              ;CLEAR RDY0
1693      WRDIE:  RTS      R5          ;EXIT.
1694
1695
1696
1697
1698

```

CZDMTFO DMP/V-11 FCTNL TST #1 MACY11 30A(1052) 08-NOV-84 10:42 PAGE 38
 CZDMTF.P11 08-NOV-84 10:38 GLOBAL SUBROUTINES

```

1699
1700 ;*****
1701 ; FUNCTIONAL DESCRIPTION: WFPE - WAIT FOR PROCEDURE ERROR
1702 ; FIRST SAVE CALLING ADDRESS IN ERRADD.
1703 ; THEN WAIT FOR READY OUT, IF ERROR FROM
1704 ; WRDO ROUTINE EXIT THIS ROUTINE. ELSE
1705 ; GET CONTROL KEY FROM BSEL2 IF NOT CONTROL
1706 ; OUT REPORT ERROR AND EXIT. ELSE CHECK THAT
1707 ; CONTROL OUT CODE IS SAME AS IN PERR. IF
1708 ; EQUAL THEN EXIT ELSE REPORT ERROR AND EXIT.
1709 ;
1710 ; INPUTS: R5= CALLING ADDRESS
1711 ; PERR = PROCEDURE ERROR EXPECTED.
1712 ; OUTPUTS: ERRWRD= -1 IF ERROR OCCURED IN ROUTINE
1713 ; SUBORDINATE ROUTINES USED:
1714 ; WRD01 - WAIT FOR READY OUT
1715 ; CALLING SEQUENCE:
1716 ; JSR R5,WFPE
1717 ;-----
1718
1719 003016 010537 002406 WFPE: MOV R5,ERRADD ;STORE OFF ERROR ADDRESS
1720 003022 004537 002652 JSR R5,WRD01 ;WAIT FOR READY OUT
1721 003026 005737 002402 TST ERRWRD
1722 003032 100452 BMI 204 ;IF ERROR OCCURRED IN SR
1723 ; EXIT THIS SR
1724 003034 117737 177404 002340 MOVB BSEL2,%BDDAT ;
1725 003042 042737 177770 002340 BIC %C<7>,%BDDAT ; STRIP DATA TO CONTROL KEY
1726 003050 122737 000001 002340 CMPB #01,%BDDAT
1727 003056 001415 BEQ 104 ; GO TO 10 IF CONTROL OUT
1728 ; ELSE REPORT ERROR
1729 003060 012737 000001 002336 MOV #01,%GDDAT ;SET GOOD DATA TO 01
1730 003066 012737 012042 002430 MOV #M18F,CODEW ;SET UP CODE WORD
1731
1732 ;ERROR NOT CONTROL OUT
1733
1734 003074 104455 TRAP C#ERDF
1735 003076 000003 .WORD 3
1736 003100 011550 .WORD EROIC
1737 003102 010366 .WORD ERR27
1738 003104 005337 002402 DEC ERRWRD ;SET ERROR OCCURRED
1739 003110 000423 BR 204 ;AND EXIT SUBROUTINE
1740 003112 117737 177336 002340 104: MOVB BSEL6,%BDDAT ;MOVE ERROR CODE TO BDDAT
1741 003120 123737 002410 002340 CMPB PERR,%BDDAT ;IS IT WHAT IT SHOULD BE
1742 003126 001414 BEQ 204 ; IF SO GO TO 20
1743 003130 013737 002410 002336 MOV PERR,%GDDAT ;PUT EXPECTED IN GOOD DATA
1744 003136 012737 012024 002430 MOV #M13F,CODEW ;SET UP ERROR WORD
1745
1746 ;ERROR BAD ERROR CODE RETURNED
1747
1748 003144 104455 TRAP C#ERDF
1749 003146 000004 .WORD 4
1750 003150 011550 .WORD EROIC
1751 003152 010366 .WORD ERR27
1752 003154 005337 002402 DEC ERRWRD ;SET ERROR INDICATOR
1753 003160 204:
1754 003160 000205 RTS R5 ;RETURN TO CALLER

```


CZDMTFO DMP/V-11 FCTNL TST #1
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GLOBAL SUBROUTINES

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;*****
; FUNCTIONAL DESCRIPTION:      CONTIN - CONTROL IN ROUTINE
;                             THIS ROUTINE SAVES THE CALLING ADDRESS IN R5.
;                             THEN SETS RQI AND WAITS FOR RDI TO BE RETURNED BY
;                             THE DMP/V-11. IF WRDI REPORTS ERROR EXIT TEST. ELSE
;                             LOAD BSEL 3 WITH TRIB NUMBER FROM TRIBN,CLEAR THE RQI
;                             BIT,MOV DATA FROM R4 TO SEL4,DATA FROM R3 TO SEL6, AND
;                             THEN ISSURE CONTROL IN AND EXIT ROUTINE.
;
; INPUTS:                     R4 = SEL4 DATA
;                             R3 = SEL6 DATA
;                             TRIBN = TRIBUTARY NUMBER.
;                             R5 = CALLING ADDRESS
;
; OUTPUTS:                     ERRWRD = -1 IF ERROR REPORTED IN THIS OR ANY SUBODINATE
;                             SUB ROUTINE.
; SUBORDINATE ROUTINES USED:
;                             WRDI1 - WAIT FOR READY IN.
; CALLING SEQUENCE:
;                             JSR      R5,CONTIN
;*****
CONTIN: MOV      R5,ERRADD      ;SET UP ERROR ADDRESS
        BIS      #RQI,88SELO    ;SET REQUEST
        JSR      R5,WRDI1      ;GO WAIT FOR RDI
        TST      ERRWRD
        BMI      43$           ;EXIT IF ERROR OCCURRED
        MOVB     TRIBN,88SEL3    ;SET TRIBN
        BIC      #RQI,88SELO    ;CLEAR REQUEST
        MOV      R4,88SEL4      ;SET DATA
        MOV      R3,88SEL6      ;SET REQUEST TYPE
        MOVB     #01,88SEL2     ;DO CONTROL IN
        RTS      R5             ;RETURN TO CALLER
43$:

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003162	010537	002406		
003166	052777	000200	177244	
003174	004537	002736		
003200	005737	002402		
003204	100415			
003206	113777	002360	177232	
003214	042777	000200	177216	
003222	010477	177222		
003226	010377	177222		
003232	112777	000001	177204	
003240	000205			

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1814 003242 010537 002406
1815 003246 004537 002652
1816 003252 005737 002402
1817 003256 100444
1818 003260 117737 177160 002340
1819 003266 042737 177770 002340
1820 003274 023737 002340 002336
1821 003302 001412
1822
1823 003304 012737 012051 002430
1824 003312 104455
1825 003314 000005
1826 003316 011550
1827 003320 010366
1828 003322 005337 002402
1829 003326 000420
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1831 003330 013737 002360 002336 104:
1832 003336 117737 177104 002340
1833 003344 023737 002340 002336
1834 003352 001406
1835
1836 003354 104455
1837 003356 000006
1838 003360 012304
1839 003362 007642
1840 003364 005337 002402
1841 003370 000205
1842

;*****
; FUNCTIONAL DESCRIPTION:      GETOUT - GET OUTPUT CODE
;
;   THIS SUB-ROUTINE WAITS FOR RDO(REPORTS ERROR IF
;   RDI OR TIME OUT);CHECKS THAT OUTPUT COMMAND TYPE
;   IS THE SAME AS THE VALUE IN $GDDAT(REPORTS ERROR
;   IF NOT);THEN CHECKS THAT TRIB NUMBER IN BSEL3 IS
;   EQUAL TO THE VALUE IN TRIBN(REPORTS ERROR IF NOT
;   THEN RETURNS TO CALLER.
;
; INPUTS:      $GDDAT = OUTPUT COMMAND TYPE EXPECTED
;              TRIBN  = TRIBUTARY ADDRESS EXPECTED
;              R5     = ADDRESS OF CALLING ROUTINE
;
; OUTPUTS:      ERRWRD = -1 IF ERROR OCCURED
;
; SUBORDINATE ROUTINES USED:
;              WRD01 - WAIT FOR READY OUT
;
; CALLING SEQUENCE:
;              JSR      R5,GETOUT
;-----
GETOUT: MOV      R5,ERRADD      ;STORE OFF ERROR ADD.
        JSR      R5,WRD01      ; GO WAIT FOR READY OUT
        TST      ERRWRD
        BMI      204           ;EXIT IF ERROR OCCURRED
        MOVB     BSEL2,$BDDAT   ;GET COMMAND TYPE TO BDDAT
        BIC      #1C<7>,$BDDAT ;STRIP IT TO JUST COMMAND TYPE
        CMP      $BDDAT,$GDDAT  ;IS IT THE RIGHT VALUE??
        BEQ      104           ;IF YES GO TO 10
                                ;ELSE REPORT ERROR
        MOV      #M28F,CODEW
        TRAP     C$ERDF
        .WORD    5
        .WORD    EROIC
        .WORD    ERR27
        DEC      ERRWRD
        BR       204           ;AND EXIT ON ERROR

104:    MOV      TRIBN,$GDDAT    ;SET UP GDDAT FOR GOOD TRIBN
        MOVB     BSEL3,$BDDAT   ;GET TRIB NUMBER RETURNED
        CMP      $BDDAT,$GDDAT  ;ARE THEY THE SAME???
        BEQ      204           ;IF YES GO TO 20
                                ;ELSE REPORT ERROR
        TRAP     C$ERDF
        .WORD    6
        .WORD    MEF18A
        .WORD    ERR18
        DEC      ERRWRD
204:    RTS      R5             ;RETURN TO CALLER

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1845      ;*****
1846      ; FUNCTIONAL DESCRIPTION:   GETRKY - GET RETURN KEY VALUE
1847      ;       THIS ROUTINE GETS THE VALUE OF THE RETURN KEY
1848      ;       FROM BSEL6 AND COMPARES IT TO THE VALUE IN
1849      ;       IGDDAT. IF EQUAL EXIT IF NOT EQUAL REPORT
1850      ;       ERROR AND EXIT.
1851      ;
1852      ; INPUTS:      R5      = ADDRESS OF CALLER
1853      ;              IGDDAT = VALUE OF EXPECTED RETURN KEY
1854      ;
1855      ; OUTPUTS:     ERRWRD = -1 IF ERROR OCCURS
1856      ; CALLING SEQUENCE:
1857      ;              JSR      R5,GETRKY
1858      ;-----
1858      GETRKY: MOV      R5,ERRADD      ; STORE OFF ERROR ADDRESS
1859      MOV      BBSEL6,IGDDAT      ; GET RETURN KEY FROM BSEL6
1860      BIC      #1C<177>,IGDDAT    ; STRIP TO VALID BITS
1861      CMP      IGDDAT,IGDDAT      ; ARE THE VALUES EQUAL
1862      BEQ      101                ; IF YES GO TO 10
1863      MOV      #M12F,CODEW        ; ELSE ERROR.....
1864      TRAP     C1ERDF             ; SET UP CODE WORD
1865      .WORD    7
1866      .WORD    EROIC
1867      .WORD    ERR27
1868      DEC      ERRWRD             ; SET ERROR OCCURRED
1869      101:    RTS      R5         ; RETURN TO CALLER
1870
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1858 003372 010537 002406
1859 003376 017737 177052 002340
1860 003404 042737 177600 002340
1861 003412 023737 002340 002336
1862 003420 001411
1864 003422 012737 012011 002430
1865 003430 104455
1866 003432 000007
1867 003434 011550
1868 003436 010366
1869 003440 005337 002402
1870 003444 000205

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;*****
; FUNCTIONAL DESCRIPTION:      GETDAT - GET DATA CODE
;                             THIS ROUTINE GETS THE DATA CODE FROM BSEL4
;                             AND COMPARES IT TO THE VALUE IN IGDDAT
;                             IF EQUAL EXIT ELSE REPORT ERROR AND EXIT
;
; INPUTS:      R5      - ADDRESS OF CALLER
;              IGDDAT  - VALUE OF EXPECTED DATA
;
; OUTPUTS:     ERRWRC  - -1 IF ERROR OCCURED
; CALLING SEQUENCE:
;              JSR      R5,GETDAT
;*****
GETDAT: MOV     R5,ERRADD      ;STORE OFF ERROR ADDRESS
        MOV     BSEL4,BDDAT   ;GET DATA
        CMP     BDDAT,IGDDAT  ;COMPARE GOOD AND BAD
        BEQ     100           ;IF OK GO TO 10
                                ;ELSE ERROR
                                ;ERROR BAD DATA CODE
        MOV     #M3OF,CODEW
        TRAP    C1ERDF
        .WORD   8
        .WORD   EROIC
        .WORD   ERR27
        DEC     ERRWRC        ;SET ERROR OCCURRED
100:    RTS      R5           ;RETURN TO CALLER

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003446 010537 002406
003452 017737 176772 002340
003460 023737 002340 002336
003466 001411
003470 012737 012056 002430
003476 104455
003500 000010
003502 011550
003504 010366
003506 005337 002402
003512 000205

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1902 ;*****
1903 ; FUNCTIONAL DESCRIPTION:      GETCC - GET CHARACTER COUNT
1904 ;      THIS ROUTINE GETS THE CHAR. COUNT FROM EITHER:
1905 ;      (1) CSR6 IF DMP OR DMV IN Q18 MODE
1906 ;      (2) CSR10 IF DMV IN Q22 MODE
1907 ;      AND THEN COMPARES IT TO THE VALUE IN %GDDAT.
1908 ;      IF EQUAL EXIT, ELSE REPORT ERROR AND EXIT
1909 ;
1910 ; INPUTS:      R5      = ADDRESS OF CALLER
1911 ;              %GDDAT = VALUE OF EXPECTED DATA
1912 ;
1913 ; OUTPUTS:      ERRWRD = -1 IF ERROR OCCURED
1914 ; CALLING SEQUENCE:
1915 ;              JSR      R5,GETCC
1916 ;-----
1917 003514 010537 002406 GETCC: MOV      R5,ERRADD ;STORE OFF RETURN ADDRESS
1918 003520 017737 176730 002340 MOV      BSEL6,%BDDAT ;GET CSR6 TO BDDAT
1919 003526 065737 002376 TST      MODQ22 ;IS THIS DMV W/Q22 ?
1920 003532 001403 BEQ      10 ;
1921 003534 017737 176720 002340 MOV      BSEL10,%BDDAT ;IF YES: GET CSR10 INSTEAD
1922 003542 042737 140000 002340 10: BIC      %140000,%BDDAT ;STRIP TO CHAR COUNT
1923 003550 023737 002340 002336 CMP      %BDDAT,%GDDAT ;COMPARE
1924 003556 001406 BEQ      10 ;IF OK GO TO 10
1925
1926 ;ELSE REPORT ERROR : BAD CHAR COUNT
1927
1928 003560 104455 TRAP     C%ERDF
1929 003562 000011 .WORD    9
1930 003564 012175 .WORD    HEF16A
1931 003566 010156 .WORD    ERR23
1932 003570 005337 002402 DEC      ERRWRD ;SET ERROR OCCURRED
1933 003574 000205 10: RTS      R5 ;RETURN TO CALLER
1934
1935

```

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1936 ;*****
1937 ; FUNCTIONAL DESCRIPTION:  GETBA - GET BUFFER ADDRESS
1938 ; THIS ROUTINE GETS THE BUFFER ADDRESS FROM SEL4
1939 ; AND THEN COMPARES IT TO THE VALUE IN $GDDAT
1940 ; IF EQUAL EXIT ELSE REPORT ERROR AND EXIT
1941 ; (IF DMV IN Q22 MODE: SEL6 IS CHECKED FOR 0).
1942 ;
1943 ; INPUTS:      R5      - ADDRESS OF CALLER
1944 ;              $GDDAT  - VALUE OF EXPECTED BUFFER ADDRESS
1945 ;
1946 ; OUTPUTS:     ERRWRD  - -1 IF ERROR OCCURED
1947 ; CALLING SEQUENCE:
1948 ;              JSR     R5,GETBA
1949 ;-----
1950
1951 003576 010537 002406 GETBA: MOV R5,ERRADD ;STORE OFF ERROR ADDRESS
1952 003602 017737 176642 002340 MOV $SEL4,$BDDAT ;GET ADDRESS OUTPUT
1953 003610 023737 002340 002336 CMP $BDDAT,$GDDAT ;ARE THEY EQUAL ?
1954 003616 001015 BNE 10 ;IF NOT: REPORT IN
1955 003620 005737 002376 TST MODQ22 ;* IS THIS Q22 MODE ?
1956 003624 001420 BEQ 10 ;* IF NOT: EXIT
1957 003626 012737 000000 002340 MOV #0,$BDDAT ;* GET EXPECTED EXTENDED ADDRESS
1958 003634 017737 176614 002336 MOV $SEL6,$GDDAT ;* GET ACTUAL EXTENDED ADDRESS
1959 003642 023737 002340 002336 CMP $BDDAT,$GDDAT ;* ARE THEY EQUAL ?
1960 003650 001406 BEQ 10 ;IF YES: EXIT
1961
1962 ;ELSE ERROR
1963 003652 104455 10: TRAP CIERDF
1964 003652 000012 .WORD 10
1965 003654 012240 .WORD MEF17A
1966 003656 010156 .WORD ERR23
1967 003660 005337 002402 DEC ERRWRD ;SET ERROR OCCURRED
1968 003662 000205 10: RTS R5 ;RETURN TO CALLER
1969
1970
1971
1972

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GLOBAL SUBROUTINES

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1973 ;*****
1974 ; FUNCTIONAL DESCRIPTION:      GETOC - GET OUTPUT CODE
1975 ;           THIS ROUTINE GETS THE OUTPUT CODE FROM
1976 ;           BSEL6 AND THEN COMPARES IT TO
1977 ;           THE VALUE IN $GDDAT
1978 ;           IF EQUAL EXIT ELSE REPORT ERROR AND EXIT
1979 ;
1980 ; INPUTS:      R5      = ADDRESS OF CALLER
1981 ;              $GDDAT  = VALUE OF EXPECTED OUTPUT CODE
1982 ;
1983 ; OUTPUTS:     ERRWRD  = -1 IF ERROR OCCURED
1984 ; CALLING SEQUENCE:
1985 ;              JSR      R5,GETOC
1986 ;-----*****
1987
1988 003670 010537 002406 GETOC:  MOV      R5,ERRADD      ;STORE OFF ERROR ADDRESS
1989 003674 017737 176554 002340      MOV      $BSEL6,$BDDAT    ;GET OUTPUT FROM BSEL6
1990 003702 042737 177400 002340      BIC      #1C<377>,$BDDAT  ;STRIP TO VALID BITS
1991 003710 023737 002340 002336      CMP      $BDDAT,$GDDAT    ;ARE THEY EQUAL
1992 003716 001411      BEQ      10$      ;IF SO GO TO 10
1993
1994 003720 012737 012042 002430      MOV      #M18F,CODEW
1995 003726 104455      TRAP      C#ERDF
1996 003730 000013      .WORD     11
1997 003732 011550      .WORD     EROIC
1998 003734 010366      .WORD     ERR27
1999 003736 005337 002402      DEC      ERRWRD      ;SET ERROR OCCURRED
2000 003742 000205      10$:  RTS      R5      ;RETURN TO CALLER
2001

```

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2002 ;*****
2003 ; FUNCTIONAL DESCRIPTION: MEMEX - MEMORY EXTENSION CODE
2004 ; THIS ROUTINE IS USED WITH THE
2005 ; MEMORY EXTENSION TESTS. THE ROUTINE FIRST
2006 ; CHECKS FOR A CONTROL OUT.. IF THE CONTROL
2007 ; OUT IS A REC COMPLETE IT COMPARES THE FIRST
2008 ; DATA WORD ON THE EXTENSIONS PAGE IF GOOD
2009 ; THEN EXIT IF BAD REPORT ERROR AND EXIT.
2010 ; IF CONTROL OUT IS NON EXISTENT MEMORY THEN
2011 ; CHECK TO BE SURE MEMORY IS NON-EXISTENT
2012 ; IF MEMORY EXIST THEN PRINT ERROR AND
2013 ; EXIT ROUTINE.
2014 ;
2015 ; INPUTS:      R5      = CALLING ADDRESS
2016 ;
2017 ; OUTPUTS:     ERRWRD  = -1 IF ERROR OCCURED
2018 ; SUBORDINATE ROUTINES USED:
2019 ;             WRDO    = WAIT FOR READY OUT
2020 ; CALLING SEQUENCE:
2021 ;             JSR     R4, MEMEX
2022 ; -*****
2023
2024 MEMEX:
2025 EXMEM:  JSR     R5, WRDO      ;WAIT FOR READY OUT
2026         TST     ERRWRD
2027         BMI     EXMEMX
2028         MOV     @SEL2, @BDDAT
2029         BIC     @C<7>, @BDDAT ;STRIP TO TYPE CODE
2030         CMP     @0, @BDDAT    ;IS IT REC COMP
2031         BEQ     EXMEMA       ; IF YES THEN GO TO A
2032         CMP     @1, @BDDAT    ;IF NOT IS IT CONTROL OUT
2033         BNE     EXMEMB       ;IF NOT GO TO B
2034         MOV     @302, @GDDAT
2035         MOV     @SEL6, @BDDAT
2036         CMP     @GDDAT, @BDDAT ;IS IT NON EXISTENT MEM?
2037         BEQ     EXMEMC       ;IF YES GO TO C
2038         MOV     @M13F, CODEW
2039         TRAP    C#ERDF
2040         .WORD   12
2041         .WORD   EROIC
2042         .WORD   ERR27
2043         DEC     ERRWRD       ;SET ERROR FLAG
2044         BR      EXMEMX       ;PRINT ERROR AND EXIT
2045
2046 EXMEMC:
2047         ;IF ERROR IS NON EXISTENT
2048         INC     177572       ;INCREMENT MM
2049         MOV     @METB, 4     ;SET UP TRAP
2050         TST     @120000      ;TEST THE NON EXISTENT
2051         CLR     177572       ;CLEAR MM
2052         TRAP    C#ERDF
2053         .WORD   13
2054         .WORD   0
2055         .WORD   ERR20
2056         DEC     ERRWRD
2057         BR      EXMEMX       ;PRINT ERROR AND EXIT TEST

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2059                                     ; GET HERE IF BUFFER RETURNED OK
2060
2061 004122 005237 177572      EXMEMA: INC 177572      ;ENABLE MM
2062 004126 012737 004202 000004      MOV #METC,4      ;SET UP TRAP
2063 004134 013737 033536 002336      MOV MR1+2,#GDDAT ;GET FIRST WORD FROM NEW PAGE
2064 004142 013737 120000 002340      MOV 120000,#BDDAT ;AND FIRST R4 WORD
2065 004150 005037 177572      CLR 177572      ;DISABLE MM
2066 004154 023737 002336 002340      CMP #GDDAT,#BDDAT ;COMPARE DATA
2067 004162 001421      BEQ EXMEMX      ;EXIT IF GOOD
2068 004164 104455      TRAP C#ERDF
2069 004166 000016      .WORD 14
2070 004170 000000      .WORD 0
2071 004172 010002      .WORD ERR21
2072 004174 005337 002402      DEC ERRWRD
2073 004200 000412      BR EXMEMX      ;AND EXIT
2074 004202 005037 177572      METC: CLR 177572      ;DISABLE MM
2075 004206 104455      TRAP C#ERDF
2076 004210 000017      .WORD 15
2077 004212 000000      .WORD 0
2078 004214 010064      .WORD ERR22
2079 004216 005037 177572      METB: CLR 177572      ;DISABLE MM
2080 004222 062706 000004      META: ADD #4,SP      ;:(SP)
2081 004226 013737 002316 000004      EXMEMX: MOV SAVE4,4
2082 004234 013737 002320 000006      MOV SAVE6,6      ;RESTORE TRAPS
2083 004242 000205      RTS R5
2084

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2085 ;*****
2086 ; FUNCTIONAL DESCRIPTION:      WAIT50 - WAIT 50 MICRO SECONDS
2087 ;                               THIS ROUTINE COUNTS DOWN R1 FROM 200 TO 0
2088 ;                               IF DMP AND FROM 600 TO 0 IF DMV. THIS
2089 ;                               IS USED AS A DELAY ROUTINE
2090 ;
2091 ; CALLING SEQUENCE:
2092 ;                               JSR      PC,WAIT50
2093 ;-----*****
2094
2095 WAIT50: MOV      R1,-(SP)          ;SAVE R1
2096          MOV      #4000.,R1       ;INIT COUNTER ;; N.M. (CHANGED FROM 200 TO 4000)
2097          TST      OPTYP
2098          BEQ      3$              ;IF DMP GO TO 3
2099          ADD      #400.,R1         ;ELSE TRIPLE UP TIMER FOR DMV
2100          DEC      R1              ;DECREMENT COUNTER
2101          BNE      3$              ;BR IF NOT DONE YET
2102          MOV      (SP)+,R1        ;RESTORE R1
2103          RTS      PC              ;RETURN
2104
2105 ;*****
2106 ; FUNCTIONAL DESCRIPTION:      GWORD - GET WORD
2107 ;                               THIS ROUTINE READS A WORD FROM THE M8207 ROM.
2108 ;
2109 ; INPUTS:      CADDR      = ADDRESS TO BE READ
2110 ;
2111 ; OUTPUTS:      SEL6      = DATA READ
2112 ; SUBORDINATE ROUTINES USED:
2113 ;                               ROMCLK - ROUTINE TO ISSUE CLOCKS TO ROM CIRCUIT
2114 ; CALLING SEQUENCE:
2115 ;                               JSR      PC,GWORD
2116 ;-----*****
2117
2118 GWORD:  CLR      #SELO              ;INIT
2119          MOVB     CADDR+1,#SEL2     ;NOW HIGH BYTE OF ADDRESS
2120          JSR      R5,ROMCLK
2121          .WORD    121053            ;MOV IBUS* 2 TO OBUS* 13
2122          BIC      #377,1$          ;STRIP ADDR FLIED.
2123          BISB     CADDR,1$         ;ADD IN IMM ADDR.
2124          JSR      R5,ROMCLK        ;GO DO BRANCH.
2125          .WORD    100000            ;BRANCH EXT PUTS ADDR. IN PCREG.
2126          BIS      #2000,#SELO      ;SET READ ENABLE.
2127          RTS      PC              ;EXIT.

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2129
2130      ;*****
2131      ; FUNCTIONAL DESCRIPTION:      ROMCLK - ROM CLOCK ROUTINE
2132      ;      THIS ROUTINE ISSUES A SINGE STEP TO THE
2133      ;      M8207.
2134      ; INPUTS:      R5      - POINTS TO INSTRUCTION TO BE STEPPED
2135      ; RETURN:      RETURN IS TO WORD FOLLWOING INSTRUCTION
2136      ;
2137      ; CALLING SEQUENCE:
2138      ;      JSR      R5,ROMCLK
2139      ;      .WORD    INSTR      ;INSTURCITON TO EXECUTE
2140      ;-----*****
2141
2142      004346      ROMCLK:
2143      004346      152777      000002      176066      BISB      #2,88SEL1      ;SET ROMI
2144      004354      012577      176074      MOV      (R5)+,88SEL6      ;SET INSTRUCTION.
2145      004360      152777      000003      176054      BISB      #3,88SEL1      ;CLOCK INSTR.
2146      004366      142777      000007      176046      BICB      #7,88SEL1      ;CLEAR.
2147      004374      000205      RTS      R5
2148
2149      ;*****
2150      ; FUNCTIONAL DESCRIPTION:      CRCR - CRC CALCULATE ROUTINE
2151      ;      THIS ROUTINE TAKES 16 BITS OF DATA FROM WORDT
2152      ;      AND CONVERTS THEM INTO PART OF THE SERIAL STREAM
2153      ;      THAT IS BEING USED TO CALCULATE A CRC-CCITT WORD.
2154      ;
2155      ; INPUTS:      WORDT      - WORD TO CALCULATE ON
2156      ;
2157      ; IMPLICIT INPUTS:
2158      ;      CWORD      - MUST BE A -1 FIRST TIME CALLED
2159      ;
2160      ; OUTPUTS:      CWORD      - 16 BIT CALCULATED WORD
2161      ; CALLING SEQUENCE:
2162      ;      JSR      PC,CRCR
2163      ;-----*****
2164      004376      010146      CRCR:      MOV      R1,-(SP)
2165      004400      010246      MOV      R2,-(SP)
2166      004402      012702      000020      MOV      #16.,R2
2167      004406      000241      10$:      CLC
2168      004410      006037      002374      ROR      CWORD
2169      004414      006037      002372      ROR      WORDT
2170      004420      102011      BVC      20$
2171      004422      012701      102010      MOV      #102010,R1
2172      004426      043701      002374      BIC      CWORD,R1
2173      004432      042737      102010      002374      BIC      #102010,CWORD
2174      004440      050137      002374      BIS      R1,CWORD
2175      004444      005302      20$:      DEC      R2
2176      004446      003357      BGT      10$
2177      004450      012602      MOV      (SP)+,R2
2178      004452      012601      MOV      (SP)+,R1
2179      004454      000207      RTS      PC
2180

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CZDMTFO DMP/V-11 FCTNL TST #1
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GLOBAL SUBROUTINES

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2181
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2193 004456 112777 000100 175756 MINITR: MOVB #100,8BSEL1 ;SET MASTER CLEAR.
2194 004464 022737 000004 002472          CMP #04,OPTYP ;IS THIS 8206
2195 004472 001003          BNE MIN1R ;BRANCH IF NOT
2196 004474 112777 000200 175740          MOVB #200,8BSEL1 ;SET RUN
2197 004502 000240          MIN1R: NOP
2198 004504 004737 004244 11: JSR PC,WAIT50 ;SHORT DELAY.
2199 004510 000207          RTS PC ;RETURN.
2200
2201
2202
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2208
2209
2210
2211
2212
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2214
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2216
2217
2218
2219
2220
2221
2222
2223 004512 012737 000003 002506 MINIT1: MOV #03,AXNUM
2224 004520 000403          BR MINTR
2225 004522 012737 000005 002506 MINITS: MOV #05,AXNUM
2226 004530 112777 000100 175704 MINTR: MOVB #100,8BSEL1 ;SET MASTER CLEAR.
2227 004536 022737 000004 002472          CMP #4,OPTYP ;IS THIS 8206
2228 004544 001003          BNE MIN2R ;SKIP IF NOT
2229 004546 112777 000200 175660          MOVB #200,8BSEL1 ;SET RUN BIT
2230 004554 000240          MIN2R: NOP
2231 004556 000240          NOP
2232 004560 012737 004600 002406          MOV #ERLB7,ERRADD ;SET ERROR ADDRESS
2233 004566 004537 005070          TLB7: JSR R5,TOUT
2234 004572 005737 002402          TST ERRWRD
2235 004576 100533          BMI MINTE ;EXIT IF ERROR
2236 004600          ERLB7:

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Address	Op Code	Op 1	Op 2	Op 3	Op 4	Op 5	Op 6	Op 7	Op 8	Op 9	Op 10	Op 11	Op 12	Op 13	Op 14	Op 15	Op 16	Op 17	Op 18	Op 19	Op 20	Op 21	Op 22	Op 23	Op 24	Op 25	Op 26	Op 27	Op 28	Op 29	Op 30	Op 31	Op 32	Op 33	Op 34	Op 35	Op 36	Op 37	Op 38	Op 39	Op 40	Op 41	Op 42	Op 43	Op 44	Op 45	Op 46	Op 47	Op 48	Op 49	Op 50	Op 51	Op 52	Op 53	Op 54	Op 55	Op 56	Op 57	Op 58	Op 59	Op 60	Op 61	Op 62	Op 63	Op 64	Op 65	Op 66	Op 67	Op 68	Op 69	Op 70	Op 71	Op 72	Op 73	Op 74	Op 75	Op 76	Op 77	Op 78	Op 79	Op 80	Op 81	Op 82	Op 83	Op 84	Op 85	Op 86	Op 87	Op 88	Op 89	Op 90	Op 91	Op 92	Op 93	Op 94	Op 95	Op 96	Op 97	Op 98	Op 99	Op 100	Op 101	Op 102	Op 103	Op 104	Op 105	Op 106	Op 107	Op 108	Op 109	Op 110	Op 111	Op 112	Op 113	Op 114	Op 115	Op 116	Op 117	Op 118	Op 119	Op 120	Op 121	Op 122	Op 123	Op 124	Op 125	Op 126	Op 127	Op 128	Op 129	Op 130	Op 131	Op 132	Op 133	Op 134	Op 135	Op 136	Op 137	Op 138	Op 139	Op 140	Op 141	Op 142	Op 143	Op 144	Op 145	Op 146	Op 147	Op 148	Op 149	Op 150	Op 151	Op 152	Op 153	Op 154	Op 155	Op 156	Op 157	Op 158	Op 159	Op 160	Op 161	Op 162	Op 163	Op 164	Op 165	Op 166	Op 167	Op 168	Op 169	Op 170	Op 171	Op 172	Op 173	Op 174	Op 175	Op 176	Op 177	Op 178	Op 179	Op 180	Op 181	Op 182	Op 183	Op 184	Op 185	Op 186	Op 187	Op 188	Op 189	Op 190	Op 191	Op 192	Op 193	Op 194	Op 195	Op 196	Op 197	Op 198	Op 199	Op 200	Op 201	Op 202	Op 203	Op 204	Op 205	Op 206	Op 207	Op 208	Op 209	Op 210	Op 211	Op 212	Op 213	Op 214	Op 215	Op 216	Op 217	Op 218	Op 219	Op 220	Op 221	Op 222	Op 223	Op 224	Op 225	Op 226	Op 227	Op 228	Op 229	Op 230	Op 231	Op 232	Op 233	Op 234	Op 235	Op 236	Op 237	Op 238	Op 239	Op 240	Op 241	Op 242	Op 243	Op 244	Op 245	Op 246	Op 247	Op 248	Op 249	Op 250	Op 251	Op 252	Op 253	Op 254	Op 255	Op 256	Op 257	Op 258	Op 259	Op 260	Op 261	Op 262	Op 263	Op 264	Op 265	Op 266	Op 267	Op 268	Op 269	Op 270	Op 271	Op 272	Op 273	Op 274	Op 275	Op 276	Op 277	Op 278	Op 279	Op 280	Op 281	Op 282	Op 283	Op 284	Op 285	Op 286	Op 287	Op 288	Op 289	Op 290	Op 291	Op 292	Op 293	Op 294	Op 295	Op 296	Op 297	Op 298	Op 299	Op 300	Op 301	Op 302	Op 303	Op 304	Op 305	Op 306	Op 307	Op 308	Op 309	Op 310	Op 311	Op 312	Op 313	Op 314	Op 315	Op 316	Op 317	Op 318	Op 319	Op 320	Op 321	Op 322	Op 323	Op 324	Op 325	Op 326	Op 327	Op 328	Op 329	Op 330	Op 331	Op 332	Op 333	Op 334	Op 335	Op 336	Op 337	Op 338	Op 339	Op 340	Op 341	Op 342	Op 343	Op 344	Op 345	Op 346	Op 347	Op 348	Op 349	Op 350	Op 351	Op 352	Op 353	Op 354	Op 355	Op 356	Op 357	Op 358	Op 359	Op 360	Op 361	Op 362	Op 363	Op 364	Op 365	Op 366	Op 367	Op 368	Op 369	Op 370	Op 371	Op 372	Op 373	Op 374	Op 375	Op 376	Op 377	Op 378	Op 379	Op 380</
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GLOBAL SUBROUTINES

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005070 020537 005136
005074 001011
005076 000037 005134
005102 001012
005104 104455
005106 000020
005110 011456
005112 010330
005114 005337 002402
005120 005037 005134
005124 010537 005136
005130
005130 104422
005132 000205
005134 000000
005136 000000

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;*****
; FUNCTIONAL DESCRIPTION:      TOUT  - TIME OUT ROUTINE
;      THIS ROUTINE INC COUNTT LOCATION EVERY
;      TIME IT IS CALLED IF COUNTT OVERFLOWS THEN
;      TIME OUT IS REPORTED AND THE ROUTINE IS EXITED.
; CALLING SEQUENCE:
;      JSR      R5,TOUT
;*****
TOUT:  CMP      R5,LA5TR5
      BNE      TOUTE
      INC      COUNTT
      BNE      TOUTEX
      TRAP     C$ERDF
      .WORD    16
      .WORD    MEF7
      .WORD    ERR26
      DEC      ERRWRC
TOUTE: CLR      COUNTT
      MOV      R5,LA5TR5      ;SAVE CURRENT PC.
TOUTEX: TRAP     C$BRK
      RTS      R5            ;EXIT

COUNTT: 0
LASTR5: 0
;NUMBERS OF TIMES IN THIS ROUTINE FROM
;SAME CALLING LOCATION.
;LAST CALLING LOCATION.

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GLOBAL SUBROUTINES

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2316 ;*****
2317 ; FUNCTIONAL DESCRIPTION:      STAND - PRINT STANDARD REGS
2318 ;           THIS ROUTINE PRINTS THE UNIT NUMBER AND
2319 ;           CSR ADDRESS OF THE FAILING UNIT AS WELL AS THE
2320 ;           CONTENTS OF ALL THE CSR REGS.
2321 ;           THE ERROR MSG ROUTINES USE THIS SUBROUTINE
2322 ; IMPLICIT INPUTS:
2323 ;           CSRS' - THE CSR ARE EXPECTED TO CONTAIN USEFUL DATA
2324 ;           LOGDEV - THE LOGICAL DEVICE NUMBER
2325 ;           SELO - ADDRESS OF THIS UNIT
2326 ; CALLING SEQUENCE:
2327 ;           JSR      PC,STAND
2328 ;*****
2329
2330 STAND:
2331 005140 013746 002440      MOV      SELO,-(SP)
2332 005144 013746 002332      MOV      LOGDEV,-(SP)
2333 005150 012746 005306      MOV      #CFM1,-(SP)
2334 005154 012746 000003      MOV      #3,-(SP)
2335 005160 010600           MOV      SP,R0
2336 005162 104415           TRAP     C#PNTX
2337 005164 062706 000010      ADD      #10,SP
2338 005170 017746 175260      MOV      BSEL6,-(SP)
2339 005174 017746 175250      MOV      BSEL4,-(SP)
2340 005200 017746 175240      MOV      BSEL2,-(SP)
2341 005204 017746 175230      MOV      BSEL0,-(SP)
2342 005210 012746 005373      MOV      #CFM2,-(SP)
2343 005214 012746 000005      MOV      #5,-(SP)
2344 005220 010600           MOV      SP,R0
2345 005222 104415           TRAP     C#PNTX
2346 005224 062706 000014      ADD      #14,SP
2347 005230 032737 000003 002472 BIT      #3,OPTYP      ;IS THIS A DMV-11 ?
2348 005236 001412           BEQ      1$      ;IF NOT: SKIP SEL10 PRINTOUT
2349 005240 017746 175214      MOV      BSEL10,-(SP)
2350 005244 012746 005451      MOV      #CFM3,-(SP)
2351 005250 012746 000002      MOV      #2,-(SP)
2352 005254 010600           MOV      SP,R0
2353 005256 104415           TRAP     C#PNTX
2354 005260 062706 000006      ADD      #6,SP
2355 005264           1$:
2356 005264 012746 005466      MOV      #CFM4,-(SP)
2357 005270 012746 000001      MOV      #1,-(SP)
2358 005274 010600           MOV      SP,R0
2359 005276 104415           TRAP     C#PNTX
2360 005300 062706 000004      ADD      #4,SP
2361 005304 000207           RTS      PC
2362 005306 047045 040445 040506 CFM1:  .ASCIZ  "N#AFAILING MCPU IS UNIT #02#A WHOSE ADDRESS IS #06"
2363 005314 046111 047111 020107
2364 005322 041515 052520 044440
2365 005330 020123 047125 052111
2366 005336 021440 047445 022462
2367 005344 020101 044127 051517
2368 005352 020105 042101 051104
2369 005360 051505 020123 051511
2370 005366 022440 033117 000
2371 005373 045 022516 051501 CFM2:  .ASCIZ  "N#ASELO=#06#A SEL2=#06#A SEL4=#06#A SEL6=#06"

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2372	005400	046105	036460	047445	
2373	005406	022466	020101	042523	
2374	005414	031114	022475	033117	
2375	005422	040445	051440	046105	
2376	005430	036464	047445	022466	
2377	005436	020101	042523	033114	
2378	005444	022475	033117	000	
2379	005451	045	020101	042523	CFM3: .ASCIZ "A SEL10-06"
2380	005456	030514	036460	047445	
2381	005464	000066			
2382	005466	047045	000		CFM4: .ASCIZ "N"
2383		005472			.EVEN
2384					
2385					

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GLOBAL SUBROUTINES

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2386 ;*****
2387 ; FUNCTIONAL DESCRIPTION:      RMVRT - VERIFY ROM CONTENTS
2388 ;           THIS ROUTINE READS DMV ROMS USING 256 BYTE READS
2389 ;           AND CALCULATES/CHECKS THE CRC.
2390 ; SUBORDINATE ROUTINES:
2391 ;           WRDO      -   WAIT FOR READY OUT (MRDY)
2392 ;           CRCR      -   CALCULATE CRC
2393 ; IMPLICIT INPUTS:
2394 ;           ROMADD    -   STARTING ADDRESS OF PARTICULAR ROM
2395 ; CALLING SEQUENCE:
2396 ;           JSR      R5,RMVRT
2397 ;*****
2398
2399 005472 012737 177777 002374 RMVRT: MOV      #1,CWORD      ;INIT CRC WORD
2400 005500 112777 000301 174734      MOVB     #301,BSSEL1    ;ENTER MAINTENANCE LOOP
2401 005506 004537 002646      JSR      R5,WRDO      ;
2402 005512 005737 002402      TST      ERRMRD      ;
2403 005516 100477      BMI      RMVEX      ;EXIT IF ERROR
2404 005520 005003      CLR      R3      ;CLEAR BLOCK_NUMBER
2405
2406 005522 012777 034014 174724 RMVXX: MOV      @RECBU1,BSSEL6    ;READ 256 BYTES USING M-LOOP
2407 005530 105077 174724      CLRB     BSSEL10      ;RCV BUFFER ADDR => BSR10:CSR6
2408 005534 013777 002436 174706      MOV      ROMADD,BSSEL4    ;ROM ADDRESS => CSR4
2409 005542 112777 000003 174674      MOVB     #03,BSSEL2      ;DO BLOCK READ OF 256 BYTES
2410 005550 004537 002646      JSR      R5,WRDO      ;WAIT FOR MRDY BIT (RDO)
2411 005554 005737 002402      TST      ERRMRD      ;
2412 005560 100456      BMI      RMVEX      ;EXIT IF ERROR
2413
2414 005562 005002      CLR      R2      ;CLEAR WORD_INDEX
2415 005564 005703      TST      R3      ;IS THIS THE 1ST BLOCK?
2416 005566 001014      BNE      RMVYY      ;
2417 005570 013737 034014 002434      MOV      RECBU1,CRCCAL    ;YES: SAVE 1ST WORD OF 1ST BLOCK
2418 005576 005722      TST      (R2),      ;          (CRC CHARACTER)
2419 005600 116237 034014 014024      MOVB     RECBU1(R2),ROMNO    ;SAVE ROM #
2420 005606 005202      INC      R2      ;
2421 005610 116237 034014 014026      MOVB     RECBU1(R2),REVNO    ;SAVE REVISION #
2422 005616 005302      DEC      R2      ;ADJUST INDEX FOR ROM#
2423
2424 005620 016237 034014 002372 RMVYY: MOV      RECBU1(R2),WORDI    ;GET INDEXED WORD FROM BUFFER
2425 005626 004737 004376      JSR      PC,CRCR      ;CALCULATE CRC WORD
2426 005632 062702 000002      ADD      #2,R2      ;(BUMP INDEX)
2427 005636 022702 000400      CMP      #256.,R2      ;IS THIS THE LAST WORD ?
2428 005642 001366      BNE      RMVYY      ;IF NOT: GET NEXT WORD.
2429
2430 005644 020327 000037      RMVAA: CMP      R3,#31.      ;IS THIS THE LAST 256 WORD BLOCK?
2431 005650 001405      BEQ      RMVBB      ;
2432 005652 062737 000400 002436      ADD      #256.,ROMADD    ;NO: ADD 256 TO ADDRESS
2433 005660 005203      INC      R3      ;          AND BUMP BLOCK NUMBER
2434 005662 000717      BR       RMVXX      ;          AND GO GET SOME MORE

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2435	005664	000240			RMVBB:	NOP		; (COM CWORD=5137 2374)
2436	005666	000240				NOP		; YES:
2437	005670	013737	002434	002372		MOV	CRCAL, WORDT	
2438	005676	023737	002374	002372		CMP	CWORD, WORDT	
2439	005704	001404				BEQ	RMVEX	; COMPARE CRC WORDS...
2440	005706	104455				TRAP	C\$ERDF	; AND REPORT ERROR IF NO MATCH.
2441	005710	000021				.WORD	17	
2442	005712	000000				.WORD	0	
2443	005714	010224				.WORD	ERR24	
2444								
2445	005716	000205			RMVEX:	RTS	R5	; RETURN TO CALLER
2446								

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GLOBAL SUBROUTINES

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2447 ;*****
2448 ; FUNCTIONAL DESCRIPTION: TXRXSR - TRANSMIT RECEIVE SUBROUTINE
2449 ; THIS ROUTINE IS USED BY ALL TESTS THAT TRANSMIT
2450 ; AND RECIEVE DATA. THE FIRST PART OF THE ROUTINE VERIFIES
2451 ; THE OPERATOR INPUTS AND MAKES SURE THAT INTERFACE
2452 ; SELECTION CORRESPOND TO SELECTED BAUD RATES.
2453 ; THE SECOND PART OF THE ROUTINE FORMS "TXRX3" AND DOES THE
2454 ; FOLLOWING. ESTABLISH TRIBUTARY. THEN EITHER DO ISTRT OR
2455 ; MAINT STATE DEPENDING ON FLAG. IF ISTRT THEN CHECK FOR
2456 ; RUN STATE IF MAINT STATE THEN GO TO NEXT STEP. NEXT QUE
2457 ; REC AND TRANSMIT BUFFERS THEN WAIT FOR OUTPUT. IF MEMORY
2458 ; MANAGEMENT EXIT TEST. IF ISTRT LOOK FOR REC COMPLETED
2459 ; FOLLOWED BY TX COMPLETED. IF MAINT LOOK FOR TRANSMIT FIRST.
2460 ;
2461 ; INPUTS: TXADD - ADDRESS OF TRANSMIT BUFFER
2462 ; TXCC - CHAR COUNT OF TX
2463 ; RXADD - ADDRESS OF REC BUFFER
2464 ; RXCC - CHAR COUNT OF REC BUFFER
2465 ; GENMRD - FLAG WORD IF BIT 15 SET-MAINT MODE
2466 ; IF BIT 14 SET THEN MEMORY MGT.
2467 ;
2468 ; SUBORDINATE ROUTINES USED:
2469 ; WAIT50 - SHORT DELAY
2470 ; CONTIN - CONTROL IN ROUTINE
2471 ; GETOUT - GET CONTROL OUT CODE
2472 ; GETOC - GET OUTPUT CODE
2473 ; WRDI - WAIT FOR READY IN
2474 ; GETCC - GET CHAR COUNT
2475 ; GETBA - GET BUFFER ADDRESS
2476 ;
2477 ; CALLING SEQUENCE:
2478 ; JSR R5,TXRXSR ;IF NOT INTERFACE CHECK
2479 ; ;CALL AT JSR R5,TXRX3
2480 ;-----
2481
2482 005720 022737 000004 002476 TXRXSR: CMP #4,TSTCON
2483 005726 001002 006410 BNE 10; ;BRANCH IF NOT INTERNAL LOOP
2484 005730 000137 006410 JMP TXRX3 ;ELSE GO TO 3
2485
2486 ;JUMP TO TXRX 3 IF INTERNAL LOOP
2487
2488 005734 013737 002360 002506 10;: MOV TRIBN,AXNUM ;SAVE TRIBN.
2489 005742 005037 002360 CLR TRIBN ;MAKE TRIBN 0
2490 ;DMV-11 WILL IGNORE THE FOLLOWING...
2491
2492 005746 022737 000000 002476 TXRX1: CMP #0,TSTCON ;IS H3254,H3255 TURN AROUND SELECTED? ***JPB
2493 005754 001002 006062 BNE 1; ;NO, TRY NEXT ONE. ***JPB
2494 005756 000137 006062 JMP TXRX1B ;YES, ***JPB
2495
2496 005762 022737 000001 002476 1;: CMP #1,TSTCON ;IS CABLE LOOP SELECTED? ***JPB
2497 005770 001011 000010 174442 BNE 2; ;NO, TRY NEXT ONE. ***JPB
2498 005772 142777 000010 174442 BICB #BIT3,#BSEL1 ;CLEAR LLOOP FOR EXTERNAL CABLE LOOP. ***JPB
2499 006000 022737 000003 002474 CMP #3,IFTYP ;CHECK TO SEE IF V.35 WAS SELECTED? ***JPB
2500 006006 001472 006402 BEQ V35TC ;YES, BR AND FORCE SET UP OF V.35 ***JPB
2501 006010 000137 006402 JMP TXRX2 ;NO, CONTINUE ***JPB
2502

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2503 006014 022737 000002 002476 24:  CMP      #2,TSTCON      ;IS MODEM LOCAL SELECTED?      ***JPB
2504 006022 001004          BNE      34          ;NO, TRY NEXT ONE.      ***JPB
2505 006024 012704 000110          MOV      #110,R4      ;SET DTR AND MAINT1      ***JPB
2506 006030 000137 006040          JMP      TXRX1A          ;      ***JPB
2507
2508 006034 012704 000104          34:  MOV      #104,R4      ;MUST BE REMOTE MODEM.      ***JPB
2509          TXRX1A: MOV      #21,R3      ;SET DTR AND MAINT2      ***JPB
2510 006040 012703 000021          JSR      R5,CONTIN      ;WRITE MODEM CONTROL-BSEL4,(R4)TO REG 13
2511 006044 004537 003162          ; WRITE MODEM WITH CORRECT
2512          ; TYPE OF LOOP CODE
2513 006050 005737 002402          TST      ERRWRD
2514 006054 100002          BPL      TXRX1B
2515 006056 000137 006540          JMP      TXRXA
2516
2517 006062          TXRX1B:
2518 006062 004737 004244 154:  JSR      PC,WAIT50      ;WAIT FOR A WHILE      ...
2519 006066 142777 000010 174346 BICB      #BIT3,BSEL1      ;CLEAR LU LOOP (EXTERNAL LOOP SELECTED)
2520
2521          ; IF INTEGRAL MODEM MAKE SURE OPTION
2522          ; IS NOT 8053 AND SPEED IS 56K OR HIGHER
2523          ; IF NOT INTEGRAL MODEM GO TO NEXT CHECK IF EIA
2524
2525 006074 022737 000001 002474  CMP      #1,IFTYP      ;IS THIS INTEGRAL MODEM
2526 006102 001014          BNE      XYZTC          ;IF NOT THEN GO CHECK FOR EIA
2527 006104 022737 000001 002472  CMP      #1,OPTYP      ;IS THIS 8053 (DMV NO INTEGRAL)
2528 006112 001453          BEQ      BADIF          ;IF SO PRINT BAD INTERFACE MMSG.
2529 006114 023727 002466 000004  CMP      SPEEDM,#4      ;IS THIS 56 K OR HIGHER
2530 006122 103464          BLO      BADBR          ;IF NOT PRINT BAD BAUD RATE
2531
2532          ; GET HERE IF EVERYTHING OK FOR INTEGRAL
2533
2534 006124 012704 000323          MOV      #323,R4      ;LOAD R4 WITH INTERFACE TYPE
2535 006130 000137 006354          JMP      SETIF          ; AND GO SET IT
2536
2537          ;IF THIS IS EIA THEN CHECK THAT OPTION IS NOT
2538          ; M8054 AND THAT SPEED IS 56K OR LOWER
2539          ;IF NOT EIA CHECK IF V.35
2540
2541 006134 022737 000002 002474 XYZTC:  CMP      #2,IFTYP      ;IS THIS EIA INTERFACE
2542 006142 001014          BNE      V35TC          ;IF NOT GO CHECK FOR V.35 TYPE
2543 006144 022737 000002 002472  CMP      #2,OPTYP      ;IS THIS 8054 (DMV INTEGRAL MODEM)
2544 006152 001433          BEQ      BADIF          ;IF SO PRINT BAD INTERFACE
2545 006154 023727 002466 000004  CMP      SPEEDM,#4      ;IS THIS HIGHER THAN 56K
2546 006162 101044          BHI      BADBR          ;IF SO PRINT BAD BAUD RATE
2547
2548          ; GET HERE IF EVERYTHING OK FOR EIA
2549
2550 006164 012704 000233          MOV      #233,R4      ;LOAD R4 WITH INTERFACE TYPE
2551 006170 000137 006354          JMP      SETIF          ;AND GO SET IT.
2552
2553          ;IF V.35 CHECK THAT OPTION IS NOT 8064
2554          ;IF NOT V.35 MUST BE 422
2555
2556 006174 022737 000003 002474 V35TC:  CMP      #3,IFTYP      ;IS THIS V.35 INTERFACE
2557 006202 001010          BNE      T422C          ;IF NOT IT MUST BE 422
2558 006204 022737 000002 002472  CMP      #2,OPTYP      ;IS THIS 8064 (DMV INTEGRAL)

```

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```

2559 006212 001413      BEQ      BADIF          ;IF SO PRINT BAD INTERFACE
2560
2561                      ; GET HERE IF EVERYTHING OK FOR V.35
2562
2563 006214 012704 000313  MOV      #313,R4          ;LOAD R4 WITH INTERFACE TYPE AND
2564 006220 000137 006354  JMP      SETIF              ;GO SET IT
2565
2566                      ;IF OPTION TYPE IS DMV THEN ERROR ELSE OK FOR 422
2567
2568 006224 032737 000003 002472 T422C: BIT      #3,OPTYP          ;IS THIS DMV
2569 006232 001003      BNE      BADIF          ;IF SO PRINT BAD INTERFACE
2570
2571                      ; GET HERE IF EVERYTHING OK FOR 422
2572
2573 006234 012704 000133  MOV      #133,R4          ;LOAD UP INTERFACE AND SET IT
2574 006240 000445      BR       SETIF
2575
2576                      ;PRINTS BAD INTERFACE AND EXITS
2577
2578 006242 022737 000001 002346 BADIF: CMP      #1,STARES
2579 006250 001037      BNE      TABEN
2580 006252 012746 010530  MOV      #BADIFM,-(SP)
2581 006256 012746 000001  MOV      #1,-(SP)
2582 006262 010600      MOV      SP,R0
2583 006264 104417      TRAP     C1PNTF
2584 006266 062706 000004  ADD      #4,SP
2585 006272 000414      BR       TABM          ;PRINT 1ST PART OF MESSAGE
2586
2587                      ;PRINTS BAD BAUD RATE AND EXITS
2588
2589 006274 022737 000001 002346 BADBR: CMP      #1,STARES
2590 006302 001022      BNE      TABEN
2591 006304 012746 010606  MOV      #BADBRM,-(SP)
2592 006310 012746 000001  MOV      #1,-(SP)
2593 006314 010600      MOV      SP,R0
2594 006316 104417      TRAP     C1PNTF
2595 006320 062706 000004  ADD      #4,SP
2596 006324      TABM:
2597 006324 013746 002370  MOV      ROMN1,-(SP)
2598 006330 012746 010666  MOV      #TESTAB,-(SP)
2599 006334 012746 000002  MOV      #2,-(SP)
2600 006340 010600      MOV      SP,R0
2601 006342 104417      TRAP     C1PNTF
2602 006344 062706 000006  ADD      #6,SP
2603 006350 000137 007406  TABEN: JMP      TXRXEN          ;AND THEN EXIT SR.
2604
2605                      ; GET HERE TO SET INTERFACE
2606
2607 006354 032737 000003 002472 SETIF: BIT      #03,OPTYP          ;IS THIS A DMV11 ?
2608 006362 001007      BNE      TXRX2          ; YES: SKIP THIS SETUP STUFF !!!
2609 006364 012703 000023  MOV      #23,R3          ; NO: SET INTERFACE
2610
2611                      ; WRITE MODEM TEST REGISTER
2612 006370 004537 003162  JSR      R5,CONTIN
2613 006374 005737 002402  TST      ERRWRD
2614 006400 100457      BMI      TXPXA

```

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```

2615
2616 006402 013737 002506 002360 TXRX2: MOV AXNUM,TRIBN ;GET TRIB NUMBER BACK
2617
2618 ;ESTABLISH TRIB
2619
2620 006410 012703 000001 TXRX3: MOV #01,R3
2621 006414 004537 003162 JSR R5,CONTIN ;ESTABLISH TRIB
2622
2623 006420 005737 002402 TST ERRWRD ;TIME OUT OR REAY ERORS PRINT PC
2624 006424 100445 BMI TXRXA ;EXIT IF ERROR OCCURRED
2625
2626 006426 032737 100000 002432 BIT #BIT15,GENWRD ;TEST THE MAINT STATE BIT
2627 006434 001033 BNE TXRXB ;IF SET GO TO 10
2628
2629 ;ISTRIB TRIB IF NOT MAINT STATE
2630
2631 006436 012703 000003 MOV #03,R3
2632 006442 004537 003162 JSR R5,CONTIN ;ELSE;
2633 ;ISTRIB THE TRIB
2634 006446 005737 002402 TST ERRWRD ; TIME OUT OR READY ERRORS REPORT THIS PC
2635 006452 100432 BMI TXRXA ;EXIT IF ERROR OCCURRED
2636
2637 ;CHECK FOR RUN STATE
2638
2639 006454 012737 000001 002336 MOV #01,#GDDAT ;CHECK FOR CONTROL OUT
2640 006462 004537 003242 JSR R5,GETOUT ; AND CORRECT TRIBN
2641 006466 005737 002402 TST ERRWRD ;
2642 006472 100422 BMI TXRXA ;EXIT IF ERROR OCCURRED
2643 006474 012737 000024 002336 MOV #24,#GDDAT ;CHECK FOR RUN STATE
2644 006502 004537 003670 JSR R5,GETOC ; IN OUTPUT CODE
2645 006506 005737 002402 TST ERRWRD ;
2646 006512 100412 BMI TXRXA ;EXIT IF ERROR OCCURRED
2647 006514 042777 000200 173722 BIC #RDO,#BSEL2 ;CLEAR OUTPUT
2648 006522 000411 BR TXRXC ;AND GO TO 20
2649
2650 ; PUT TRIB IN MAINT STATE
2651
2652 006524 012703 000004 TXRXB: MOV #04,R3
2653 006530 004537 003162 JSR R5,CONTIN ;PUT TRIB IN MAINT STATE
2654 ;
2655 006534 005737 002402 TST ERRWRD ; TIME OUT OR READY ERRORS REPORT THIS PC
2656 006540 100002 TXRXA: BPL TXRXC ;
2657 006542 000137 007406 JMP TXRXEN ;EXIT IF ERROR OCCURRED
2658
2659 ;QUEUE RECEIVE BUFFER
2660
2661 006546 052777 000200 173664 TXRXC: BIS #RQI,#BSELO ;SET REQUEST
2662 006554 004537 002732 JSR R5,WRDI ;
2663 ; TIME OUT OR READY ERROR REPORT THIS PC
2664 006560 005737 002402 TST ERRWRD ;
2665 006564 100002 BPL S1 ;
2666 006566 000137 007406 JMP TXRXEN ;EXIT IF ERROR OCCURRED
2667 006572 013777 002422 173650 S1: MOV RXADD,#BSEL4 ;SET ADDRESS
2668 006600 113777 002360 173640 MOVB TRIBN,#BSEL3 ;SET TRIBN
2669
2670 006606 005737 002376 TST MODQ22 ;*IS THIS "Q22 MODE" ?

```


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```

2671 006612 001411          BEQ      14          ;*
2672
2673 006614 013777 002424 173636      MOV      RXCC,88SEL10      ;*YES: SET CHARACTER COUNT
2674 006622 005777 173626          CLR      88SEL6          ;*      CLEAR EXTENDED ADDR BITS
2675 006626 112777 000010 173610      MOVB     #10,88SEL2      ;*      SET RX BUFFER IN (+Q22 BIT)
2676 006634 000476          BR       24          ;*      AND CONTINUE...
2677
2678 006636 013777 002424 173610 14:    MOV      RXCC, 88SEL6      ;*NO: SET CHAR COUNT [+BA16/17]
2679 006644 112777 000000 173572      MOVB     #0, 88SEL2      ;      SET RX BUFFER IN
2680
2681          ;QUEUE TX BUFFER
2682
2683 006652 004537 002732          24:    JSR      R5,WRDI          ;WAIT FOR READY
2684          ; TIME OUT OR READY ERROR REPORT THIS PC
2685 006656 005737 002732          TST      ERRWRD          ;
2686 006662 100002          BPL      354          ;*
2687 006664 000137 007406          JMP      TXRXEN          ;*EXIT IF ERROR OCCURRED
2688 006670 013777 002420 173552 354:  MOV      TXADD,88SEL4      ;SET TX ADD
2689 006676 113777 002360 173542      MOVB     TRIBN,88SEL3      ;SET TRIBN
2690
2691 006704 005737 002376          TST      MODQ22          ;*IS THIS "Q22 MODE" ?
2692 006710 001414          BEQ      34          ;*
2693
2694 006712 013777 002426 173540      MOV      TXCC,88SEL10      ;*YES: SET CHARACTER COUNT
2695 006720 005077 173530          CLR      88SEL6          ;*      CLEAR EXTENDED ADDR BITS
2696 006724 042777 000200 173506      BIC      #RQI,88SELO      ;*      CLEAR REQUEST
2697 006732 112777 000014 173504      MOVB     #14,88SEL2      ;*      SET UP TX BUFFER (+Q22 BIT)
2698 006740 000411          BR       44          ;*      AND CONTINUE...
2699
2700 006742 013777 002426 173504 34:    MOV      TXCC, 88SEL6      ;*NO: SET CHAR COUNT [+BA16/17]
2701 006750 042777 000200 173462      BIC      #RQI,88SELO      ;      CLEAR REQUEST
2702 006756 112777 000004 173460      MOVB     #04, 88SEL2      ;      SET UP TX BUFFER
2703
2704 006764 032737 040000 002432 44:    BIT      #BIT14,GENWRD
2705 006772 001402          BEQ      204          ;IF MM GO TO RETURN
2706 006774 000137 007406          JMP      TXRXEN          ;* CLEAR LOCAL_MAINT_FLAG
2707 007000 005037 007410          204:  CLR      MTLG
2708 007004 005737 002432          TST      GENWRD
2709 007010 100052          BPL      TXRXG          ;GO AHEAD IF NOT MAINT STATE
2710
2711          ;CHECK FOR RX COMPLETED
2712
2713          ; NOTE: IF MAINT STATE THEN CHECK FOR RX AND TX BUFFERS
2714          ; RETURNED (ORDER NOT IMPORTANT).
2715          ; BUT: IF NOT MAINT STATE THEN RX BUFFER MUST BE RETURNED
2716          ; FIRST AND TX BUFFER SECOND (OR ERROR REPORTED).
2717          ;* IF WE ARE IN MAINT STATE ....
2718 007012 004537 002646          JSR      R5,WRDO          ;* WAIT FOR READY_OUT
2719 007016 005737 002402          TST      ERRWRD          ;*
2720 007022 100571          BMI      TXRXEN          ;* EXIT IF ERROR
2721 007024 117704 173414          MOVB     88SEL2,R4      ;* GET COMMAND TYPE
2722 007030 042704 177770          BIC      #177770,R4      ;* STRIP EXCESS BITS
2723 007034 022704 000004          CMP      #4,R4          ;* CHECK FOR TX BUFFER RETURNED
2724 007040 001403          BEQ      404          ;* IF YES: GO CHECK IT
2725 007042 005337 007410          DEC      MTLG
2726 007046 000433          BR       TXRXG          ;* NO: MTLG=(-1) TO INDICATE TXBUF
          ;*      RETURNED FIRST

```

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```

2727
2728 007050 012737 000004 002336 40$: MOV    #04, #GDDAT
2729 007056 004537 003242          JSR    R5, GETOUT      ;GET OUTPUT CODE
2730 007062 005737 002402          TST    ERRWRD
2731 007066 100547          BMI    TXRXEN      ;EXIT IF ERROR
2732 007070 013737 002426 002336 MOV    TXCC, #GDDAT      ;*
2733 007076 004537 003514          JSR    R5, GETCC      ;*ELSE CHECK TX CHAR COUNT
2734 007102 005737 002402          TST    ERRWRD      ;*
2735 007106 100537          BMI    TXRXEN      ;*EXIT IF ERROR
2736 007110 013737 002420 002336 MOV    TXADD, #GDDAT
2737 007116 004537 003576          JSR    R5, GETBA      ;IS THE TX BUFFER ADDR RIGHT ?
2738 007122 005737 002402          TST    ERRWRD      ;
2739 007126 100527          BMI    TXRXEN      ;EXIT IF ERROR OCCURED
2740
2741 007130 042777 000200 173306 BIC    #RDO, #BSEL2      ;CLEAR READY OUT
2742 007136 012737 000000 002336 TXRXG: MOV    #0, #GDDAT      ;
2743 007144 004537 003242          JSR    R5, GETOUT      ;CHECK FOR RX RETURNED
2744 007150 005737 002402          TST    ERRWRD      ;
2745 007154 100514          BMI    TXRXEN      ;EXIT IF ERROR OCCURRED
2746 007156 013737 002426 002336 MOV    TXCC, #GDDAT      ;
2747 007164 004537 003514          JSR    R5, GETCC      ;IS THE CHAR COUNT CORRECT
2748 007170 005737 002402          TST    ERRWRD      ;
2749 007174 100504          BMI    TXRXEN      ;EXIT IF ERROR OCCURRED
2750 007176 013737 002422 002336 MOV    RXADD, #GDDATT
2751 007204 004537 003576          JSR    R5, GETBA      ;IS THE BUFFER ADD RIGHT
2752 007210 005737 002402          TST    ERRWRD      ;
2753 007214 100474          BMI    TXRXEN      ;EXIT IF ERROR OCCURRED
2754          ;*****
2755          ;DATA CHECK....
2756 007216 013703 002422          MOV    RXADD, R3
2757 007222 013701 002420          MOV    TXADD, R1      ;SET UP ADDRESS
2758 007226 005004          CLR    R4      ;CLEAR R4
2759 007230
2760 007230 112337 002340          25$: MOV    (R3)+, #BDDAT      ;GET BYTE OF RX
2761 007234 112137 002336          26$: MOV    (R1)+, #GDDAT      ;GET BYTE OF TX
2762 007240 123737 002340 002336 28$: CMP    #BDDAT, #GDDAT      ;ARE THEY THE SAME
2763 007246 001411          BEQ    30$      ;IF SO GO TO 30
2764 007250 005204          INC    R4      ;MAKE COUNT RIGHT
2765 007252 104455          TRAP    C#ERDF
2766 007254 000022          .WORD    18
2767 007256 012401          .WORD    MEF19A
2768 007260 007710          .WORD    ERR19
2769 007262 005337 002402          DEC    ERRWRD
2770 007266 005304          DEC    R4      ;MAKE COUNT RIGHT
2771 007270 000446          BR     TXRXEN      ;EXIT IF ERROR
2772 007272 005204          30$: INC    R4      ;BUMP TO NEXT BYTE
2773 007274 020437 002426          CMP    R4, TXCC      ;ARE WE DONE?
2774 007300 103753          BLO    25$      ;IF NOT GO BACK
2775          ;*****
2776 007302 005737 007410          TST    MTF LG      ;* CHECK LOCAL_MAINT_FLAG
2777 007306 001401          BEQ    31$      ;* IF CLEARED: GOTO 31$
2778 007310 000403          BR     32$      ;* SET: CHECK EXPECTED TXBUFF RETURN
2779
2780 007312 005737 002432          31$: TST    GENWRD      ;TEST FOR MAINT STATE
2781 007316 100433          BMI    TXRXEN      ;RETURN TO CALLER IF MAINT STATE
2782 007320 042777 000200 173116 32$: BIC    #RDO, #BSEL2      ;CLEAR OUTPUT

```


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```

2783 007326 012737 000004 002336      MOV      #4, $GDDAT
2784 007334 004537 003242      JSR      R5, GETOUT      ;CHECK FOR TX BUFF COMP
2785 007340 005737 002402      TST      ERRWRD      ;*
2786 007344 100420      BMI      TXRXEN      ;*IF ERROR: THEN EXIT
2787 007346 013737 002426 002336      MOV      TXCC, $GDDAT      ;*
2788 007354 004537 003514      JSR      R5, GETCC      ;*ELSE CHECK TX CHAR COUNT
2789 007360 005737 002402      TST      ERRWRD      ;*
2790 007364 100410      BMI      TXRXEN      ;*EXIT IF ERROR
2791 007366 013737 002420 002336      MOV      TXADD, $GDDAT
2792 007374 004537 003576      JSR      R5, GETBA      ;IS THE TX BUFFER ADDR RIGHT ?
2793 007400 005737 002402      TST      ERRWRD      ;
2794 007404 100400      BMI      TXRXEN      ;EXIT IF ERROR OCCURED
2795 007406 000205      TXRXEN: RTS      R5
2796
2797 007410 000000      MTFLG: 0      ;* LOCAL_MAINT_FLAG
2798                                ;* (IF MAINT MODE + MTFLG SET THEN TXBUF
2799                                ;* RETURN EXPECTED AFTER RXBUF RETURN)

```

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GLOBAL ERROR REPORT SECTION

.SBTTL GLOBAL ERROR REPORT SECTION

;/ THE GLOBAL ERROR REPORT SECTION CONTAINS ERROR MESSAGES
;/ THAT ARE USED IN MORE THAN ONE TEST.
;////////////////////////////////////

ERR1::

MOV SELO,-(SP)
MOV #MEF1,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #6,SP

L10003:

TRAP C#MSG

;FAILING CODE

ERR3::

MOV #BSEL6,-(SP)
MOV #MEF3,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #6,SP
JSR PC,STAND

L10004:

TRAP C#MSG

ERR5::

MOV #BDDAT,-(SP)
MOV #GDDAT,-(SP)
MOV #MEF5,-(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #10,SP
JSR PC,STAND

L10005:

TRAP C#MSG

ERR6::

MOV #BDDAT,-(SP)
MOV #GDDAT,-(SP)
MOV #MEF6,-(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #10,SP
JSR PC,STAND

L10006:

TRAP C#MSG

;PRINT FAILED TO SET RDI

2800
2801
2802
2803
2804
2805
2806
2807 007412
2808 007412 013746 002440
2809 007416 012746 010737
2810 007422 012746 000002
2811 007426 010600
2812 007430 104414
2813 007432 062706 000006
2814 007436
2815 007436 104423
2816
2817
2818
2819
2820 007440
2821 007440 017746 173010
2822 007444 012746 011147
2823 007450 012746 000002
2824 007454 010600
2825 007456 104414
2826 007460 062706 000006
2827 007464 004737 005140
2828 007470
2829 007470 104423
2830
2831 007472
2832 007472 013746 002340
2833 007476 013746 002336
2834 007502 012746 011305
2835 007506 012746 000003
2836 007512 010600
2837 007514 104414
2838 007516 062706 000010
2839 007522 004737 005140
2840 007526
2841 007526 104423
2842
2843 007530
2844 007530 013746 002340
2845 007534 013746 002336
2846 007540 012746 011400
2847 007544 012746 000003
2848 007550 010600
2849 007552 104414
2850 007554 062706 000010
2851 007560 004737 005140
2852 007564
2853 007564 104423
2854
2855

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2856
2857 007566
2858 007566 012746 011722
2859 007572 012746 000001
2860 007576 010600
2861 007600 104414
2862 007602 062706 000004
2863 007606 004737 005140
2864 007612
2865 007612 104423
2866
2867
2868
2869 007614
2870 007614 012746 011746
2871 007620 012746 000001
2872 007624 010600
2873 007626 104414
2874 007630 062706 000004
2875 007634 004737 005140
2876 007640
2877 007640 104423
2878
2879
2880
2881
2882
2883 007642
2884 007642 013746 002406
2885 007646 012746 011653
2886 007652 013746 002340
2887 007656 013746 002336
2888 007662 012746 012343
2889 007666 012746 000005
2890 007672 010600
2891 007674 104414
2892 007676 062706 000014
2893 007702 004737 005140
2894 007706
2895 007706 104423
2896
2897
2898
2899 007710
2900 007710 013746 002340
2901 007714 013746 002336
2902 007720 010446
2903 007722 012746 012434
2904 007726 012746 000004
2905 007732 010600
2906 007734 104414
2907 007736 062706 000012
2908 007742 004737 005140
2909 007746
2910 007746 104423
2911

ERR9::

MOV #MRDI, -(SP)
MOV #1, -(SP)
MOV SP, R0
TRAP C#PNTB
ADD #4, SP
JSR PC, STAND

L10007:

TRAP C#MSG

;PRINT FAILED TO SET RDO

ERR10::

MOV #MRDO, -(SP)
MOV #1, -(SP)
MOV SP, R0
TRAP C#PNTB
ADD #4, SP
JSR PC, STAND

L10010:

TRAP C#MSG

;PRINTS GOOD AND BAD DATA (BYTES) AND
;FAILING PC ADDRS AND STANDARD REGS

ERR18::

MOV ERRADD, -(SP)
MOV #MFPC, -(SP)
MOV #BDDAT, -(SP)
MOV #GDDAT, -(SP)
MOV #MEF18, -(SP)
MOV #5, -(SP)
MOV SP, R0
TRAP C#PNTB
ADD #14, SP
JSR PC, STAND

L10011:

TRAP C#MSG

;DATA COMPARE ERROR

ERR19::

MOV #BDDAT, -(SP)
MOV #GDDAT, -(SP)
MOV R4, -(SP)
MOV #MEF19, -(SP)
MOV #4, -(SP)
MOV SP, R0
TRAP C#PNTB
ADD #12, SP
JSR PC, STAND

L10012:

TRAP C#MSG

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;NON-EXISTENT MEMORY ERROR

2912
2913
2914 007750
2915 007750 013746 002542
2916 007754 012746 012675
2917 007760 012746 000002
2918 007764 010600
2919 007766 104414
2920 007770 062706 000006
2921 007774 004737 005140
2922 010000
2923 010000 104423
2924
2925 010002
2926 010002 012746 013020
2927 010006 012746 000001
2928 010012 010600
2929 010014 104414
2930 010016 062706 000004
2931 010022 013746 002340
2932 010026 013746 002336
2933 010032 013746 002542
2934 010036 012746 013107
2935 010042 012746 000004
2936 010046 010600
2937 010050 104414
2938 010052 062706 000012
2939 010056 004737 005140
2940 010062
2941 010062 104423
2942
2943 010064
2944 010064 012746 013170
2945 010070 012746 000001
2946 010074 010600
2947 010076 104414
2948 010100 062706 000004
2949 010104 013746 002542
2950 010110 012746 013256
2951 010114 012746 000002
2952 010120 010600
2953 010122 104414
2954 010124 062706 000006
2955 010130 012746 013345
2956 010134 012746 000001
2957 010140 010600
2958 010142 104414
2959 010144 062706 000004
2960 010150 004737 005140
2961 010154
2962 010154 104423
2963
2964
2965
2966
2967

ERR20::

MOV \$TMP0,-(SP)
MOV #TFM20,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #6,SP
JSR PC,STAND

L10013:

TRAP C#MSG

ERR21::

MOV #TFM21,-(SP)
MOV #1,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #4,SP
MOV #BDDAT,-(SP)
MOV #GDDAT,-(SP)
MOV #TMP0,-(SP)
MOV #TFM2A,-(SP)
MOV #4,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #12,SP
JSR PC,STAND

L10014:

TRAP C#MSG

ERR22::

MOV #TFM22,-(SP)
MOV #1,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #4,SP
MOV #TMP0,-(SP)
MOV #TFM22A,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #6,SP
MOV #TFM22B,-(SP)
MOV #1,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #4,SP
JSR PC,STAND

L10015:

TRAP C#MSG

;PRINTS GOOD AND BAD DATA (WORDS) AND
;FAILING PC ADDRS AND STANDARD REGS

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2968 010156
2969 010156 013746 002406
2970 010162 012746 011653
2971 010166 013746 002340
2972 010172 013746 002336
2973 010176 012746 012522
2974 010202 012746 000005
2975 010206 010600
2976 010210 104414
2977 010212 062706 000014
2978 010216 004737 005140
2979 010222
2980 010222 104423
2981
2982 010224
2983 010224 013746 002374
2984 010230 013746 002372
2985 010234 013746 002366
2986 010240 012746 013431
2987 010244 012746 000004
2988 010250 010600
2989 010252 104414
2990 010254 062706 000012
2991 010260 004737 005140
2992 010264
2993 010264 104423
2994
2995 010266
2996 010266 013746 002372
2997 010272 013746 002370
2998 010276 013746 002366
2999 010302 012746 013523
3000 010306 012746 000004
3001 010312 010600
3002 010314 104414
3003 010316 062706 000012
3004 010322 004737 005140
3005 010326
3006 010326 104423
3007
3008
3009
3010 010330
3011 010330 013746 002406
3012 010334 012746 011653
3013 010340 012746 011645
3014 010344 012746 000003
3015 010350 010600
3016 010352 104414
3017 010354 062706 000010
3018 010360 004737 005140
3019 010364
3020 010364 104423
3021
3022
3023

ERR23::

MOV ERRADD, -(SP)
MOV #MFPC, -(SP)
MOV #BDDAT, -(SP)
MOV #GDDAT, -(SP)
MOV #MEF23, -(SP)
MOV #5, -(SP)
MOV SP, R0
TRAP C#PNTB
ADD #14, SP
JSR PC, STAND

L10016:

TRAP C#MSG

ERR24::

MOV CWORD, -(SP)
MOV WORDT, -(SP)
MOV ROMN, -(SP)
MOV #TFM24, -(SP)
MOV #4, -(SP)
MOV SP, R0
TRAP C#PNTB
ADD #12, SP
JSR PC, STAND

L10017:

TRAP C#MSG

ERR25::

MOV WORDT, -(SP)
MOV ROMN1, -(SP)
MOV ROMN, -(SP)
MOV #TFM25, -(SP)
MOV #4, -(SP)
MOV SP, R0
TRAP C#PNTB
ADD #12, SP
JSR PC, STAND

L10020:

TRAP C#MSG

;PRINTS FAILING PC ADDRESS AND STANDARD REGS

ERR26::

MOV ERRADD, -(SP)
MOV #MFPC, -(SP)
MOV #MEF1A, -(SP)
MOV #3, -(SP)
MOV SP, R0
TRAP C#PNTB
ADD #10, SP
JSR PC, STAND

L10021:

TRAP C#MSG

;PRINTS FAILING PC ADDRESS AND
;CODE IN ERROR FROM CODEW AND

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STANDARD REGISTERS

3024
3025
3026 010366
3027 010366 013746 002406
3028 010372 012746 011653
3029 010376 012746 011645
3030 010402 012746 000003
3031 010406 010600
3032 010410 104414
3033 010412 062706 000010
3034 010416 013746 002340
3035 010422 013746 002336
3036 010426 012746 011772
3037 010432 013746 002430
3038 010436 012746 011600
3039 010442 012746 000005
3040 010446 010600
3041 010450 104414
3042 010452 062706 000014
3043 010456 004737 005140
3044 010462
3045 010462 104423
3046
3047
3048
3049 010464
3050 010464 012746 010512
3051 010470 012746 000001
3052 010474 010600
3053 010476 104414
3054 010500 062706 000004
3055 010504 004737 005140
3056 010510
3057 010510 104423
3058
3059 010512 040445 040502 044523
3060 010520 020103 051105 047522
3061 010526 000122
3062 010530 047045 040445 044440
3063 010536 041516 051117 042522
3064 010544 052103 044440 052116
3065 010552 051105 040506 042503
3066 010560 043040 051117 047440
3067 010566 052120 047511 020116
3068 010574 047523 042514 052103
3069 010602 042105 000040
3070 010606 047045 040445 044440
3071 010614 041516 051117 042522
3072 010622 052103 041040 052501
3073 010630 020104 040522 042524
3074 010636 043040 051117 044440
3075 010644 052116 051105 040506
3076 010652 042503 051440 046105
3077 010660 041505 042524 000104
3078 010666 047045 040445 025040
3079 010674 025052 025052 020052

ERR27::

MOV ERRADD, -(SP)
MOV #MPC, -(SP)
MOV #MEF1A, -(SP)
MOV #3, -(SP)
MOV SP, R0
TRAP C#PNTB
ADD #10, SP
MOV #BDDAT, -(SP)
MOV #GDDAT, -(SP)
MOV #MGB, -(SP)
MOV CODEW, -(SP)
MOV #MEF11, -(SP)
MOV #5, -(SP)
MOV SP, R0
TRAP C#PNTB
ADD #14, SP
JSR PC, STAND

L10022:

TRAP C#MSG

PRINTS THE STANDARD REGS

ERR32::

MOV #BASER, -(SP)
MOV #1, -(SP)
MOV SP, R0
TRAP C#PNTB
ADD #4, SP
JSR PC, STAND

L10023:

TRAP C#MSG

BASER: .ASCIZ "BASIC ERROR"

BADIFM: .ASCIZ "DMA INCORRECT INTERFACE FOR OPTION SELECTED "

BADBRM: .ASCIZ "DMA INCORRECT BAUD RATE FOR INTERFACE SELECTED"

TESTAB: .ASCIZ "DMA ***** SUBTEST #02#A ABORTED ***** "

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3080	010702	052523	052102	051505	
3081	010710	020124	047445	022462	
3082	010716	020101	041101	051117	
3083	010724	042524	020104	025052	
3084	010732	025052	020052	000	
3085					
3086	010737	045	020101	042101	MEF1: .ASCIZ "A ADDRESSING PROBLEM UNIT ADDRESS #06#N"
3087	010744	051104	051505	044523	
3088	010752	043516	050040	047522	
3089	010760	046102	046505	052440	
3090	010766	044516	020124	042101	
3091	010774	051104	051505	020123	
3092	011002	047445	022466	000116	
3093	011010	042101	051104	051505	EMT0: .ASCIZ /ADDRESS ERROR -TRAP 4/
3094	011016	020123	051105	047522	
3095	011024	020122	052055	040522	
3096	011032	020120	000064		
3097	011036	051445	022463	041501	FMT0: .ASCIZ /S3ACSR (SEL#D1#A) DOES NOT RESPOND#N/
3098	011044	051123	024040	042523	
3099	011052	022514	030504	040445	
3100	011060	020051	047504	051505	
3101	011066	047040	052117	051040	
3102	011074	051505	047520	042116	
3103	011102	047045	000		
3104	011105	111	052116	051105	MEF3A: .ASCIZ /INTERNAL DMP-11 DIAGNOSTIC FAILED/
3105	011112	040516	020114	046504	
3106	011120	026520	030461	042040	
3107	011126	040511	047107	051517	
3108	011134	044524	020103	040506	
3109	011142	046111	042105	000	
3110	011147	045	052101	051505	MEF3: .ASCII "ATEST CODE- #03"
3111	011154	020124	047503	042504	
3112	011162	020055	047445	063	
3113	011167	045	022516	044501	MEF4: .ASCIZ /#N#INTERNAL DMP-11-LINE UNIT TEST FAILURE/
3114	011174	052116	051105	040516	
3115	011202	020114	046504	026520	
3116	011210	030461	046055	047111	
3117	011216	020105	047125	052111	
3118	011224	052040	051505	020124	
3119	011232	040506	046111	051125	
3120	011240	000105			
3121	011242	047111	042524	043122	MEFC: .ASCIZ /INTERFACE MICRO-DIAGNOSTIC FAILURE/
3122	011250	041501	020105	044515	
3123	011256	051103	026517	044504	
3124	011264	043501	047516	052123	
3125	011272	041511	043040	044501	
3126	011300	052514	042522	000	
3127	011305	045	020101	052515	MEF5: .ASCII "A MULTIPOINT RAM WRITE/READ ERROR#N"
3128	011312	052114	050111	051117	
3129	011320	020124	040522	020115	
3130	011326	051127	052111	027505	
3131	011334	042522	042101	042440	
3132	011342	051122	051117	047045	
3133	011350	040445	043440	047517	.ASCIZ "A GOOD- #03#A BAD- #03"
3134	011356	036504	022440	031517	
3135	011364	040445	041040	042101	

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3136	011372	020075	047445	000063	
3137					
3138	011400	040445	047040	051120	MEF6: .ASCII "A NPR TRANSFER TEST"
3139	011406	052040	040522	051516	
3140	011414	042506	020122	042524	
3141	011422	052123			
3142	011424	047045	040445	043440	.ASCIIZ "N A GOOD- 06 A BAD- 06"
3143	011432	047517	036504	022440	
3144	011440	033117	040445	041040	
3145	011446	042101	020075	047445	
3146	011454	000066			
3147					
3148	011456	047125	054105	042520	MEF7: .ASCIIZ /UNEXPECTED TEST LOOP HANG/
3149	011464	052103	042105	052040	
3150	011472	051505	020124	047514	
3151	011500	050117	044040	047101	
3152	011506	000107			
3153	011510	046504	020120	047111	MEF8: .ASCIIZ /DMP INTERRUPTED TO WRONG VECTOR/
3154	011516	042524	051122	050125	
3155	011524	042524	020104	047524	
3156	011532	053440	047522	043516	
3157	011540	053040	041505	047524	
3158	011546	000122			
3159	011550	047111	047503	051122	EROIC: .ASCIIZ /INCORRECT CODE RETURNED/
3160	011556	041505	020124	047503	
3161	011564	042504	051040	052105	
3162	011572	051125	042516	000104	
3163	011600	047045	052045	040445	MEF11: .ASCIIZ 'N T A CODE INCORRECT N T A 06 S3 06'
3164	011606	041440	042117	020105	
3165	011614	047111	047503	051122	
3166	011622	041505	022524	022516	
3167	011630	022524	022516	033117	
3168	011636	051445	022463	033117	
3169	011644	000			
3170	011645	045	022524	033117	MEF1A: .ASCIIZ 'T 06'
3171	011652	000			
3172	011653	106	044501	052514	MFPC: .ASCIIZ 'FAILURE AT PC '
3173	011660	042522	040440	020124	
3174	011666	041520	000040		
3175					
3176	011672	047522	020115	052506	MRFT: .ASCIIZ 'ROM FUNCTION TEST ERROR'
3177	011700	041516	044524	047117	
3178	011706	052040	051505	020124	
3179	011714	051105	047522	000122	
3180	011722	040445	042122	020111	MRDI: .ASCIIZ 'ARDI FAILED TO SET'
3181	011730	040506	046111	042105	
3182	011736	052040	020117	042523	
3183	011744	000124			
3184	011746	040445	042122	020117	MRDO: .ASCIIZ 'ARDO FAILED TO SET'
3185	011754	040506	046111	042105	
3186	011762	052040	020117	042523	
3187	011770	000124			
3188	011772	047507	042117	020040	MGB: .ASCIIZ 'GOOD BAD'
3189	012000	020040	020040	041040	
3190	012006	042101	000		
3191	012011	122	052105	051125	M12F: .ASCIIZ 'RETURN KEY'

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3192	012016	020116	042513	000131		
3193	012024	051105	047522	000122	M13F:	.ASCIZ 'ERROR'
3194	012032	042122	000117		MFR0:	.ASCIZ 'RDO'
3195	012036	042122	000111		MFRI:	.ASCIZ 'RDI'
3196	012042	052517	050124	052125	M18F:	.ASCIZ 'OUTPUT'
3197	012050	000				
3198	012051	124	050131	000105	M28F:	.ASCIZ 'TYPE'
3199	012056	040504	040524	000	M30F:	.ASCIZ 'DATA'
3200	012063	122	044504	051440	MEF14:	.ASCIZ "RDI SET WHEN EXPECTING RDO TO BE SET"
3201	012070	052105	053440	042510		
3202	012076	020116	054105	042520		
3203	012104	052103	047111	020107		
3204	012112	042122	020117	047524		
3205	012120	041040	020105	042523		
3206	012126	000124				
3207	012130	042122	020117	042523	MEF15:	.ASCIZ "RDO SET WHEN EXPECTING RDI TO BE SET"
3208	012136	020124	044127	047105		
3209	012144	042440	050130	041505		
3210	012152	044524	043516	051040		
3211	012160	044504	052040	020117		
3212	012166	042502	051440	052105		
3213	012174	000				
3214	012175	111	041516	051117	MEF16A:	.ASCIZ /INCORRECT CHARACTER COUNT RETURNED/
3215	012202	042522	052103	041440		
3216	012210	040510	040522	052103		
3217	012216	051105	041440	052517		
3218	012224	052116	051040	052105		
3219	012232	051125	042516	000104		
3220	012240	047111	047503	051122	MEF17A:	.ASCIZ /INCORRECT REC BUFFER ADDR. RETURNED/
3221	012246	041505	020124	042522		
3222	012254	020103	052502	043106		
3223	012262	051105	040440	042104		
3224	012270	027122	051040	052105		
3225	012276	051125	042516	000104		
3226	012304	047111	047503	051122	MEF18A:	.ASCIZ /INCORRECT TRIB NUMBER RETURNED/
3227	012312	041505	020124	051124		
3228	012320	041111	047040	046525		
3229	012326	042502	020122	042522		
3230	012334	052524	047122	042105		
3231	012342	000				
3232	012343	045	043501	047517	MEF18:	.ASCII "AGOOD= #03#A BAD= #03"
3233	012350	036504	022440	031517		
3234	012356	040445	041040	042101		
3235	012364	020075	047445	063		
3236	012371	045	022516	022524		.ASCIZ "N#T#06"
3237	012376	033117	000			
3238	012401	115	051505	040523	MEF19A:	.ASCIZ /MESSAGE DATA COMPARE ERROR/
3239	012406	042507	042040	052101		
3240	012414	020101	047503	050115		
3241	012422	051101	020105	051105		
3242	012430	047522	000122			
3243	012434	040445	044103	051101	MEF19:	.ASCII "A CHARACTER# #03#A SENT CODE"
3244	012442	041501	042524	021522		
3245	012450	022440	031517	040445		
3246	012456	051440	047105	020124		
3247	012464	047503	042504			

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3248	012470	022440	031517	040445		.ASCIZ " #03#A RECEIVED CODES #03"
3249	012476	051040	041505	044505		
3250	012504	042526	020104	047503		
3251	012512	042504	020123	047445		
3252	012520	000063				
3253	012522	040445	047507	042117	MEF23:	.ASCII " #AGOOD= #06#A BAD= #06'
3254	012530	020075	047445	022466		
3255	012536	020101	040502	036504		
3256	012544	022440	033117			
3257	012550	047045	052045	047445		.ASCIZ " #N#T#06"
3258	012556	000066				
3259	012560	042122	020117	046111	MEF30:	.ASCIZ /RDO ILLEGALLY SET/
3260	012566	042514	040507	046114		
3261	012574	020131	042523	000124		
3262	012602	047522	020115	042526	MEF31:	.ASCIZ /ROM VERSION INCORRECT/
3263	012610	051522	047511	020116		
3264	012616	047111	047503	051122		
3265	012624	041505	000124			
3266	012630	053440	047522	043516	MEF32:	.ASCIZ / WRONG OPTION TYPE SELECTED IN TABLE/
3267	012636	047440	052120	047511		
3268	012644	020116	054524	042520		
3269	012652	051440	046105	041505		
3270	012660	042524	020104	047111		
3271	012666	052040	041101	042514		
3272	012674	000				
3273	012675	045	052501	044516	TFM20:	.ASCII ' #AUNIT RETURNED NON-EXISTENT MEM ERR FOR ADD'
3274	012702	020124	042522	052524		
3275	012710	047122	042105	047040		
3276	012716	047117	042455	044530		
3277	012724	052123	047105	020124		
3278	012732	042515	020115	051105		
3279	012740	020122	047506	020122		
3280	012746	042101	104			
3281	012751	040	047445	022462		.ASCIZ ' #02#A00000#N#A-MEMORY DOES NOT EXIST!'
3282	012756	030101	030060	030060		
3283	012764	047045	040445	046455		
3284	012772	046505	051117	020131		
3285	013000	047504	051505	047040		
3286	013006	052117	042440	044530		
3287	013014	052123	000041			
3288	013020	040445	040504	040524	TFM21:	.ASCIZ ' #ADATA ERROR IN TRANSFER TO RECEIVE BUFFER AT ADDRESS '
3289	013026	042440	051122	051117		
3290	013034	044440	020116	051124		
3291	013042	047101	043123	051105		
3292	013050	052040	020117	042522		
3293	013056	042503	053111	020105		
3294	013064	052502	043106	051105		
3295	013072	040440	020124	042101		
3296	013100	051104	051505	020123		
3297	013106	000				
3298	013107	045	031117	040445	TFM2A:	.ASCII ' #02#A00000#N#ADATA SENT = #06'
3299	013114	030060	030060	022460		
3300	013122	022516	042101	052101		
3301	013130	020101	042523	052116		
3302	013136	036440	022440	033117		
3303	013144	040445	020054	040504		.ASCIZ ' #A, DATA RECD = #06'

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GLOBAL ERROR REPORT SECTION

3304	013152	040524	051040	041505
3305	013160	020104	020075	047445
3306	013166	000066		
3307	013170	040445	047125	052111
3308	013176	043040	044501	042514
3309	013204	020104	047524	042040
3310	013212	052105	041505	020124
3311	013220	047516	026516	054105
3312	013226	051511	042524	052116
3313	013234	046440	046505	051117
3314	013242	026131	040440	042104
3315	013250	042522	051523	000040
3316	013256	047445	022462	030101
3317	013264	030060	030060	047045
3318	013272	040445	053440	040440
3319	013300	051040	047040	044440
3320	013306	047040	043440	020040
3321	013314	040520	052122	020123
3322	013322	043117	052040	044510
3323	013330	020123	044504	043501
3324	013336	047516	052123	041511
3325	013344	000		
3326	013345	045	020101	040515
3327	013352	020131	040510	042526
3328	013360	041040	042505	020116
3329	013366	047045	040445	042504
3330	013374	052123	047522	042531
3331	013402	020104	054502	052040
3332	013410	042510	047040	051120
3333	013416	052040	040522	051516
3334	013424	042506	020522	000
3335	013431	045	041501	041522
3336	013436	042440	051122	051117
3337	013444	044440	020116	047522
3338	013452	020115	022505	031117
3339	013460	040445	051040	040505
3340	013466	020104	020075	047445
3341	013474	022466	020101	020073
3342	013502	040503	041514	046125
3343	013510	052101	042105	036440
3344	013516	022440	033117	000
3345	013523	045	042501	051122
3346	013530	051117	044440	020116
3347	013536	047522	020115	022505
3348	013544	031117	040445	020054
3349	013552	044123	052517	042114
3350	013560	041040	020105	047522
3351	013566	020115	047516	035056
3352	013574	020040	052045	040445
3353	013602	020054	047516	020056
3354	013610	042522	042101	044440
3355	013616	035123	022440	000124
3356	013624	047045	052045	047045
3357	013632	052045	047045	000
3358	013637	045	031517	051445
3359	013644	022465	031517	051445

TFM22: .ASCIZ 'AUNIT FAILED TO DETECT NON-EXISTENT MEMORY, ADDRESS

TFM22A: .ASCIZ '02A00000NWA WARNING PARTS OF THIS DIAGNOSTIC

TFM22B: .ASCIZ 'A MAY HAVE BEEN NMADESTROYED BY THE NPR TRANSFER!'

TFM24: .ASCIZ "ACRC ERROR IN ROM E02A READ = 06A ; CALCULATED = 06"

TFM25: .ASCII "AERROR IN ROM E02A, "

.ASCIZ "SHOULD BE ROM NO.: TA, NO. READ IS: T'

DFMT4: .ASCIZ /NNTNTN/

DFMT5: .ASCIZ /03S503S503S503N/

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GLOBAL ERROR REPORT SECTION

3360	013652	022465	031517	051445
3361	013660	022465	031517	047045
3362	013666	000		
3363	013667	045	032123	047445
3364	013674	022463	032523	047445
3365	013702	022463	032523	047445
3366	013710	022463	032523	047445
3367	013716	022463	000116	
3368	013722	052045	047045	000
3369	013727	045	022516	020101
3370	013734	047125	052111	047040
3371	013742	046525	042502	035122
3372	013750	022440	032504	040445
3373	013756	051040	046517	047040
3374	013764	046525	042502	020122
3375	013772	051511	020072	052045
3376	014000	040445	020040	042522
3377	014006	027126	047040	027117
3378	014014	044440	035123	022440
3379	014022	000124		
3380				
3381	014024	000	000	
3382	014026	000	000	
3383				

DFMT6: .ASCIZ /#S4#03#S5#03#S5#03#S5#03#N/

DFMT9: .ASCIZ /#T#N/

ROMMSG: .ASCIZ "N#A UNIT NUMBER: #D5#A ROM NUMBER IS: #T#A REV. NO. IS: #T"

.EVEN

ROMNO: .BYTE 0,0

REVNO: .BYTE 0,0

.EVEN

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REPORT CODING SECTION

.SBTTL REPORT CODING SECTION

; THE REPORT CODING SECTION CONTAINS THE
; "PRINTS" CALLS THAT GENERATE STATISTICAL REPORTS.
;--

L#RPT::

.WORD J#JMP
.WORD L10024-2-.

L10024:
TRAP C#RPT

3384
3385
3386
3387
3388
3389
3390
3391
3392
3393
3394
3395
3396
3397
3398
3399
3400
3401
3402
3403
3404
3405

014030

014030 000167
014032 000000

014034
014034 104425

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INITIALIZE SECTION

```

3406 .SBTTL INITIALIZE SECTION
3407
3408 ;////////////////////
3409 ;// THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
3410 ;// AT THE BEGINNING OF THE TEST SEQUENCE ON THE NEXT UNIT.
3411 ;////////////////////
3412
3413 L$INIT::
3414 014036 010637 002322      MOV      SP,PSTACK      ;SAVE BASE-LEVEL STACK POINTER
3415 014042 005037 002324      CLR      SUBRPC        ;CLEAR SUBR CALL PC
3416 014046 005037 002326      CLR      ERROR1        ;CLEAR ERROR FLAGS
3417 014052 005037 002376      CLR      MODQ22        ;CLEAR DMV Q22 FORMAT FLAG.
3418 014056 005037 002400      CLR      EXLOOP        ;CLEAR DMV EXTERNAL LOOP FLAG
3419 014062 005737 002330      TST      FRSTIM        ;SEE IF FIRST TIME THROUGH AFTER LOAD
3420 014066 001007           BNE      6$              ;BR IF NOT
3421 014070 013737 000004 002316  MOV      $M4,SAVE4      ;SAVE ERROR TRAP VECTOR
3422 014076 013737 000006 002320  MOV      $M6,SAVE6
3423 014104 000406           BR      9$
3424 014106 013737 002316 000004 6$:  MOV      SAVE4,$M4      ;RESTORE ERROR TRAP VECTOR
3425 014114 013737 002320 000006  MOV      SAVE6,$M6
3426 014122 012737 000001 002330 9$:  MOV      $I,FRSTIM      ;MARK FLAG FOR NEXT TIME THROUGH
3427 ;SEE IF PROGRAM JUST STARTED, BR IF YES
3428 014130 012700 000040      MOV      $EF,START,R0
3429 014134 104447      TRAP      C$REFG
3430 014136 103415      BCS      STARST
3431 ;SEE IF PROGRAM JUST RESTARTED, BR IF YES
3432 014140 012700 000037      MOV      $EF,RESTART,R0
3433 014144 104447      TRAP      C$REFG
3434 014146 103411      BCS      STARST
3435 ;SEE IF THIS IS A NEW PASS, BR IF YES
3436 014150 012700 000035      MOV      $EF,NEW,R0
3437 014154 104447      TRAP      C$REFG
3438 014156 103411      BCS      NEWST
3439 ;SEE IF PROGRAM WAS JUST CONTINUED
3440 014160 012700 000036      MOV      $EF,CONTINUE,R0
3441 014164 104447      TRAP      C$REFG
3442 014166 103540      BCS      ENDIT
3443 014170 000416      BR      GETPRM
3444 014172
3445 014172 005037 002346      CLR      STARES      ;CLEAR FLAG TO SHOW JUST HAD STA OR RES
3446 ;CLEAR DEVICE MAP
3447 014176 005037 002350      CLR      DEVMAP
3448 014202
3449 014202 012737 177777 002332  NEWST:  MOV      #-1,LOGDEV      ;RESET LOGICAL DEVICE TO -1
3450 014210 005237 002354      INC      FR$PAS        ;INCREMENT NO. OF PASSES AFTER LOAD
3451 014214 005237 002346      INC      STARES        ;INCREMENT NO. OF PASSES SINCE STA OR RES
3452 014220 012737 000001 002352  MOV      $BIT0,DEVPTR      ;INIT DEVICE MAP BIT POINTER
3453 ; GET UNIBUS ADDRESS, VECTOR, PRIORITY LEVEL, SWITCH PACKS, TEST
3454 ; CONNECTOR INFORMATION FOR THIS LOGICAL DEVICE
3455 GETPRM:
3456 014226 005237 002332      INC      LOGDEV      ;INCREMENT LOGICAL DEVICE NUMBER
3457 014232 023737 002332 002012  CMP      LOGDEV,L$UNIT      ;SEE IF MAXIMUM UNIT NO. EXCEEDED
3458 014240 002360      BGE      NEWST              ;BR IF YES....
3459 014242 013700 002332      MOV      LOGDEV,R0
3460 014246 104442      TRAP      C$GPHRD
3461 014250 010001      MOV      R0,R1

```


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INITIALIZE SECTION

3462	014252	103403		BCS	104	
3463	014254	006337	002352	ASL	DEVPTR	;SHIFT DEVICE MAP BIT POINTER
3464	014260	000762		BR	GETPRM	;SKIP THIS DEVICE
3465	014262					
3466	014262	053737	002352 002350	104:	BIS	DEVPTR,DEVMAP ;SHIFT DEVICE MAP BIT POINTER
3467	014270	006337	002352		ASL	DEVPTR ;
3468	014274	012137	002472		MOV	(R1)+,OPTYP ;SET THE OPTION TYPE
3469	014300	011137	002440		MOV	(R1),MPCSR ;STORE POINTER TO M8200,4,7 CSR'S
3470	014304	011137	002442		MOV	(R1),BSEL1
3471	014310	005237	002442		INC	BSEL1 ;GET POINTER TO BSEL1 (MAINTENANCE REGISTER)
3472	014314	011137	002450		MOV	(R1),SEL4
3473	014320	062737	000004 002450		ADD	#4,SEL4 ;GET POINTER TO SEL4
3474	014326	011137	002444		MOV	(R1),SEL2
3475	014332	062737	000002 002444		ADD	#2,SEL2
3476	014340	011137	002446		MOV	(R1),BSEL3
3477	014344	062737	000003 002446		ADD	#3,BSEL3
3478	014352	011137	002452		MOV	(R1),BSEL5
3479	014356	062737	000005 002452		ADD	#5,BSEL5
3480	014364	011137	002456		MOV	(R1),BSEL7
3481	014370	062737	000007 002456		ADD	#7,BSEL7
3482	014376	011137	002460		MOV	(R1),BSEL10 ;FOR DMV
3483	014402	062737	000010 002460		ADD	#10,BSEL10
3484	014410	012137	002454		MOV	(R1)+,SEL6
3485	014414	062737	000006 002454		ADD	#6,SEL6 ;STORE POINTER TO SEL6
3486	014422	011137	002462		MOV	(R1),MPIVEC ;GET M8200,4,7 INPUT INTRPT VECTOR
3487	014426	012137	002464		MOV	(R1)+,MPOVEC
3488	014432	062737	000004 002464		ADD	#4,MPOVEC ;GET M8200,4,7 OUTPUT INTRPT VECTOR
3489	014440	012137	002470		MOV	(R1)+,MPRIOR ;GET M8200,4,7 DEVICE PRIORITY
3490	014444	062701	000010		ADD	#10,R1 ;POINT TO TEST CON
3491	014450	012137	002476		MOV	(R1)+,TSTCON ;GET TEST CONNECTOR INDICATOR
3492	014454	012137	002466		MOV	(R1)+,SPEEDM ;GET SPEED
3493	014460	012137	002474		MOV	(R1)+,IFTYP
3494	014464	012137	002474		MOV	(R1)+,IFTYP ;FIRST TIME SKIP RUN WORD;THEN LOAD
3495						;INTERFACE TYPE
3496	014470			ENDIT:		
3497	014470			L10025:		
3498	014470	104411		TRAP	C#INIT	
3499						
3500	014472			L#AUTO: :		
3501	014472	004737	004456	JSR	PC,MINITR	;INITIALIZE
3502	014476	005037	002342	CLR	COUNT	;+COUNTER
3503						
3504	014502	004737	004244	14:	JSR	PC,WAIT50 ;STALL
3505	014506	005777	165726	TST	BSEL0	;HAS IT STARTED?
3506	014512	100406		BMI	44	
3507	014514	105337	002342	DECB	COUNT	;TIME UP?
3508	014520	001370		BNE	14	;NO LOOP
3509	014522	013700	002332	MOV	LOGDEV,R0	
3510	014526	104451		TRAP	C#DODU	
3511						
3512	014530			44:		
3513	014530	104433		TRAP	C#RESE1	
3514	014532			L10026:		
3515	014532	104461		TRAP	C#AUTO	
3516						

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CLEANUP CODING SECTION

.SBTTL CLEANUP CODING SECTION

;/;;;
;/ THE CLEANUP CODING SECTION CONTAINS THE CODING THAT IS PERFORMED
;/ AT THE END OF THE TEST SEQUENCE ON A PARTICULAR UNIT.
;/;;;

L\$CLEAN::
TRAP C\$RESET

L10027:
TRAP C\$CLEAN

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3532
3533

014534
014534 104433

014536
014536 104412

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DROP UNIT SECTION

```
3534 .SBTTL DROP UNIT SECTION
3535
3536 ;////////////////////////////////////
3537 ;// THE DROP-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
3538 ;// TO NO LONGER BE TESTED.
3539 ;////////////////////////////////////
3540
3541 014540 L$DU::
3542 ;ISSUE UNIBUS RESET TO CLEAN UP
3543 014540 104433 TRAP C$RESET
3544 014542
3545 014542 104453 L10030:
3546 TRAP C$DU
3547
3548
3549
3550
```

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ADD UNIT SECTION

.SBTTL ADD UNIT SECTION

////////////////////////////////////
; THE ADD-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
; TO BE (A) TESTED FOR THE FIRST TIME, OR (B) RESUMED IN TESTING. IF
; "EF.AUNIT" IS SET, THE UNIT WILL BE TESTED AS A NEW UNIT.
////////////////////////////////////

L\$AU::

L10031:

TRAP C\$AU

3551
3552
3553
3554
3555
3556
3557
3558
3559 014544
3560 014544
3561 014544 104452
3562
3563

3564
3565
3566
3567
3568
3569
3570
3571
3572 014546
3573
3574
3575
3576
3577
3578
3579
3580
3581
3582
3583
3584 014546
3585 014546 012746 000340
3586 014552 012746 014660
3587 014556 012746 000004
3588 014562 012746 000003
3589 014566 104437
3590 014570 062706 000010
3591 014574 005037 014656
3592 014600 005001
3593 014602 005777 165632
3594 014606 012701 000002
3595 014612 005777 165626
3596 014616 012701 000004
3597 014622 005777 165622
3598 014626 012701 000006
3599 014632 005777 165616
3600 014636 005737 014656
3601 014642 001401
3602 014644 104444
3603 014646
3604 014646 012700 000004
3605 014652 104436
3606
3607 014654
3608 014654 104401
3609
3610 014656 000000
3611
3612 014660
3613 014660 005737 014656
3614 014664 001006
3615 014666 104455
3616 014670 000023
3617 014672 011010
3618 014674 007412
3619 014676 005237 014656

.SBTTL HARDWARE TESTS

.SBTTL ***** TEST 1 *****
.SBTTL * ADDRESS TEST-VERIFY THAT ALL MCPU ADDRESSES RESPOND
ZZ
;*ECB
;*.
;* THIS IS THE VERY FIRST TEST IN NORMAL SEQUENCE
;* IT IS USED TO VERIFY THAT DMP OR DMP-11 UNDER TEST, RESPONDS
;* TO THE ADDRESS THAT YOU THINK IT IS AT. ON DMP FAILURE CHECK
;* ADDRESS SWITCHES ON THE M8207 MICRO-CPU. WITH LITTLE
;* DOUBT, THIS FAILURE CAN ONLY BE ATTRIBUTED TO THE M8207 BOARD.
;* NOTE:8207 IS DMP ONLY.....
;*.
;*-
.SBTTL ***** TEST 1 *****

T1::
MOV #PRI07,-(SP)
MOV #ECBINT,-(SP)
MOV #4,-(SP)
MOV #3,-(SP)
TRAP C:SVCE
ADD #10,SP
CLR JMO ;CLEAR FLAG
CLR R1
TST BSEL0 ;TEST CSR 0
MOV #2,R1 ;SAVE OFFSET FOR NEXT CSR
TST BSEL2 ;TEST CSR 2
MOV #4,R1 ;SAVE OFFSET
TST BSEL4 ;TEST CSR 4
MOV #6,R1 ;SAVE OFFSET
TST BSEL6 ;TEST CSR 6
TST JMO ;WAS THERE A NXH TRAP
BEQ 104 ;IF NOT EXIT CLEANLY
TRAP C:DCLN
104:
MOV #4,R0
TRAP C:CVCE
L10032:
TRAP C:ETST
JMO: .WORD 0 ;FLAG FOR O'CONNOR CODE
ECBINT::
TST JMO ;HAVE WE HAD AT LEAST 1 TRAP
BNE 104
TRAP C:ERDF
.WORD 19
.WORD EMT0
.WORD ERR1
INC JMO ;SET FLAG

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;***** TEST 1 *****

3620 014702
3621 014702 010146
3622 014704 012746 011036
3623 014710 012746 000002
3624 014714 010600
3625 014716 104415
3626 014720 062706 000006
3627 014724
3628 014724 000002
3629
3630
3631

101:

MOV R1,-(SP)
MOV #FMT0,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C:PNTX
ADD #6,SP

L10033:

RTI

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***** TEST 2 *****

```

3632 .SBTTL ***** TEST 2 *****
3633 .SBTTL *DMP ONLY VERIFY CONTENTS OF ROM 3
3634 014726 ZZ
3635 ;* THIS TEST DONE FOR DMP ONLY
3636 ;*
3637 ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM 3
3638 ;*
3639 .SBTTL ***** TEST 2 *****
3640 ; -CROMT-
3641 014726 T2::
3642 014726 022737 000000 002472 CMP #0,OPTYP ;IS THIS AN 8207 DMP
3643 014734 001150 BNE 60$ ;IF NOT END.....
3644 014736 012737 000003 002366 MOV #3,ROMN ;ROM NUMBER
3645 014744 012737 000000 002404 MOV #0,CADDR ;GET STARTING ADDR.
3646
3647 014752 012737 177777 002374 MOV #-1,CWORD ;INIT CRC WORD.
3648
3649 014760 004737 004274 10$: JSR PC,GWORD ;GET FIRST BYTE.
3650 014764 117737 165464 002372 MOV BSEL6,WORDT ;STORE FIRST BYTE.
3651 014772 005237 002404 INC CADDR ;UPDATE ADDR.
3652 014776 004737 004274 JSR PC,GWORD ;GET NEXT BYTE.
3653 015002 117737 165446 002373 MOV BSEL6,WORDT+1 ;STORE IN HIGH BYTE OF WORDT
3654 015010 005237 002404 INC CADDR ;UPDATE ADDR.
3655 015014 023727 002404 004000 CMP CADDR,#3777+1 ;AT END?
3656 015022 001403 BEQ 20$ ;YES.EXIT LOOP.
3657
3658 015024 004737 004376 JSR PC,CRCR ;NO-CALCULATE CRC ON THIS WORD.
3659 015030 000753 BR 10$ ;LOOP.
3660
3661 015032 005137 002374 20$: COM CWORD ;STORED CRC WORD IS COMPLEMENT.
3662 015036 023737 002374 002372 CMP CWORD,WORDT ;EQUAL?
3663 015044 001404 BEQ 30$
3664
3665 ;ROM CRC WORD BAD.
3666 015046 104455 TRAP C$ERDF
3667 015050 000024 .WORD 20
3668 015052 000000 .WORD 0
3669 015054 010224 .WORD ERR24
3670 015056 012737 003775 002404 30$: MOV #3777-2,CADDR ;SET ROM NUMBER ADDRESS
3671 015064 012737 000060 002370 MOV #60,ROMN1 ;ROM NUMBER
3672 015072 004737 004274 JSR PC,GWORD ;READ ROM NUMBER
3673 015076 117737 165352 002372 MOV BSEL6,WORDT ;STORE BYTE
3674 015104 123737 002370 002372 CMPB ROMN1,WORDT ;GOOD?
3675 015112 001404 BEQ 40$
3676 015114 104455 TRAP C$ERDF
3677 015116 000025 .WORD 21
3678 015120 000000 .WORD 0
3679 015122 010266 .WORD ERR25
3680 015124
3681 015124 022737 000001 002346 40$: CMP #1,STARES ;IS THIS FIRST PASS
3682 015132 001031 BNE 50$ ;IF NOT THEN GO TO 50
3683 015134 113737 002372 014024 MOV WORDT,ROMNO ;PUT ROM NO IN PRINT CONDITION
3684 015142 012737 003774 002404 MOV #3777-3,CADDR
3685 015150 004737 004274 JSR PC,GWORD ;READ REV NO.
3686 015154 117737 165274 014026 MOV BSEL6,REVNO ;STORE BYTE
3687 015162 012746 014026 MOV #REVNO,-(SP)

```

CZDMTFO DMP/V-11 FCTNL TST #1
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;***** TEST 2 *****

3688	015166	012746	014024			MOV	#ROMNO,-(SP)	
3689	015172	013746	002332			MOV	LOGDEV,-(SP)	
3690	015176	012746	013727			MOV	#ROMMSG,-(SP)	
3691	015202	012746	000004			MOV	#4,-(SP)	
3692	015206	010600				MOV	SP,R0	
3693	015210	104417				TRAP	C#PNTF	
3694	015212	062706	000012			ADD	#12,SP	
3695	015216	012737	003773	002404	504:	MOV	#3777-4,CADDR	;GET VERSION
3696	015224	004737	004274			JSR	PC,GWORD	;READ IT
3697	015230	117737	165220	002372		MOVB	#SEL6,WORDT	
3698	015236	122737	000131	002372		CMPB	#131,WORDT	
3699	015244	001404				BEQ	604	
3700	015246	104455				TRAP	C#ERDF	
3701	015250	000026				.WORD	22	
3702	015252	012602				.WORD	MEF31	
3703	015254	010464				.WORD	ERR32	
3704	015256				604:			
3705	015256				L10034:			
3706	015256	104401				TRAP	C#ETST	

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***** TEST 3 *****

```

3707 .SBTTL ;***** TEST 3 *****
3708 .SBTTL ;DMP ONLY VERIFY CONTENTS OF ROM 2
3709 015260 ZZ
3710 ;* THIS TEST DONE FOR DMP ONLY
3711 ;*
3712 ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM 2
3713 ;*
3714 .SBTTL ;***** TEST 3 *****
3715 ;-CROMT-
3716 015260 T3::
3717 015260 022737 000000 002472 CMP #0,OPTYP ;IS THIS AN 8207 DMP
3718 015266 001150 BNE 60$ ;IF NOT END.....
3719 015270 012737 000002 002366 MOV #2,ROMN ;ROM NUMBER
3720 015276 012737 000000 002404 MOV #0,CADDR ;GET STARTING ADDR.
3721
3722 015304 012737 177777 002374 MOV #-1,CWORD ;INIT CRC WORD.
3723
3724 015312 004737 004274 10$: JSR PC,GWORD ;GET FIRST BYTE.
3725 015316 117737 165134 002372 MOVB BBSEL7,WORDT ;STORE FIRST BYTE.
3726 015324 005237 002404 INC CADDR ;UPDATE ADDR.
3727 015330 004737 004274 JSR PC,GWORD ;GET NEXT BYTE.
3728 015334 117737 165116 002373 MOVB BBSEL7,WORDT+1 ;STORE IN HIGH BYTE OF WORDT.
3729 015342 005237 002404 INC CADDR ;UPDATE ADDR.
3730 015346 023727 002404 004000 CMP CADDR,#3777+1 ;AT END?
3731 015354 001403 BEQ 20$ ;YES,EXIT LOOP.
3732
3733 015356 004737 004376 JSR PC,CRCR ;NO-CALCULATE CRC ON THIS WORD.
3734 015362 000753 BR 10$ ;LOOP.
3735
3736 015364 005137 002374 20$: COM CWORD ;STORED CRC WORD IS COMPLEMENT.
3737 015370 023737 002374 002372 CMP CWORD,WORDT ;EQUAL?
3738 015376 001404 BEQ 30$
3739
3740 ;ROM CRC WORD BAD.
3741 015400 104455 TRAP C$ERDF
3742 015402 000024 .WORD 20
3743 015404 000000 .WORD 0
3744 015406 010224 .WORD ERR24
3745 015410 012737 003775 002404 30$: MOV #3777-2,CADDR ;SET ROM NUMBER ADDRESS
3746 015416 012737 000061 002370 MOV #61,ROMN1 ;ROM NUMBER
3747 015424 004737 004274 JSR PC,GWORD ;READ ROM NUMBER
3748 015430 117737 165022 002372 MOVB BBSEL7,WORDT ;STORE BYTE
3749 015436 123737 002370 002372 CMPB ROMN1,WORDT ;GOOD?
3750 015444 001404 BEQ 40$
3751 015446 104455 TRAP C$ERDF
3752 015450 000025 .WORD 21
3753 015452 000000 .WORD 0
3754 015454 010266 .WORD ERR25
3755
3756 015456 022737 000001 002346 40$: CMP #1,STARES ;IS THIS FIRST PASS
3757 015464 001031 BNE 50$ ;IF NOT THEN GO TO 50
3758 015466 113737 002372 014024 MOVB WORDT,ROMNO ;PUT ROM NO IN PRINT CONDITION
3759 015474 012737 003774 002404 MOV #3777-3,CADDR
3760 015502 004737 004274 JSR PC,GWORD ;READ REV NO.
3761 015506 117737 164744 014026 MOVB BBSEL7,REVNO ;STORE BYTE
3762 015514 012746 014026 MOV #REVNO,-(SP)

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;***** TEST 3 *****

3763	015520	012746	014024		MOV	#ROMNO, -(SP)	
3764	015524	013746	002332		MOV	LOGDEV, -(SP)	
3765	015530	012746	013727		MOV	#ROMMSG, -(SP)	
3766	015534	012746	000004		MOV	#4, -(SP)	
3767	015540	010600			MOV	SP, R0	
3768	015542	104417			TRAP	C#PNTF	
3769	015544	062706	000012		ADD	#12, SP	
3770	015550	012737	003773	002404 50#:	MOV	#3777-4, CADDR	;GET VERSION
3771	015556	004737	004274		JSR	PC, GWORD	;READ IT
3772	015562	117737	164670	002372	MOVB	BBSEL7, WORDT	
3773	015570	122737	000131	002372	CMPB	#131, WORDT	
3774	015576	001404			BEQ	60#	
3775	015600	104455			TRAP	C#ERDF	
3776	015602	000026			.WORD	22	
3777	015604	012602			.WORD	MEF31	
3778	015606	010464			.WORD	ERR32	
3779	015610			60#:			
3780	015610			L10035:			
3781	015610	104401			TRAP	C#ETST	

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***** TEST 4 *****

```

3782 .SBTTL ;***** TEST 4 *****
3783 .SBTTL ;DMP ONLY VERIFY CONTENTS OF ROM 4
3784 015612 ZZ
3785 ;* THIS TEST DONE FOR DMP ONLY
3786 ;*
3787 ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM 4
3788 ;*
3789 .SBTTL ;***** TEST 4 *****
3790 ;-CROMT-
3791 015612 T4::
3792 015612 022737 000000 002472 CMP #0,OPTYP ;IS THIS AN 8207 DMP
3793 015620 001150 BNE 60$ ;IF NOT END.....
3794 015622 012737 000004 002366 MOV #4,ROMN ;ROM NUMBER
3795 015630 012737 004000 002404 MOV #4000,CADDR ;GET STARTING ADDR.
3796
3797 015636 012737 177777 002374 MOV #-1,CWORD ;INIT CRC WORD.
3798
3799 015644 004737 004274 10$: JSR PC,GWORD ;GET FIRST BYTE.
3800 015650 117737 164600 002372 MOVB BSEL6,WORDT ;STORE FIRST BYTE.
3801 015656 005237 002404 INC CADDR ;UPDATE ADDR.
3802 015662 004737 004274 JSR PC,GWORD ;GET NEXT BYTE.
3803 015666 117737 164562 002373 MOVB BSEL6,WORDT+1 ;STORE IN HIGH BYTE OF WORDT
3804 015674 005237 002404 INC CADDR ;UPDATE ADDR.
3805 015700 023727 002404 010000 CMP CADDR,#7777+1 ;AT END?
3806 015706 001403 BEQ 20$ ;YES,EXIT LOOP.
3807
3808 015710 004737 004376 JSR PC,CRCR ;NO-CALCULATE CRC ON THIS WORD.
3809 015714 000753 BR 10$ ;LOOP.
3810
3811 015716 005137 002374 20$: COM CWORD ;STORED CRC WORD IS COMPLEMENT.
3812 015722 023737 002374 002372 CMP CWORD,WORDT ;EQUAL?
3813 015730 001404 BEQ 30$
3814
3815 ;ROM CRC WORD BAD.
3816 015732 104455 TRAP C$ERDF
3817 015734 000024 .WORD 20
3818 015736 000000 .WORD 0
3819 015740 010224 .WORD ERR24
3820 015742 012737 007775 002404 30$: MOV #7777-2,CADDR ;SET ROM NUMBER ADDRESS
3821 015750 012737 000062 002370 MOV #62,ROMN1 ;ROM NUMBER
3822 015756 004737 004274 JSR PC,GWORD ;READ ROM NUMBER
3823 015762 117737 164466 002372 MOVB BSEL6,WORDT ;STORE BYTE
3824 015770 123737 002370 002372 CMPB ROMN1,WORDT ;GOOD?
3825 015776 001404 BEQ 40$
3826 016000 104455 TRAP C$ERDF
3827 016002 000025 .WORD 21
3828 016004 000000 .WORD 0
3829 016006 010266 .WORD ERR25
3830
3831 016010 022737 000001 002346 40$: CMP #1,STARES ;IS THIS FIRST PASS
3832 016016 001031 BNE 50$ ;IF NOT THEN GO TO 50
3833 016020 113737 002372 014024 MOVB WORDT,ROMNO ;PUT ROM NO IN PRINT CONDITION
3834 016026 012737 007774 002404 MOV #7777-3,CADDR
3835 016034 004737 004274 JSR PC,GWORD ;READ REV NO.
3836 016040 117737 164410 014026 MOVB BSEL6,REVNO ;STORE BYTE
3837 016046 012746 014026 MOV #REVNO,-(SP)

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 CZDMTF.P11 08-NOV-84 10:38 ;***** TEST 4 *****

3838	016052	012746	014024		MOV	#ROMNO,-(SP)	
3839	016056	013746	002332		MOV	LOGDEV,-(SP)	
3840	016062	012746	013727		MOV	#ROMMSG,-(SP)	
3841	016066	012746	000004		MOV	#4,-(SP)	
3842	016072	010600			MOV	SP,R0	
3843	016074	104417			TRAP	C#PNTF	
3844	016076	062706	000012		ADD	#12,SP	
3845	016102	012737	007773	002404 50#:	MOV	#7777-4,CADDR	;GET VERSION
3846	016110	004737	004274		JSR	PC,GWORD	;READ IT
3847	016114	117737	164334	002372	MOVB	#SEL6,WORDT	
3848	016122	122737	000131	002372	CMPS	#131,WORDT	
3849	016130	001404			BEQ	60#	
3850	016132	104455			TRAP	C#ERDF	
3851	016134	000026			.WORD	22	
3852	016136	012602			.WORD	MEF31	
3853	016140	010464			.WORD	ERR32	
3854	016142			60#:			
3855	016142			L10036:			
3856	016142	104401			TRAP	C#ETST	

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***** TEST 5 *****

```

3857 .SBTTL ;***** TEST 5 *****
3858 .SBTTL ;DMP ONLY VERIFY CONTENTS OF ROM 1
3859 016144 ZZ
3860 ;* THIS TEST DONE FOR DMP ONLY
3861 ;*
3862 ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM 1
3863 ;*
3864 .SBTTL ;***** TEST 5 *****
3865 ;-CROMT-
3866 016144 T5::
3867 016144 022737 000000 002472 CMP #0,OPTYP ;IS THIS AN 8207 DMP
3868 016152 001150 BNE 60$ ;IF NOT END.....
3869 016154 012737 000001 002366 MOV #1,ROMN ;ROM NUMBER
3870 016162 012737 004000 002404 MOV #4000,CADDR ;GET STARTING ADDR.
3871
3872 016170 012737 177777 002374 MOV #-1,CWORD ;INIT CRC WORD.
3873
3874 016176 004737 004274 10$: JSR PC,GWORD ;GET FIRST BYTE.
3875 016202 117737 164250 002372 MOVB BBSEL7,WORDT ;STORE FIRST BYTE.
3876 016210 005237 002404 INC CADDR ;UPDATE ADDR.
3877 016214 004737 004274 JSR PC,GWORD ;GET NEXT BYTE.
3878 016220 117737 164232 002373 MOVB BBSEL7,WORDT+1 ;STORE IN HIGH BYTE OF WORDT.
3879 016226 005237 002404 INC CADDR ;UPDATE ADDR.
3880 016232 023727 002404 010000 CMP CADDR,#7777+1 ;AT END?
3881 016240 001403 BEQ 20$ ;YES,EXIT LOOP.
3882
3883 016242 004737 004376 JSR PC,CRCR ;NO-CALCULATE CRC ON THIS WORD.
3884 016246 000753 BR 10$ ;LOOP.
3885
3886 016250 005137 002374 20$: COM CWORD ;STORED CRC WORD IS COMPLEMENT.
3887 016254 023737 002374 002372 CMP CWORD,WORDT ;EQUAL?
3888 016262 001404 BEQ 30$
3889
3890 ;ROM CRC WORD BAD.
3891 016264 104455 TRAP C$ERDF
3892 016266 000024 .WORD 20
3893 016270 000000 .WORD 0
3894 016272 010224 .WORD ERR24
3895 016274 012737 007775 002404 30$: MOV #7777-2,CADDR ;SET ROM NUMBER ADDRESS
3896 016302 012737 000063 002370 MOV #63,ROMN1 ;ROM NUMBER
3897 016310 004737 004274 JSR PC,GWORD ;READ ROM NUMBER
3898 016314 117737 164136 002372 MOVB BBSEL7,WORDT ;STORE BYTE
3899 016322 123737 002370 002372 CMPB ROMN1,WORDT ;GOOD?
3900 016330 001404 BEQ 40$
3901 016332 104455 TRAP C$ERDF
3902 016334 000025 .WORD 21
3903 016336 000000 .WORD 0
3904 016340 010266 .WORD ERF25
3905
3906 016342 022737 000001 002346 40$: CMP #1,STARES ;IS THIS FIRST PASS
3907 016350 001031 BNE 50$ ;IF NOT THEN GO TO 50
3908 016352 113737 002372 014024 MOVB WORDT,ROMNO ;PUT ROM NO IN PRINT CONDITION
3909 016360 012737 007774 002404 MOV #7777-3,CADDR
3910 016366 004737 004274 JSR PC,GWORD ;READ REV NO.
3911 016372 117737 164060 014026 MOVB BBSEL7,REVNO ;STORE BYTE
3912 016400 012746 014026 MOV #REVNO,-(SP)

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;***** TEST 5 *****

3913	016404	012746	014024			MOV	#ROMNO,-(SP)	
3914	016410	013746	002332			MOV	LOGDEV,-(SP)	
3915	016414	012746	013727			MOV	#ROMMSG,-(SP)	
3916	016420	012746	000004			MOV	#4,-(SP)	
3917	016424	010600				MOV	SP,R0	
3918	016426	104417				TRAP	C#PNTF	
3919	016430	062706	000012			ADD	#12,SP	
3920	016434	012737	007773	002404	50#:	MOV	#7777-4,CADDR	;GET VERSION
3921	016442	004737	004274			JSR	PC,GWORD	;READ IT
3922	016446	117737	164004	002372		MOVB	88SEL7,WORDT	
3923	016454	122737	000131	002372		CMPB	#131,WORDT	
3924	016462	001404				BEQ	60#	
3925	016464	104455				TRAP	C#ERDF	
3926	016466	000026				.WORD	22	
3927	016470	012602				.WORD	MEF31	
3928	016472	010464				.WORD	ERR32	
3929	016474				60#:			
3930	016474				L10037:			
3931	016474	104401				TRAP	C#ETST	

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***** TEST 6 *****

```

3932 .SBTTL ;***** TEST 6 *****
3933 .SBTTL ;DMP ONLY VERIFY CONTENTS OF ROM 5
3934 016476 ZZ
3935 ;* THIS TEST DONE FOR DMP ONLY
3936 ;*
3937 ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM 5
3938 ;*
3939 .SBTTL ;***** TEST 6 *****
3940 ;-CROMT-
3941 016476 T6::
3942 016476 022737 000000 002472 CMP #0,OPTYP ;IS THIS AN 8207 DMP
3943 016504 001150 BNE 60$ ;IF NOT END.....
3944 016506 012737 000005 002366 MOV #5,ROMN ;ROM NUMBER
3945 016514 012737 010000 002404 MOV #10000,CADDR ;GET STARTING ADDR.
3946
3947 016522 012737 177777 002374 MOV #-1,CWORD ;INIT CRC WORD.
3948
3949 016530 004737 004274 10$: JSR PC,GWORD ;GET FIRST BYTE.
3950 016534 117737 163714 002372 MOV BSEL6,WORDT ;STORE FIRST BYTE.
3951 016542 005237 002404 INC CADDR ;UPDATE ADDR.
3952 016546 004737 004274 JSR PC,GWORD ;GET NEXT BYTE.
3953 016552 117737 163676 002373 MOV BSEL6,WORDT+1 ;STORE IN HIGH BYTE OF WORDT
3954 016560 005237 002404 INC CADDR ;UPDATE ADDR.
3955 016564 023727 002404 014000 CMP CADDR,#13777+1 ;AT END?
3956 016572 001403 BEQ 20$ ;YES,EXIT LOOP.
3957
3958 016574 004737 004376 JSR PC,CRCR ;NO-CALCULATE CRC ON THIS WORD.
3959 016600 000753 BR 10$ ;LOOP.
3960
3961 016602 005137 002374 20$: COM CWORD ;STORED CRC WORD IS COMPLEMENT.
3962 016606 023737 002374 002372 CMP CWORD,WORDT ;EQUAL?
3963 016614 001404 BEQ 30$
3964
3965 ;ROM CRC WORD BAD.
3966 016616 104455 TRAP C$ERDF
3967 016620 000024 .WORD 20
3968 016622 000000 .WORD 0
3969 016624 010224 .WORD ERR24
3970 016626 012737 013775 002404 30$: MOV #13777-2,CADDR ;SET ROM NUMBER ADDRESS
3971 016634 012737 000064 002370 MOV #64,ROMN1 ;ROM NUMBER
3972 016642 004737 004274 JSR PC,GWORD ;READ ROM NUMBER
3973 016646 117737 163602 002372 MOV BSEL6,WORDT ;STORE BYTE
3974 016654 123737 002370 002372 CMPB ROMN1,WORDT ;GOOD?
3975 016662 001404 BEQ 40$
3976 016664 104455 TRAP C$ERDF
3977 016666 000025 .WORD 21
3978 016670 000000 .WORD 0
3979 016672 010266 .WORD ERR25
3980 016674
3981 016674 022737 000001 002346 40$: CMP #1,STARES ;IS THIS FIRST PASS
3982 016702 001031 BNE 50$ ;IF NOT THEN GO TO 50
3983 016704 113737 002372 014024 MOV WORDT,ROMNO ;PUT ROM NO IN PRINT CONDITION
3984 016712 012737 013774 002404 MOV #13777-3,CADDR
3985 016720 004737 004274 JSR PC,GWORD ;READ REV NO.
3986 016724 117737 163524 014026 MOV BSEL6,REVNO ;STORE BYTE
3987 016732 012746 014026 MOV #REVNC,-(SP)

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;***** TEST 6 *****

3988	016736	012746	014024			MOV	#ROMNO,-(SP)	
3989	016742	013746	002332			MOV	LOGDEV,-(SP)	
3990	016746	012746	013727			MOV	#ROMMSG,-(SP)	
3991	016752	012746	000004			MOV	#4,-(SP)	
3992	016756	010600				MOV	SP,R0	
3993	016760	104417				TRAP	C#PNTF	
3994	016762	062706	000012			ADD	#12,SP	
3995	016766	012737	013773	002404	50\$:	MOV	#13777-4,CADDR	;GET VERSION
3996	016774	004737	004274			JSR	PC,GWORD	;READ IT
3997	017000	117737	163450	002372		MOV8	#SEL6,WORDT	
3998	017006	122737	000131	002372		CMPS	#131,WORDT	
3999	017014	001404				BEQ	60\$	
4000	017016	104455				TRAP	C#ERDF	
4001	017020	000026				.WORD	22	
4002	017022	012602				.WORD	MEF31	
4003	017024	010464				.WORD	ERR32	
4004	017026				60\$:			
4005	017026				L10040:			
4006	017026	104401				TRAP	C#ETST	

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***** TEST 7 *****

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4007 .SBTTL ;***** TEST 7 *****
4008 .SBTTL ;DMP ONLY VERIFY CONTENTS OF ROM 14
4009 017030 ZZ
4010 ;* THIS TEST DONE FOR DMP ONLY
4011 ;*
4012 ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM 14
4013 ;*
4014 .SBTTL ;***** TEST 7 *****
4015 ;-CROMT-
4016 017030 T7::
4017 017030 022737 000000 002472 CMP #0,OPTYP ;IS THIS AN 6207 DMP
4018 017036 001150 BNE 604 ;IF NOT END.....
4019 017040 012737 000014 002366 MOV #14,ROMN ;ROM NUMBER
4020 017046 012737 010000 002404 MOV #10000,CADDR ;GET STARTING ADDR.
4021
4022 017054 012737 177777 002374 MOV # -1,CWORD ;INIT CRC WORD.
4023
4024 017062 004737 004274 104: JSR PC,GWORD ;GET FIRST BYTE.
4025 017066 117737 163364 002372 MOVB BSEL7,WORDT ;STORE FIRST BYTE.
4026 017074 005237 002404 INC CADDR ;UPDATE ADDR.
4027 017100 004737 004274 JSR PC,GWORD ;GET NEXT BYTE.
4028 017104 117737 163346 002373 MOVB BSEL7,WORDT+1 ;STORE IN HIGH BYTE OF WORDT.
4029 017112 005237 002404 INC CADDR ;UPDATE ADDR.
4030 017116 023727 002404 014000 CMP CADDR,#13777+1 ;AT END?
4031 017124 001403 BEQ 204 ;YES.EXIT LOOP.
4032
4033 017126 004737 004376 JSR PC,CRCR ;NO-CALCULATE CRC ON THIS WORD.
4034 017132 000753 BR 104 ;LOOP.
4035
4036 017134 005137 002374 204: COM CWORD ;STORED CRC WORD IS COMPLEMENT.
4037 017140 023737 002374 002372 CMP CWORD,WORDT ;EQUAL?
4038 017146 001404 BEQ 304
4039
4040 ;ROM CRC WORD BAD.
4041 017150 104455 TRAP C1ERDF
4042 017152 000024 .WORD 20
4043 017154 000000 .WORD 0
4044 017156 010224 .WORD ERR24
4045 017160 012737 013775 002404 304: MOV #13777-2,CADDR ;SET ROM NUMBER ADDRESS
4046 017166 012737 000065 002370 MOV #65,ROMN1 ;ROM NUMBER
4047 017174 004737 004274 JSR PC,GWORD ;READ ROM NUMBER
4048 017200 117737 163252 002372 MOVB BSEL7,WORDT ;STORE BYTE
4049 017206 123737 002370 002372 CHPB ROMN1,WORDT ;GOOD?
4050 017214 001404 BEQ 404
4051 017216 104455 TRAP C1ERDF
4052 017220 000025 .WORD 21
4053 017222 000000 .WORD 0
4054 017224 010266 .WORD ERR25
4055 017226
4056 017226 022737 000001 002346 404: CMP #1,STARES ;IS THIS FIRST PASS
4057 017234 001031 BNE 504 ;IF NOT THEN GO TO 50
4058 017236 113737 002372 014024 MOVB WORDT,ROMNO ;PUT ROM NO IN PRINT CONDITION
4059 017244 012737 013774 002404 MOV #13777-3,CADDR
4060 017252 004737 004274 JSR PC,GWORD ;READ REV NO.
4061 017256 117737 163174 014026 MOVB BSEL7,REVNO ;STORE BYTE
4062 017264 012746 014026 MOV #REVNO,-(SP)

```

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;***** TEST 7 *****

4063	017270	012746	014024		MOV	#ROMNO,-(SP)	
4064	017274	013746	002332		MOV	LOGDEV,-(SP)	
4065	017300	012746	013727		MOV	#ROMMSG,-(SP)	
4066	017304	012746	000004		MOV	#4,-(SP)	
4067	017310	010600			MOV	SP,R0	
4068	017312	104417			TRAP	C:PNTF	
4069	017314	062706	000012		ADD	#12,SP	
4070	017320	012737	013773	002404	MOV	#13777-4,CADDR	;GET VERSION
4071	017326	004737	004274		JSR	PC,GWORD	;READ IT
4072	017332	117737	163120	002372	MOVB	BBSEL7,WORDT	
4073	017340	122737	000131	002372	CMPS	#131,WORDT	
4074	017346	001404			BEQ	60:	
4075	017350	104455			TRAP	C:ERDF	
4076	017352	000026			.WORD	22	
4077	017354	012602			.WORD	MEF31	
4078	017356	010464			.WORD	ERR32	
4079	017360						
4080	017360						
4081	017360	104401			TRAP	C:ETST	

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;***** TEST 8 *****

```

4082 .SBTTL ;***** TEST 8 *****
4083 .SBTTL * ROM VERIFY ROM 1 DMV
4084 017362 ZZ
4085 ;*
4086 ;*
4087 ;*
4088 ;* THIS TEST IS USED TO VERIFY THE CONTENTS OF ROM 1
4089 ;* THIS TEST IS NOT DONE FOR DMP
4090 ;*
4091 .SBTTL ;***** TEST 8 *****
4092 017362 T8::
4093 017362 032737 000003 002472 BIT #3,OPTYP ;IS THIS DMV
4094 017370 001453 BEQ RDVEX ;IF NOT EXIT
4095 017372 012737 000001 002366 MOV #1,ROMN
4096 017400 012737 000060 002370 MOV #60,ROMN1 ;SET UP ROM NUMBER(ASCII 0)
4097 017406 012737 140000 002436 MOV #140000,ROMADD ;SET UP 1ST ROM ADDRESS
4098 017414 004537 005472 JSR R5,RMVRT ;GO CHECK ROM CRC
4099 017420 005037 002402 CLR ERRWRD
4100 017424 104410 TRAP C$ESCAPE
4101 017426 000072 .WORD L10042-.
4102 017430 022737 000001 002346 CMP #1,STARES ;IS IT FIRST PASS
4103 017436 001030 BNE RDVEX ;IF NOT EXIT
4104
4105 017440 023737 014024 002370 CMP ROMNO,ROMN1 ;COMPARE ROM NUMBER
4106 017446 001406 BEQ 104
4107 017450 104455 TRAP C$ERDF
4108 017452 000027 .WORD 23
4109 017454 000000 .WORD 0
4110 017456 010266 .WORD ERR25
4111
4112 017460 104410 TRAP C$ESCAPE
4113 017462 000036 .WORD L10042-.
4114 017464
4115 017464 012746 014026 104: MOV #REVNO,-(SP)
4116 017470 012746 014024 MOV #ROMNO,-(SP)
4117 017474 013746 002332 MOV LOGDEV,-(SP)
4118 017500 012746 013727 MOV #ROMMSG,-(SP)
4119 017504 012746 000004 MOV #4,-(SP)
4120 017510 010600 MOV SP,R0
4121 017512 104417 TRAP C$PNTF
4122 017514 062706 000012 ADD #12,SP
4123
4124
4125
4126 017520 RDVEX:
4127 017520 L10042:
4128 017520 104401 TRAP C$ETST

```

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***** TEST 9 *****

```

4129 .SBTTL ;***** TEST 9 *****
4130 .SBTTL * ROM VERIFY ROM 2 DMV ONLY
4131 017522 ZZ
4132 ;*
4133 ;*
4134 ;* THIS IS THE TEST THAT VERIFIES THE CONTENTS OF ROM 2
4135 ;* OF THE DMV OPTION. THIS TEST IS NOT RUN FOR DMP
4136 ;*
4137 .SBTTL ;***** TEST 9 *****
4138 T9::
4139 017522 032737 000003 002472 BIT #3,OPTYP ;IS THIS DMV
4140 017530 001453 BEQ RDVEX2 ;IF NOT EXIT
4141 017532 012737 000002 002366 MOV #2,ROMN
4142 017540 012737 000061 002370 MOV #61,ROMN1 ;SETUP ROM NUMBER(ASCII 1)
4143 017546 012737 160000 002436 MOV #160000,ROMADD ;SETUP 1ST ROM ADDRESS
4144 017554 004537 005472 JSR R5,RMVRT ;GO CHECK ROM CRC
4145 017560 005037 002402 CLR ERPRD
4146 017564 104410 TRAP C#ESCAPE
4147 017566 000072 .WORD L10043-
4148 017570 022737 000001 002346 CMP #1,STARES
4149 017576 001030 BNE RDVEX2 ;IF NOT FIRST PASS EXIT
4150
4151 017600 123737 014024 002370 CMPE ROMNO,ROMN1 ;CHECK ROM #
4152 017606 001406 BEQ 104
4153 017610 104455 TRAP C#ERDF
4154 017612 000030 .WORD 24
4155 017614 000000 .WORD 0
4156 017616 010266 .WORD ERR25
4157 017620 104410 TRAP C#ESCAPE
4158 017622 000036 .WORD L10043-
4159 017624
4160 017624 012746 014026 MOV #REVNO,-(SP)
4161 017630 012746 014024 MOV #ROMNO,-(SP)
4162 017634 013746 002332 MOV LOGDEV,-(SP)
4163 017640 012746 013727 MOV #ROMMSG,-(SP)
4164 017644 012746 000004 MOV #4,-(SP)
4165 017650 010600 MOV SP,R0
4166 017652 104417 TRAP C#PNTF
4167 017654 062706 000012 ADD #12,SP
4168
4169
4170 017660 RDVEX2:
4171 017660 L10043:
4172 017660 104401 TRAP C#ETST
4173

```

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***** TEST 10 *****

```

4174 .SBTTL ***** TEST 10 *****
4175 .SBTTL *INITIALIZATION TEST (INTERNAL DIAGNOSTICS)
4176 017662 ZZ
4177 ;*
4178 ;* IN THIS TEST WE'LL START OUT BY SETTING THE MASTER CLEAR BIT (BIT 14 OF SELO)
4179 ;* THE LOGIC CLEARS AND STARTS THE MICRO DIAGNOSTICS. IF THE MICRO-DIAGNOSTICS
4180 ;* PASS, THE RUN BIT (BIT15 OF SELO) WILL SET.
4181 ;* IF THE RUN BIT FAILS TO SET WITHIN 300 MILLI-SEC, IT
4182 ;* PROBABLY MEANS THAT MICRO DIAGNOSTICS HAVE DETECTED AN
4183 ;* ERROR AND THE TEST CODE IS IN BSEL6
4184 ;*
4185 ;*
4186 ;*
4187 ;*
4188 ;*
4189 ;*
4190 ;*
4191 ;*
4192 ;*
4193 ;*
4194 ;*
4195 ;*
4196 ;*
4197 ;*
4198 ;*
4199 ;*
4200 ;*
4201 ;*
4202 ;*
4203 ;*
4204 ;*
4205 ;*
4206 ;*
4207 ;*
4208 ;*
4209 ;*
4210 ;*
4211 ;*
4212 ;*
4213 ;*
4214 ;*
4215 ;*
4216 ;*
4217 ;*
4218 ;*
4219 ;*
4220 ;*
4221 ;*
4222 ;*
4223 ;*
4224 ;*
4225 ;*
4226 017662 ;*
4227 ;*
4228 017662 012737 000000 002342 MOV #0,COUNT ;CLEAR COUNTER
4229 017670 004737 004456 JSR PC,MINITR

```

TEST CODE TEST ENTERED

143	BRANCH TEST
135	BRANCH EXTENDED TESTS
125,252,0	IBUS/OBUS TESTS
123	SCRATCH PAD TEST
151	ALU TESTS
222	MAIN MEMORY DATA TEST
132	MAIN MEMORY DUAL ADDRESS TEST
264	LINE UNIT TESTS
305	TESTS COMPLETE
DMV TEST	
101	BRANCH TEST
102	INTERNAL REG TEST
103	LOAD AND STORE INSTR.
104	COMPARE INSTR. TEST
105	INC/DEC INSTR.
106	SHIFT AND ROTATE INSTR.
107	LOGIC INSTR.
110	ADC,SBC,SED,CLD INSTRU.
111	STACK PUSH,PULL INSTR.
112	SUBROUTINE INSTR.
113	SCRATCH PAD,CSR,AND NPR
114	" "
115	FALSE INT TEST
116	RAM DATA AND ADDRESS
117	RAM ALTERNATING TEST
120	INDEX INDIRECT TEST
121	LINE UNIT TEST

NOTE THE RUN BIT WILL BE SET EVEN IF THE LINE UNIT TEST FAILS. TEST CODE MUST BE CHECKED TO FIND ERROR. THESE CODES ARE SET UPON ENTRY OF EACH TEST ONE SHOULD NOT BE DEPENDENT ON A BAD DMP-DMV MODULE TO PASS A CORRECT TEST CODE. IF THIS TEST FAILS, YOU SHOULD RUN THE REPAIR LEVEL DIAGNOSTIC

NOTE

IF THIS TEST FAILS, CHECK SW7 OF SP#1 TO SEE IF RUN IS ENABLED.

***** TEST 10 *****

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***** TEST 10 *****

```

4230 017674
4231 017674 004737 004244
4232 017700 005777 162534
4233 017704 100411
4234 017706 005337 002342
4235 017712 001370
4236
4237
4238
4239 017714 104455
4240 017716 000031
4241 017720 011105
4242 017722 007440
4243 017724 104410
4244 017726 000116
4245 017730 122777 000305 162516 204:
4246 017736 001420
4247 017740 122777 000264 162506
4248 017746 001406
4249
4250 017750 104455
4251 017752 000032
4252 017754 011105
4253 017756 007440
4254
4255
4256 017760 104410
4257 017762 000062
4258
4259 017764
4260 017764 104455
4261 017766 000033
4262 017770 011167
4263 017772 010464
4264 017774 104410
4265 017776 000046
4266
4267 020000
4268 020000 112777 000200 162432
4269 020006 012737 020030 002406
4270 020014
4271 020014 004537 005070
4272 020020 005037 002402
4273 020024 104410
4274 020026 000016
4275 020030
4276
4277
4278
4279 020030 032777 000020 162406 474:
4280 020036 001766
4281 020040
4282 020040 104410
4283 020042 000002
4284 020044
4285 020044 104401

104:
JSR PC, WAIT50
TST BSEL0 ;TEST DONE?
BHI 204 ;YES TEST FOR ERROR
DEC COUNT ;UPDATE COUNT IF NOT TOO LONG
BNE 104 ;IN THIS WAIT LOOP, GO BACK

;INTERNAL DIAG FAILED

TRAP C#ERDF
.WORD 25
.WORD MEF3A
.WORD ERR3
TRAP C#ESCAPE
.WORD L10044-.
CMPB #305, BSEL6 ;LEGAL TEST COMPLETE CODE?
BEQ 404
CMPB #264, BSEL6 ;LINE UNIT TEST FAILURE?
BEQ 304

TRAP C#ERDF
.WORD 26
.WORD MEF3A
.WORD ERR3

;UNKNOWN ERROR WHILE INITIALLING
;DMP-11

TRAP C#ESCAPE
.WORD L10044-.

304:
TRAP C#ERDF
.WORD 27
.WORD MEF4
.WORD ERR32
TRAP C#ESCAPE
.WORD L10044-.

;MODULE FAULT

404:
MOVB #RQI, BSEL0 ;SET RQI AND THEN WAIT FOR RDI TO SET.
MOV #ERLB1, ERRADD ;SET UP ERROR ADD.

TLB1:
JSR R5, TOUT
CLR ERRWRD
TRAP C#ESCAPE
.WORD L10044-.

ERLB1:
; TIME OUT ERROR REPORTS THIS ADDRESS

474:
BIT #RDI, BSEL2 ;DID RDI SET?
BEQ TLB1

504:
TRAP C#ESCAPE
.WORD L10044-.

L10044:
TRAP C#ETST

```

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***** TEST 10 *****

```

4286
4287
4288 .SBTTL ***** TEST 11 *****
4289 .SBTTL * MICRO-DIAGNOSTIC-INTERFACE TESTING DMP ONLY
4290 020046 ZZ
4291 ;* DMP ONLY THIS TEST...
4292 ;* THIS TEST WILL EXERCISE THE MICRO-CPU'S INTERFACE TO THE PDP-11
4293 ;* WE FIRST START THE MCPU. NEXT WE GIVE THE COMMAND THAT
4294 ;* TAKES US TO THE INTERFACE DIAGNOSTIC CODE. ONCE THIS CODE IS
4295 ;* STARTED, WE MUST GO THROUGH ALL TESTS. THEREFORE, YOU WILL NOTICE
4296 ;* FIVE DISTINCT TESTS PERFORMED
4297 ;* AT THE END OF THIS TEST, THE MICRO-CODE IS LISTED.
4298 ;* VARIOUS SCOPE POINTS DO EXIST IF YOU NEED THEM. IT IS NOT
4299 ;* COMMON PRACTICE TO USE THEM, HOWEVER, WHERE SOME USE OF THEM
4300 ;* COULD BE MADE, THEY ARE NOTED.
4301 ;*
4302 .SBTTL ***** TEST 11 *****
4303
4304
4305 020046 T11::
4306
4307 020046 032737 000003 002472 BIT #3,OPTYP ;IS THIS DMV
4308 020054 001402 BEQ 10$ ;IF NOT GO TO 10;ELSE
4309 020056 000137 021176 JMP EXMDT ;EXIT TEST
4310 020062 10$:
4311 020062 T98G:
4312 020062 004737 004522 JSR PC,MINITS
4313 ;****
4314 ; JUMP TO END OF TEST IF ERROR
4315 ;!!!
4316 020066 005037 002402 CLR ERRWRD
4317 020072 104410 TRAP C$ESCAPE
4318 020074 001102 .WORD L10045-.
4319 020076 105077 162354 CLR8 $BSEL7
4320 020102 112777 000200 162330 MOVB #DRUN,$BSELO ;REQUEST INTERFACE DIAGNOSTICS
4321 020110 25$:
4322 020110 004537 002732 JSR R5,WRDI ;WAIT FOR RDI TO SET
4323
4324 020114 005037 002402 CLR ERRWRD ;CLEAR ERROR
4325 020120 104410 TRAP C$ESCAPE
4326 020122 001054 .WORD L10045-.
4327 ;!!!!!!
4328 ; TIME OUT OR READY ERROR REPORTS THIS
4329 ; ADDRESS AS FAILING PC
4330 ;!!!!!!
4331 020124 105077 162310 CLR8 $BSELO ;NO MORE REQUESTS.
4332 020130 112777 000022 162316 MOVB #22,$BSEL6 ;DIAGNOSTIC CODE.
4333 020136 105077 162314 CLR8 $BSEL7 ;CLEAR BSEL7
4334 020142 112777 000001 162274 MOVB #1,$BSEL2 ;START.!!
4335
4336 020150 TLB2:
4337 020150 012737 020172 002406 MOV #ERLB2,ERRADD ;SET UP ERROR ADDRESS
4338 020156 004537 005070 JSR R5,TOUT
4339 020162 005037 002402 CLR ERRWRD
4340 020166 104410 TRAP C$ESCAPE
4341 020170 001006 .WORD L10045-.

```

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***** TEST 11 *****

```

4342 020172          ERLB2:
4343                ; TIME OUT ERROR REPORTS THIS ADDRESS
4344                ;
4345                ;
4346 020172 122777 000377 162256 26:  CMPB    #377,8BSEL7  ;LOOK FOR SYNC OF CODE 377 IN LAST REG
4347 020200 001363          BNE      TLB2      ;IF "HANG" OCCURS HERE THEN ITS POSSIBLE
4348                ;THAT EITHER THE DATA PATHS ARE BAD OR
4349                ;THAT THE MCPU FAILED TO START
4350
4351 020202 012737 000377 002336          MOV     #377,8GDDAT  ;EXPECT 377 BACK FROM ALL REGS
4352 020210 013701 002440          MOV     BSEL0,R1      ;EXPECT REG 1 (MAINTENANCE)
4353 020214 012737 000000 002344          MOV     #0,REG
4354 020222 111137 002340 4:  MOV     (R1),8BDDAT  ;READ REG, EXPECT 377
4355 020226 123737 002340 002336          CMPB    8BDDAT,8GDDAT  ;OK?
4356 020234 001412          BEQ     5:      ;YES-CONTINUE
4357 020236 022737 000001 002344          CMP     #1,REG      ;NO ERROR? (EXCEPT REG 1)
4358 020244 001406          BEQ     5:      ;IF REG 1, SKIP
4359
4360 020246 104455          TRAP     C#ERDF
4361 020250 000034          .WORD    28
4362 020252 011242          .WORD    MEFC
4363 020254 007472          .WORD    ERR5
4364 020256 104410          TRAP     C#ESCAPE
4365 020260 000716          .WORD    L10045-.
4366 020262 005237 002344 5:  INC     REG      ;UPDATE REGISTER #
4367 020266 005201          INC     R1      ;AND ADDRESS
4368 020270 023727 002344 000010          CMP     REG, #10    ;DONE ALL REGS?
4369 020276 001351          BNE     4:
4370 020300 105077 162134          CLRB    8BSEL0      ;CAUSES MCPU TO EXIT TSTA
4371
4372
4373                ;TEST B
4374
4375
4376 020304          TLB3:
4377 020304 012737 020326 002406          MOV     #ERLB3,ERRADD  ;SET ERROR ADDRESS
4378 020312 004537 005070          JSR     R5,TOUT
4379 020316 005037 002402          CLR     ERRWRD
4380 020322 104410          TRAP     C#ESCAPE
4381 020324 000652          .WORD    L10045-.
4382 020326          ERLB3:
4383                ; TIME OUT ERROR REPORTS THIS ADDRESS
4384                ;
4385                ;
4386 020326 105777 162124 27:  TSTB    8BSEL7  ;LOOK FOR A ZERO IN BSEL7
4387 020332 001364          BNE     TLB3
4388
4389 020334 005037 002336          CLR     8GDDAT  ;EXPECT ALL ZEROS EXCEPT SBEL1
4390 020340 013701 002440          MOV     BSEL0,R1      ;GET ADDR OF MCPU.
4391 020344 012737 000000 002344          MOV     #0,REG
4392 020352 005037 002340          CLR     8BDDAT
4393 020356 111137 002340 7:  MOV     (R1),8BDDAT  ;READ REG
4394 020362 001412          BEQ     8:      ;IF ZERO-CONTINUE
4395 020364 022737 000001 002344          CMP     #1,REG      ;IF REG #1 CONTINUE
4396 020372 001406          BEQ     8:
4397

```


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;***** TEST 11 *****

4398	020374	104455			TRAP	C#ERDF		
4399	020376	000035			.WORD	29		
4400	020400	011242			.WORD	MEFC		
4401	020402	007472			.WORD	ERR5		
4402	020404	104410			TRAP	C#ESCAPE		
4403	020406	000570			.WORD	L10045-		
4404	020410	005237	002344	8#:	INC	REG		;UPDATE REGISTER #
4405	020414	005201			INC	R1		;AND ADDRESS
4406	020416	122737	000010	002344	CMPB	#10,REG		;DONE ALL REGS (0-7)?
4407	020424	001354			BNE	7#		;NO-DO NEXT ONE
4408								
4409	020426	000404			BR	9#		;REPLACE THIS INSTRUCTION WITH CODE 240
4410								; (NOP) IF YOU WITH TO COOP IN
4411								;TESTS A&B
4412	020430	112777	000200	162002	MOVB	#200,8BSEL0		;ALL MICRO-CODE TO LOOP
4413	020436	000611			BR	T98G		;LOOP
4414								
4415	020440	112777	000377	161772	9#:	MOVB	#377,8BSEL0	;TELL MICRO-CODE TO EXIT TEST B,
4416								;PROCEED TO TEST C.
4417								
4418								
4419					;TEST	C		
4420								:: WAS 8KMRLVL VRG021582
4421	020446	013746	002470		MOV	KMRLVL,-(SP)		
4422	020452	012746	021106		MOV	#INTC0,-(SP)		
4423	020456	013746	002462		MOV	KMRVEC,-(SP)		
4424	020462	012746	000003		MOV	#3,-(SP)		
4425	020466	104437			TRAP	C#SVEC		
4426	020470	062706	000010		ADD	#10,SP		
4427								;INTERRUPT VECTOR
4428								
4429								:: WAS 8KMTLVL VRG021582
4430	020474	013746	002470		MOV	KMTLVL,-(SP)		
4431	020500	012746	021122		MOV	#INTC4,-(SP)		
4432	020504	013746	002464		MOV	KMTVEC,-(SP)		
4433	020510	012746	000003		MOV	#3,-(SP)		
4434	020514	104437			TRAP	C#SVEC		
4435	020516	062706	000010		ADD	#10,SP		
4436								;ILLEGAL INTERRUPT TO WRONG VECTOR
4437								
4438	020522	005037	002334		CLR	IFLAG		
4439	020526	112777	000377	161712	MOVB	#377,8BSEL3		;TELL MICRO-CODE TO FORCE INTERRUPT
4440	020534	012700	000000		MOV	#0,R0		
4441	020540	104441			TRAP	C#SPRI		
4442								
4443	020542				TLB4:			
4444	020542	012737	020564	002406	MOV	#ERL84,ERRADD		;SET UP ERROR ADDRESS
4445	020550	004537	005070		JSR	R5,TOUT		
4446	020554	005037	002402		CLR	ERRWRD		
4447	020560	104410			TRAP	C#ESCAPE		
4448	020562	000414			.WORD	L10045-		
4449	020564				ERL84:			
4450								
4451								; TIME OUT REPORTS THIS ADDRESS
4452								
4453	020564	005737	002334	28#:	TST	IFLAG		;IFLAG=1 SET BY INTERRUPT SERVICE ROUTINE

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;***** TEST 11 *****

```

4454 020570 001764      BEQ      TLB4      ;LOOP UNIT DONE
4455                                     ;NOTE: IF HANGS HERE, MCPU FAILS TO
4456                                     ;GENERATE INTERRUPT TO PDP-11.
4457
4458
4459      ;TEST  D
4460
4461 020572 013746 002470      MOV      KMRLVL, -(SP)
4462 020576 012746 021142      MOV      #INTD0, -(SP)
4463 020602 013746 002462      MOV      KMRVEC, -(SP)
4464 020606 012746 000003      MOV      #3, -(SP)
4465 020612 104437      TRAP      C#SVEC
4466 020614 062706 000010      ADD      #10, SP
4467 020620 013746 002470      MOV      KMTLVL, -(SP)
4468 020624 012746 021162      MOV      #INTD4, -(SP)
4469 020630 013746 002464      MOV      KMTVEC, -(SP)
4470 020634 012746 000003      MOV      #3, -(SP)
4471 020640 104437      TRAP      C#SVEC
4472 020642 062706 000010      ADD      #10, SP
4473
4474 020646 005037 002334      CLR      IFLAG      ;NO INTERRUPT INDICATOR
4475 020652 012700 000000      MOV      #0, R0
4476 020656 104441      TRAP      C#SPRI
4477 020660 105077 161562      CLR      #SEL3      ;TELL MCPU TO INTERRUPT
4478
4479 020664      TLB5:
4480 020664 012737 020706 002406      MOV      #ERLBS,ERRADD ;SET UP ERROR ADDRESS
4481 020672 004537 005070      JSR      R5,TOUT
4482 020676 005037 002402      CLR      ERRWRD
4483 020702 104410      TRAP      C#ESCAPE
4484 020704 000272      .WORD      L10045-.
4485 020706      ERLB5:
4486      ;
4487      ; TIME OUT REPORTS THIS ADDRESS
4488      ;
4489 020706 005737 002334      294:  TST      IFLAG      ;DID MCPU INTERRUPT (IFLAG NOT 0)?
4490 020712 001764      BEQ      TLB5      ;NO - LOOP
4491                                     ;NOTE: IF PROGRAM "HANGS" HERE, MCPU
4492                                     ;FAILED TO INTERRUPT TO VECTOR XX4
4493                                     ;WE KNOW MCPU IS ABLE TO INTERRUPT
4494                                     ;TO XX0 (TEST C)
4495
4496 020714 013700 002462      MOV      KMRVEC,R0
4497 020720 104436      TRAP      C#CVEC
4498 020722 013700 002464      MOV      KMTVEC,R0
4499 020726 104436      TRAP      C#CVEC
4500
4501
4502      ;TEST E NPR TEST
4503
4504
4505 020730 012701 033774      MOV      #DATLST,R1      ;GET DATA LIST
4506 020734 152777 000010 161500      BISB      #BIT3,#SEL1 ;SET INDICATOR THAT WE ARE STILL IN TEST.
4507
4508 020742 011137 002336      TLB6A: MOV      (R1),#GDDAT ;GET NEXT PATTERN
4509 020746 010177 161476      MOV      R1,#SEL4 ;SET NPR IN ADDR

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CZDMTFO DMP/V-11 FCTNL TST #1 MACY11 30A(1052) 08-NOV-84 10:42 PAGE 103
CZDMTF.P11 08-NOV-84 10:38 ;***** TEST 11 *****

4510 020752 012777 002340 161474      MOV      #BDDAT,BSEL6 ;SET NPR OUT ADDR
4511 020760 105077 161454      CLR      BSEL0      ;TELL MCPU TO DO NPRS
4512
4513 020764                                TLB6:
4514 020764 012737 021006 002406      MOV      #ERLB6,ERRADD ;SET ERROR ADDRESS
4515 020772 004537 005070      JSR      R5,TOUT
4516 020776 005037 002402      CLR      ERRWRD
4517 021002 104410      TRAP     C$ESCAPE
4518 021004 000172      .WORD    L10045-.
4519 021006                                ERLB6:
4520
4521                                ; TIME OUT ERROR REPORTS THIS ADDRESS
4522                                ;*****
4523 021006 132777 000010 161426 30$:  BITB     #BIT3,BSEL1 ;DID WE ACCIDENTILY ESCAPE THIS TEST???
4524 021014 001006                                BNE     135$
4525 021016 104455                                TRAP     C$ERDF
4526 021020 000036                                .WORD    30
4527 021022 011456                                .WORD    MEF7
4528 021024 010464                                .WORD    ERR32
4529                                ;UNKNOWN MCPU ERROR CAUSED ABORT OF TEST.
4530 021026 104410                                TRAP     C$ESCAPE
4531 021030 000146                                .WORD    L10045-.
4532 021032                                135$:
4533
4534 021032 122777 000377 161400      CMPB     #377,BSEL0 ;WHEN MCPU DONE, IT PUTS 377 INTO BSEL0
4535 021040 001351                                BNE     TLB6      ;IF WE "HANG" HERE, MCPU FAILS TO DO
4536                                ;EITHER NPR IN OR NPR OUT
4537
4538 021042 023737 002336 002340      CMP      #GDDAT,#BDDAT ;NPRD FRO PATTERN LIST TO #BDDAT
4539                                BEQ      14$      ;DID XFER OCCUR SUCCESSFULLY?
4540 021050 001405                                ;
4541
4542 021052 104455                                TRAP     C$ERDF
4543 021054 000037                                .WORD    31
4544 021056 011242                                .WORD    MEF7
4545 021060 007530                                .WORD    ERR6
4546 021062 104410                                TRAP     C$ESCAPE
4547 021064 000112                                .WORD    L10045-.
4548 021066 022721 000562                                14$:  CMP      #562,(R1); ;IS IT THE LAST PATTERN (562) IS TERM)?
4549 021072 001323                                BNE     TLB6A
4550 021074 112777 000200 161336      MOVB     #200,BSEL0 ;TELL MCPU TO EXIT TEST
4551 021102 104432                                TRAP     C$EXIT
4552 021104 000072                                .WORD    L10045-.
4553
4554 021106                                INTC0::
4555 021106 013700 000006      MOV      6,R0
4556 021112 104441                                TRAP     C$SPRI
4557 021114 005237 002334                                INC      IFLAG
4558 021120                                L10046:
4559 021120 000002                                RTI
4560
4561 021122                                INTC4::
4562 021122 013700 000006      MOV      6,R0
4563 021126 104441                                TRAP     C$SPRI
4564 021130 104455                                TRAP     C$ERDF
4565 021132 000040                                .WORD    32

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;***** TEST 11 *****

4566 021134 011510
4567 021136 010464
4568 021140
4569 021140 000002
4570
4571 021142
4572 021142 013700 000006
4573 021146 104441
4574 021150 104455
4575 021152 000041
4576 021154 011510
4577 021156 010464
4578 021160
4579 021160 000002
4580
4581 021162
4582 021162 013700 000006
4583 021166 104441
4584 021170 005237 002334
4585 021174
4586 021174 000002
4587
4588 021176
4589
4590 021176
4591 021176 104401
4592
4593

.WORD MEF8
.WORD ERR32
L10047:
RTI
INTD0::
MOV 6,R0
TRAP C\$SPRI
TRAP C\$ERDF
.WORD 33
.WORD MEF8
.WORD ERR32
L10050:
RTI
INTD4::
MOV 6,R0
TRAP C\$SPRI
INC IFLAG
L10051:
RTI
EXMDT:
L10045:
TRAP C\$ETST

;CORRECT VECTOR (XX4)

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***** TEST 12 *****

```

4594 .SBTTL ;***** TEST 12 *****
4595 .SBTTL RDI REMAINS SET TEST
4596 021200 ZZ
4597 ;*
4598 ;*ROM FUNCTION TEST      IN THIS TEST, WE'RE GOING TO SET RQI, GET A
4599 ;*                        RDI, DO A CONTROL IN COMMAND WITH A REQUEST
4600 ;*                        KEY OF 00 (NO REQUEST). NEXT WE'LL WAIT
4601 ;*                        FOR RDI TO SET AGAIN SINCE RQI WAS
4602 ;*                        LEFT SET
4603 ;*
4604 .SBTTL ;***** TEST 12 *****
4605 021200 T12::
4606 021200 004737 004522 JSR      PC,MINITS      ;INITIALIZE & START MCPU
4607
4608 021204 005037 002402 CLR      ERRWRD
4609 021210 104410 TRAP     C#ESCAPE
4610 021212 000076 .WORD    L10052-.
4611 ;*
4612 ;* JUMP TO END OF TEST IF ERROR
4613 ;*
4614 021214 7#:
4615 021214 052777 000200 161216 BIS      #RQI,8BSEL0      ;SET RQI
4616 021222 10#:
4617 021222 004537 002732 JSR      R5,WRDI        ;WAIT FOR RDI TO SET
4618
4619 021226 005037 002402 CLR      ERRWRD      ;CLEAR ERROR
4620 021232 104410 TRAP     C#ESCAPE
4621 021234 000054 .WORD    L10052-.
4622 ;*
4623 ;* TIME OUT - OR READY ERROR REPORTS
4624 ;* THIS ADDRESS
4625 ;*
4626 ;*
4627 021236 005077 161212 20#: CLR      8BSEL6      ;CLEAR RDI, ISSUE REQUEST OF NO REQUEST
4628 ;* THIS SHOULD CAUSE RDI TO SET AGAIN
4629 ;* SINCE RQI HAD REMAINED SET
4630 021242 112777 000001 161174 MOVB     #1,8BSEL2      ;START
4631
4632 021250 004737 004244 JSR      PC,WAIT50      ;WAIT THIS SHORT TIME SO THAT THE
4633 021254 004737 004244 JSR      PC,WAIT50      ;DMP MICRO-CODE MAY RESET "RDI" IF
4634 021260 004737 004244 JSR      PC,WAIT50
4635 021264 004737 004244 JSR      PC,WAIT50
4636 ;*
4637 021270 032777 000020 161146 BIT      #RDI,8BSEL2      ;IT IS GOING TO
4638 021276 001004 BNE      30#          ;IS RDI SET?
4639
4640 021300 104455 TRAP     C#ERDF
4641 021302 000042 .WORD    34
4642 021304 011672 .WORD    MRFT
4643 021306 007566 .WORD    ERR9
4644 ;*
4645 ;* COMPLETING A "NO REQUEST" CONTROL
4646 ;* IN COMMAND
4646 021310 30#:
4647 021310 L10052:
4648 021310 104401 TRAP     C#ETST

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***** TEST 12 *****

```

4649
4650 .SBTTL ;***** TEST 13 *****
4651 .SBTTL ;ROM FUNC TEST. VERIFY RDO SETS
4652 021312 ZZ
4653 ;ROM FUNC IN THIS TEST WE'LL DO A CONTROL IN WITH
4654 ; READ MODEM AS THE REQUEST KEY. WE'LL MAKE
4655 ; SURE THAT RDO SETS. WE SHOULD GET A
4656 ; RETURN KEY OF 10 "RETURN MODEM"
4657 ;
4658 .SBTTL ;***** TEST 13 *****
4659 021312 T13::
4660
4661 021312 004737 004522 JSR PC,MINITS ;INIT & START MCPU
4662
4663 021316 005037 002402 CLR ERRWRD
4664 021322 104410 TRAP C#ESCAPE
4665 021324 000174 .WORD L10053-.
4666
4667 ; JUMP TO END OF TEST IF ERROR
4668 ;
4669
4670 021326 052777 000200 161104 BIS #RQI,8BSEL0 ;SET REQUEST IN
4671 021334 004537 002732 JSR R5,WRDI ;WAIT FOR RDI TO SET
4672
4673 021340 005037 002402 CLR ERRWRD ;CLEAR ERROR
4674 021344 104410 TRAP C#ESCAPE
4675 021346 000152 .WORD L10053-.
4676
4677 ; TIME OUT OR READY ERROR REPORTS
4678 ; THIS ADDRESS AS FAILING PC
4679 ;
4680 021350 042777 000200 161062 201: BIC #RQI,8BSEL0 ;DROP REQUEST
4681 021356 012777 000020 161070 MOV #20,8BSEL6 ;READ MODEM
4682 021364 112777 000001 161052 MOVB #1,8BSEL2
4683
4684 021372 004737 004244 JSR PC,WAIT50 ;STALL
4685 021376 004737 004244 JSR PC,WAIT50
4686
4687 021402 032777 000200 161034 BIT #RDO,8BSEL2 ;DID "RDO" SET?
4688 021410 001006 BNE 301
4689
4690 021412 104455 TRAP C#ERDF
4691 021414 000043 .WORD 35
4692 021416 011672 .WORD MRFT
4693 021420 007614 .WORD ERR10
4694
4695 021422 104410 TRAP C#ESCAPE ;REQUEST FOR READ MODEM
4696 021424 000074 .WORD L10053-.
4697
4698 021426 117737 161012 002340 301: MOVB 8BSEL2, #BDOAT ;NOW GET CSR AND
4699 021434 042737 177770 002340 BIC #C<7>, #BDOAT ;STRIP FOR
4700 021442 012737 000002 002336 MOV #2, #GDOAT ;TYPE CODE OF INFORMATION OUT
4701 021450 023737 002336 002340 CMP #GDOAT, #BDOAT
4702 021456 001411 BEQ 401
4703 021460 012737 012051 002430 MOV #M28F,CODEW
4704 021466 104455 TRAP C#ERDF

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;***** TEST 13 *****

4705	021470	000044			.WORD	36	
4706	021472	011550			.WORD	EROIC	
4707	021474	010366			.WORD	ERR27	
4708							;IN RDO
4709	021476	104410			TRAP	C#ESCAPE	
4710	021500	000020			.WORD	L10053-	
4711							
4712	021502			404:			
4713	021502	112737	000010	002336	MOVB	#10, #GDDAT	;SHOULD=10 "RETURN MODEM"
4714	021510	004537	003372		JSR	R5,GETRKY	;GO GET AND CHECK RETURN KEY
4715							
4716	021514	005037	002402		CLR	ERRWRD	
4717	021520						
4718	021520	104401			L10053:	TRAP	C#ETST

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***** TEST 14 *****

```

4719      .SBTTL      ;***** TEST 14 *****
4720      .SBTTL      ;NON-MODE DEF AFTER MC PROCEDURE ERR CHECK
4721      021522      ZZ
4722      ;*
4723      ;*
4724      ;* THIS TEST CHECKS FOR PROCEDURE ERROR WHEN
4725      ;* NON-MODE DEFINITION IS DONE AFTER MC
4726      ;*
4727      ;*-
4728      .SBTTL      ;***** TEST 14 *****
4729      021522      T14::
4730
4731      021522      112777      000100      160712      MOVB      #100,88SEL1      ;MASTER CLEAR
4732      021530      022737      000004      002472      CMP      #4,OPTYP      ;8206
4733      021536      001003      BNE      TLB10      ;IF NOT GO TO TLB10
4734      021540      112777      000200      160674      MOVB      #200,88SEL1      ;SET RUN 8206
4735
4736      021546      TLB10:
4737      021546      004537      005070      JSR      R5,TOUT
4738      021552      005037      002402      CLR      ERRWRD
4739      021556      104410      TRAP      C1ESCAPE
4740      021560      000204      .WORD      L10054-.
4741
4742      021562      ERLB10:
4743      021562      005777      160652      TST      88SELO
4744      021566      100367      BPL      TLB10      ;LOOP IF NOT RUN
4745      021570      052777      000200      160642      BIS      #RQI,88SELO      ;SET REQUEST
4746      021576      004537      002732      JSR      R5,WRDI      ;WAIT FOR RDI TO SET
4747
4748      021602      005037      002402      CLR      ERRWRD      ;CLEAR ERROR
4749      021606      104410      TRAP      C1ESCAPE
4750      021610      000154      .WORD      L10054-.
4751      021612      105077      160622      CLRB      88SELO      ;CLEAR REQUEST
4752      021616      105077      160624      CLRB      88SEL3      ;MAKE TRIB ADD 0
4753      021622      112777      000052      160624      MOVB      #52,88SEL6      ;READ TSS
4754      021630      112777      000001      160606      MOVB      #01,88SEL2      ;EXECUTE CONTROL IN
4755      021636      004537      002646      JSR      R5,WRDO      ;WAIT FOR RDO
4756      021642      005037      002402      CLR      ERRWRD
4757      021646      104410      TRAP      C1ESCAPE
4758      021650      000114      .WORD      L10054-.
4759      021652      117737      160566      002340      MOVB      88SEL2,18DDAT
4760      021660      042737      177770      002340      BIC      #1C<7>,18DDAT      ;STRIP TO COMMAND CODE
4761      021666      022737      000002      002340      CMP      #2,18DDAT      ;IS IT INFO OUT
4762      021674      001433      BEQ      T14EX      ;IF YES EXIT TEST
4763      021676      022737      000001      002340      CMP      #01,18DDAT      ;IF NOT IS IT CONTROL OUT
4764      021704      001411      BEQ      T14A
4765      021706      012737      012042      002430      MOV      #M18F,CODEW
4766      021714      104455      TRAP      C1ERDF
4767      021716      000045      .WORD      37
4768      021720      011550      .WORD      EROIC
4769      021722      010366      .WORD      ERR27
4770      021724      104410      TRAP      C1ESCAPE
4771      021726      000036      .WORD      L10054-.
4772      021730      T14A:
4773      021730      117737      160520      002340      MOVB      88SEL6,18DDAT
4774      021736      022737      000100      002340      CMP      #100,18DDAT      ;IS IT 100

```


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```
***** TEST 14 *****
```

Address	Offset	Value	Label	Instruction	Comment
4775	021744	001407		BEQ	T14EX
4776	021746	012737	012024 002430	MOV	#M13F, CODEW
4777	021754	104455		TRAP	C#ERDF
4778	021756	000046		.WORD	38
4779	021760	011550		.WORD	EROIC
4780	021762	010366		.WORD	ERR27
4781	021764		T14EX:		
4782	021764		L10054:		
4783	021764	104401		TRAP	C#ETST
4784					

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***** TEST 14 *****

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4785
4786 .SBTTL ;***** TEST 15 *****
4787 .SBTTL ; MODE DEF,MODE DEF PROCEDURE ERROR
4788 021766 ZZ
4789 ;*
4790 ;*
4791 ;*
4792 ;* THIS TEST CHECKS THAT AFTER THE SEQUENCE OF
4793 ;* MASTER CLEAR MODE DEF FOLLOWED BY MODE DEF
4794 ;* DIFFERENT TYPE PRODUCES A PROCEDURE ERROR OF
4795 ;* OCTAL 104
4796 ;*
4797 ;*
4798 .SBTTL ;***** TEST 15 *****
4799 021766 T15::
4800
4801 021766 004737 004522 JSR PC,MINITS ;DO MC,MODE DEF(CONT STA/FD)
4802
4803
4804 021772 005037 002402 CLR ERRWRD
4805 021776 104410 TRAP C#ESCAPE
4806 022000 000174 .WORD L10055-.
4807
4808 ;!!!!
4809 ; JUMP TO END OF TEST IF ERROR
4810 022002 004737 004244 JSR PC,WAIT50 ;WAIT A WHILE TO BE SURE MODEM READY
4811 ;IS SET
4812 022006 004737 004244 JSR PC,WAIT50
4813 022012 142777 000010 160422 BICB #BIT3,#BSSEL1 ;CLEAR LU LOOP
4814 022020 022737 000004 002476 CMP #4,TSTCON ;IS THIS NO LOOPBACK
4815 022026 001027 BNE 20# ;IF LOOPBACK GO TO 20
4816 022030 032777 000200 160406 BIT #RDO,#BSSEL2 ;IS RDO SET?
4817 022036 001423 BEQ 20# ;IF NOT GO TO 20
4818 022040 012737 000304 002336 MOV #304,#GDDAT
4819 022046 117737 160402 002340 MOVB #BSSEL6,#BDDAT ;IF YES.IS IT 304
4820 022054 023737 002340 002336 CMP #BDDAT,#GDDAT
4821 022062 001406 BEQ 25# ;IF EQUAL GO TO 25
4822 022064 104455 TRAP C#ERDF
4823 022066 000047 .WORD 39
4824 022070 012560 .WORD MEF30
4825 022072 010464 .WORD ERR32
4826 022074 104432 TRAP C#EXIT
4827 022076 000076 .WORD L10055-.
4828 022100
4829 022100 042777 000200 160336 25#: BIC #RDO,#BSSEL2 ;CLEAR RDO
4830 022106 052777 000200 160324 20#: BIS #RQI,#BSSEL0 ;SET REQUEST
4831 022114 004537 002732 JSR R5,WRDI ;WAIT FOR RDI TO SET
4832
4833 022120 005037 002402 CLR ERRWRD ;CLEAR ERROR
4834 022124 104410 TRAP C#ESCAPE
4835 022126 000046 .WORD L10055-.
4836 022130 043777 000200 160302 BIC RQI,#BSSEL0 ; CLEAR REQUEST
4837 022136 012777 000007 160310 MOV #7,#BSSEL6 ;SET MODE FOR TRIB/FD
4838 022144 012777 000002 160272 MOV #02,#BSSEL2 ;DO MODE DEF
4839 022152 012737 000104 002410 MOV #104,PERR ;SET PROCEDURE ERROR OF
4840 ; 104 TO BE CHECKED

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CZDMTF.P11 08-NOV-84 10:38 ;***** TEST 15 *****

4841	022160	004537	003016	JSR	R5,WFPE	;WAIT FOR PROCEDURE ERROR
4842						
4843	022164	005037	002402	CLR	ERRWRD	
4844	022170	104410		TRAP	C#ESCAPE	
4845	022172	000002		.WORD	L10055-	
4846				!!!!!!		
4847				; ESCAPE TEST IF ERROR		
4848				!!!!!!		
4849						; ERROR,OR TIME OUT.
4850						
4851	022174			L10055:		
4852	022174	104401		TRAP	C#ETST	

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***** TEST 15 *****

```

4853
4854 .SBTTL ***** TEST 16 *****
4855 .SBTTL * MODE DEF ,MODE DEF CHANGE DUPLEX ONLY.
4856 022176 22
4857 ;*
4858 ;*
4859 ;* THIS CHECKS THAT YOU CAN CHANGE THE DUPLEX PORTION
4860 ;* OF A MODE DEF
4861 ;*
4862 ;*-
4863 .SBTTL ***** TEST 16 *****
4864 022176 T16::
4865
4866 022176 004737 004522 JSR PC,MINITS ;MC,MODE DEF(CONT/FD)
4867 022202 004737 004244 JSR PC,WAIT50 ;DELAY
4868
4869 022206 005037 002402 CLR ERRWRD
4870 022212 104410 TRAP C$ESCAPE
4871 022214 000236 .WORD L10056-.
4872
4873 ; JUMP TO END OF TEST IF ERROR
4874
4875 022216 022737 000002 002476 CMP #2,TSTCON ;IS IT LOCAL MODEM *****JPB
4876 022224 001004 BNE 1$ ;NO, BR AND TRY REMOTE *****JPB
4877 022226 012704 000110 MOV #110,R4 ;YES, SET DTR AND MAINT1 *****JPB
4878 022232 000137 022252 JMP 100$ ;SET IT *****JPB
4879
4880 022236 022737 000003 002476 1$: CMP #3,TSTCON ;IS IT REMOTE MODEM
4881 022244 001011 BNE 2$ ;IF NOT THEN GO TO 2A
4882 022246 012704 000104 MOV #104,R4 ;SET DTR AND MAINT2
4883 022252 100$:
4884 022252 012703 000021 MOV #21,R3
4885 022256 004537 003162 JSR R5,CONTIN ; WRITE MODEM WITH CORRECT
4886 ; TYPE OF LOOP CODE
4887 022262 005737 002402 TST ERRWRD
4888 022266 100471 BMI 10$ ;EXIT IF ERROR
4889
4890 022270 004737 004244 2$: JSR PC,WAIT50 ;LET IT SETTLE. **JPB
4891 022274 142777 000010 160140 BICB #BIT3,88SEL1 ;CLEAR LU LOOP
4892
4893 JSR PC,WAIT50 ;WAIT A WHILE
4894 JSR PC,WAIT50
4895 022302 004737 004244 CMP #4,TSTCON
4896 022312 001020 BNE 20$ ;IF LOOPBACK GO TO 20
4897 022322 032777 000200 160114 BIT #RD0,88SEL2 ;ELSE SEE IF READY OUT
4898 022330 001414 BEQ 20$ ;IF NOT GO TO 20
4899 022332 012737 000304 002410 MOV #304,PERR
4900 022340 004537 003016 JSR R5,WFPE ;WAIT FOR PROCEDURE ERROR
4901
4902 022344 005037 002402 CLR ERRWRD
4903 022350 104410 TRAP C$ESCAPE
4904 022352 000100 .WORD L10056-.
4905
4906 ;*****
4907 ; ESCAPE TEST IF ERROR
4908 022354 042777 000200 160062 BIC #RD0,88SEL2 ;CLEAR OUTPUT

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CZDMTF0 DMP/V-11 FCTNL TST #1 MACY11 30A(1052) 08-NOV-84 10:42 PAGE 113
 CZDMTF.P11 08-NOV-84 10:38 ;***** TEST 16 *****

```

4909 022362 052777 000200 160050 204: BIS #RQI,8BSEL0 ;SET REQUEST
4910 022370 004537 002732 JSR R5,WRDI ;WAIT FOR RDI TO SET
4911
4912 022374 005037 002402 CLR ERRWRD ;CLEAR ERROR
4913 022400 104410 TRAP C#ESCAPE
4914 022402 000050 .WORD L10056-
4915
4916 ;*****
4917 ; TIME OUT OR READY ERRORS REPORT THIS PC
4918 022404 043777 000200 160026 BIC RQI,8BSEL0 ;NO MORE REQUESTS
4919 022412 112777 000004 160034 MOVB #04,8BSEL6 ;CONT/FD FOR MODE
4920 022420 112777 000002 160016 MOVB #02,8BSEL2 ;DO MODE DEF
4921 022426 004737 004244 JSR PC,WAIT50 ;DELAY A WHILE
4922 022432 032777 000200 160004 BIT #RDO,8BSEL2 ;IS RDO SET
4923 022440 001404 BEQ 104 ;BRANCH IF NOT
4924 022442 104455 TRAP C#ERDF
4925 022444 000050 .WORD 40
4926 022446 012560 .WORD MEF30
4927 022450 010464 .WORD ERR32
4928
4929 022452 104:
4930 022452 104401 L10056: TRAP C#ETST
4931

```

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***** TEST 17 *****

```

4932 .SBTTL ;***** TEST 17 *****
4933 .SBTTL ;ROM FUNC. TEST. VERIFY THAT MAX TRIBS CAN BE ESTABLISHED
4934 022454 ZZ
4935 ;ROM FUNCTION TEST-ESTABLISHING TRIBS-
4936 ;* THIS TEST WILL ESTABLISH MAX TRIBS
4937 ;* THEN TRY TO ESTABLISH MAX+1 TRIBS
4938 ;* AND CHECK FOR PROCEDURE ERROR.
4939 ;* THE TEST ALSO CHECKS FOR PROCEDURE
4940 ;* ERROR WHEN TRYING TO ESTABLISH AN
4941 ;* ALREADY ESTABLISHED TRIB.
4942 ;*
4943 .SBTTL ;***** TEST 17 *****
4944
4945 022454 T17::
4946 022454 012737 000040 002362 MOV #32.,TRIBMX ;SET MAX TRIB TO 32
4947 022462 032737 000003 002472 BIT #3,OPTYP ;IS THIS DMV
4948 022470 001403 BEQ XX ;IF NOT BRANCH
4949 022472 012737 000014 002362 MOV #12.,TRIBMX ;ELSE SET THE MAX TO 12
4950 022500 XX:
4951
4952 022500 112737 000161 002360 MOVB #161,TRIBN ;NUMBER OF TRIBUTARY,
4953 022506 112737 000161 002364 MOVB #161,TRIBH ;START TRIB HIGH AT SAME AS TRIBN
4954 022514 063737 002362 002364 ADD TRIBMX,TRIBH ;ADD MAX NUMBER OF TRIBS TO TRIBH
4955
4956 022522 004737 004522 JSR PC,MINITS ;INITIALIZE
4957
4958 022526 005037 002402 CLR ERRWRD
4959 022532 104410 TRAP C$ESCAPE
4960 022534 000150 .WORD L10057-.
4961
4962 ;*****
4963 ; JUMP TO END OF TEST IF ERROR
4964 ;*****
4965 022536 30$:
4966 022536 112703 000001 MOVB #01,R3 ;SET ESTABLISH TRIB
4967 022542 004537 003162 JSR R5,CONTIN ;
4968 ;*****
4969 ; READY OR TIME OUT ERRORS REPORT THIS PC
4970 ;*****
4971 022546 005037 002402 CLR ERRWRD
4972 022552 104410 TRAP C$ESCAPE
4973 022554 000130 .WORD L10057-.
4974
4975 ;*****
4976 ; JUMP TO END OF TEST IF ERROR
4977 ;*****
4978 022556 005237 002360 INC TRIBN ;UPDATE TRIB#
4979 022562 023737 002364 002360 CMP TRIBH, TRIBN ;ONLY ALLOW MAX TRIBS TO BE SET
4980 022570 001362 BNE 30$
4981 022572 37$:
4982 022572 112703 000001 MOVB #01, R3 ;ESTABLISH MAX +1 TRIBS
4983 022576 004537 003162 JSR R5,CONTIN ; DO IT
4984
4985 ;*****
4986 ; READY OR TIME OUT ERRORS REPORT THIS PC
4987 ;*****

```

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;***** TEST 17 *****

```

4988 022602 005037 002402      CLR      ERRWRD
4989 022606 104410      TRAP      C#ESCAPE
4990 022610 000074      .WORD      L10057-.
4991                               ;*****
4992                               ; JUMP TO END OF TEST IF ERROR
4993                               ;*****
4994
4995 022612 012737 000114 002410  MOV      #114,  PERR      ;SHOULD READ 114, PROCEDURE ERROR
4996                               ;TRYING TO ESTABLISH MAX+1 TRIBUTARIES
4997
4998 022620 004537 003016      JSR      R5,WFPE      ;WAIT FOR PROCEDURE ERROR
4999
5000 022624 005037 002402      CLR      ERRWRD
5001 022630 104410      TRAP      C#ESCAPE
5002 022632 000052      .WORD      L10057-.
5003                               ;*****
5004                               ; ESCAPE TEST IF ERROR
5005                               ;*****
5006 022634                               60$:
5007 022634 042777 000200 157602  BIC      #RDO,SBSEL2      ;CLEAR RDO
5008 022642 005337 002360      DEC      TRIBN      ;DEC TRIB NUMBER
5009 022646 112703 000001      MOV      #01,  R3      ;SET ESTABLISH TRIB
5010 022652 004537 003162      JSR      R5,CONTIN      ;DO IT
5011                               ;*****
5012                               ;: READY OR TIME OUT ERRORS REPORT THIS PC
5013                               ;*****
5014
5015 022656 005037 002402      CLR      ERRWRD
5016 022662 104410      TRAP      C#ESCAPE
5017 022664 000020      .WORD      L10057-.
5018                               ;*****
5019                               ; JUMP TO END OF TEST IF ERROR
5020                               ;*****
5021
5022 022666 112737 000116 002410  MOV      #116,  PERR      ;SHOULD BE PROCEDURE ERROR
5023                               ; OF 116 ESTABLISH ALREADY
5024                               ;ESTABLISHED TRIB.
5025 022674 004537 003016      JSR      R5,WFPE      ;GO CHECK FOR PROCEDURE ERROR
5026 022700 005037 002402      CLR      ERRWRD
5027 022704                               70$:
5028 022704                               L10057:
5029 022704 104401      TRAP      C#ETST
5030

```

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;***** TEST 18 *****

```

5031      .SBTTL ;***** TEST 18 *****
5032      .SBTTL * READ/WRITE TSS TEST
5033 022706      ZZ
5034      ;*
5035      ;*
5036      ;* THIS TEST CHECKS THAT A TRIB STATUS SLOT CAN
5037      ;* BE WRITTEN AND READ
5038      ;*
5039      ;*-
5040      .SBTTL ;***** TEST 18 *****
5041 022706      T18::
5042 022706 012737 000030 002412      MOV      #30,TSSADD      ;START ADD AT 30
5043 022714 005002      NEWSLT: CLR      R2              ;CLEAR R2
5044
5045 022716 004737 004522      NEWPAT: JSR      PC,MINITS      ;MASTER CLEAR MODE DEF
5046
5047 022722 005037 002402      CLR      ERRWRD
5048 022726 104410      TRAP      C#ESCAPE
5049 022730 000240      .WORD      L10060-.
5050      ;*****
5051      ; JUMP TO END OF TEST IF ERROR
5052      ;*****
5053
5054 022732 012737 000055 002360      MOV      #55,TRIBN      ;PUT 55 IN TRIB NUMBER
5055 022740 012703 000001      MOV      #01,R3              ;THIS WILL ESTABLISH
5056 022744 004537 003162      JSR      R5,CONTIN      ; A TRIB
5057      ;*****
5058      ; TIME OUT AND READY ERRORS REPORT THIS PC
5059      ;*****
5060
5061 022750 005037 002402      CLR      ERRWRD
5062 022754 104410      TRAP      C#ESCAPE
5063 022756 000212      .WORD      L10060-.
5064      ;*****
5065      ; JUMP TO END OF TEST IF ERROR
5066      ;*****
5067
5068 022760 016204 033774      MOV      DATLST(R2),R4      ;PATTERN TO BE WRITTEN
5069 022764 013703 002412      MOV      TSSADD,R3          ;WRITE TO TSS
5070 022770 052703 000200      BIS      #BIT7,R3          ;SET THE WRITE BIT
5071 022774 004537 003162      JSR      R5,CONTIN      ; GO DO IT!!!
5072      ;*****
5073      ; TIME OUT AND READY ERRORS REPORT THIS PC
5074      ;*****
5075
5076 023000 005037 002402      CLR      ERRWRD
5077 023004 104410      TRAP      C#ESCAPE
5078 023006 000162      .WORD      L10060-.
5079      ;*****
5080      ; JUMP TO END OF TEST IF ERROR
5081      ;*****
5082
5083 023010 013703 002412      MOV      TSSADD,R3          ;SET UP TO READ SLOT
5084 023014 052703 000040      BIS      #BIT5,R3          ;SET THE READ BIT
5085 023020 004537 003162      JSR      R5,CONTIN      ;DO CONTROL IN
5086      ;*****

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;***** TEST 18 *****

```

5087      ; TIME OUT AND READY ERRORS REPORT THIS PC
5088      ;*****
5089
5090 023024 005037 002402      CLR      ERRWRD
5091 023030 104410      TRAP     C#ESCAPE
5092 023032 000136      .WORD    L10060-
5093      ;*****
5094      ; JUMP TO END OF TEST IF ERROR
5095      ;*****
5096 023034 012737 000002 002336  MOV     #02,$GDDAT      ; COMPARE FOR A INFO OUT
5097 023042 004537 003242      JSR      R5,GETOUT      ; CHECK FOR INFO OUT AND
5098      ;CORRECT TRIB NO. IF ERROR
5099      ;REPORT THIS PC.
5100 023046 005037 002402      CLR      ERRWRD
5101 023052 104410      TRAP     C#ESCAPE
5102 023054 000114      .WORD    L10060-.
5103      ;*****
5104      ; JUMP TO END OF TEST IF ERROR
5105      ;*****
5106
5107 023056 013737 002412 002336  MOV     TSSADD,$GDDAT    ;MOVE EXPECTED ADDRESS TO GDDAT
5108 023064 052737 000040 002336  BIS      #BIT5,$GDDAT    ;SET THE READ TSS BIT IN EXPECTED
5109 023072 004537 003372      JSR      R5,GETRKY      ; GO CHECK FOR GOOD RETURN KEY
5110
5111 023076 005037 002402      CLR      ERRWRD
5112 023102 104410      TRAP     C#ESCAPE
5113 023104 000064      .WORD    L10060-.
5114      ;*****
5115      ; JUMP TO END OF TEST IF ERROR
5116      ;*****
5117
5118 023106 016237 033774 002336 30$: MOV     DATLST(R2),$GDDAT    ;MOVE EXPECTED PATTERN
5119 023114 004537 003446      JSR      R5,GETDAT      ;GET DATA RETURNED.
5120      ;IF ERROR REPORT THIS PC.
5121 023120 005037 002402      CLR      ERRWRD
5122 023124 104410      TRAP     C#ESCAPE
5123 023126 000042      .WORD    L10060-.
5124      ;*****
5125      ; JUMP TO END OF TEST IF ERROR
5126      ;*****
5127
5128 023130 022762 000562 033774      CMP     #562,DATLST(R2) ;ARE WE DONE WITH PATTERN
5129 023136 001404      BEQ      50$      ;IF SO DO NEXT SLOT
5130 023140 062702 000002      ADD     #2,R2      ;BUMP LIST POINTER
5131 023144 000137 022716      JMP     NEWPAT      ;GO BACK FOR THIS PATTERN.
5132 023150 022737 000037 002412 50$: CMP     #37,TSSADD      ;IS THIS THE LAST SLOT
5133 023156 001404      BEQ      60$      ;IF SO END TEST
5134 023160 005237 002412      INC     TSSADD      ;ELSE BUMP ADD
5135 023164 000137 022714      JMP     NEWSLT      ; AND DO NEXT SLOT
5136 023170      60$:
5137
5138 023170      L10060:
5139 023170 104401      TRAP     C#ETST
5140

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;***** TEST 19 *****

```

5141 .SBTTL ;***** TEST 19 *****
5142 .SBTTL *WRITE RESERVED AREA OF TSS. P.E. 132
5143 023172 ZZ
5144 ;*
5145 ;*
5146 ;* THIS TEST CHECKS FOR PROCEDURE ERROR
5147 ;* ON WRITING TO ILLEGAL SLOT
5148 ;*
5149 ;*-
5150 .SBTTL ;***** TEST 19 *****
5151
5152 023172 T19::
5153 023172 004737 004522 JSR PC,MINITS ;MASTER CLEAR MODE DEF
5154
5155 023176 005037 002402 CLR ERRWRD
5156 023202 104410 TRAP C$ESCAPE
5157 023204 000072 .WORD L10061-.
5158
5159 ;*****
5160 ; JUMP TO END OF TEST IF ERROR
5161 ;*****
5162
5163 023206 012737 000022 002360 MOV #22,TRIBN ;SET TRIB NUMBER TO 22
5164 023214 012703 000001 MOV #01,R3
5165 023220 004537 003162 JSR R5,CONTIN ;ESTABLISH TRIB
5166
5167 ;*****
5168 ; TIME OUT OR READY ERRORS REPORT THIS PC
5169 ;*****
5170
5171 023224 005037 002402 CLR ERRWRD
5172 023230 104410 TRAP C$ESCAPE
5173 023232 000044 .WORD L10061-.
5174
5175 ;*****
5176 ; JUMP TO END OF TEST IF ERROR
5177 ;*****
5178
5179 023234 012703 000204 MOV #204,R3 ;SEL6*204
5180 023240 004537 003162 JSR R5,CONTIN ;WRITE TSS (ILLEGAL)
5181
5182 ;*****
5183 ; TIME OUT OR READY ERROR REPORT THIS PC
5184 ;*****
5185
5186 023244 005037 002402 CLR ERRWRD
5187 023250 104410 TRAP C$ESCAPE
5188 023252 000024 .WORD L10061-.
5189
5190 ;*****
5191 ; JUMP TO END OF TEST IF ERROR
5192 ;*****
5193
5194 023254 012737 000132 002410 MOV #132,PERR ;CHECK FOR PROCEDURE ERROR
5195
5196 023262 004537 003016 JSR R5,WFPE ;WAIT FOR PROCEDURE ERROR

```


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;..... TEST 19

5197
5198 023266 005037 002402
5199 023272 104410
5200 023274 000002
5201
5202
5203
5204
5205 023276
5206 023276 104401
5207

CLR ERRWRD
TRAP C:ESCAPE
.WORD L10061-
; ; ; ; ;
; ESCAPE TEST IF ERROR
; ; ; ; ;
L10061:
TRAP C:ETST

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***** TEST 20 *****

```

5208 .SBTTL ***** TEST 20 *****
5209 .SBTTL *READ CLEAR WRONG ADD P.E.132
5210 023300 ZZ
5211 ;*
5212 ;*
5213 ;* THIS TEST CHECKS FOR PROCEDURE ERROR
5214 ;* FOR RD/CLR TSS WRONG ADD(132)
5215 ;*
5216 ;*
5217 .SBTTL ***** TEST 20 *****
5218 T20::
5219 023300 004737 004522 JSR PC,MINITS ;MASTER CLEAR MODE DEF
5220 023304 005037 002402 CLR ERRWRD
5221 023310 104410 TRAP C$ESCAPE
5222 023312 000072 .WORD L10062-.
5223 ;*****
5224 ; JUMP TO END OF TEST IF ERROR
5225 ;*****
5226
5227 023314 012737 000077 002360 MOV #77,TRIBN ;MAKE TRIBN 77
5228 023322 012703 000001 MOV #01,R3 ;ESTABLISH TRIB
5229 023326 004537 003162 JSR R5,CONTIN
5230 ;*****
5231 ; TIME OUT OR READY ERROR REPORTS THIS PC
5232 ;*****
5233
5234 023332 005037 002402 CLR ERRWRD
5235 023336 104410 TRAP C$ESCAPE
5236 023340 000044 .WORD L10062-.
5237 ;*****
5238 ; JUMP TO END OF TEST IF ERROR
5239 ;*****
5240
5241 023342 012703 000106 MOV #106,R3
5242 023346 004537 003162 JSR R5,CONTIN ;READ/CLEAR ADD 6
5243 ;*****
5244 ; TIME OUT OR READY ERRORS REPORT THIS PC
5245 ;*****
5246
5247 023352 005037 002402 CLR ERRWRD
5248 023356 104410 TRAP C$ESCAPE
5249 023360 000024 .WORD L10062-.
5250 ;*****
5251 ; JUMP TO END OF TEST IF ERROR
5252 ;*****
5253 023362 012737 000132 002410 MOV #132,PERR ;SET PROCEDURE ERROR TO BE CHECKED TO 132
5254 023370 004537 003016 JSR R5,WFPE ;WAIT FOR PROCEDURE ERROR
5255
5256 023374 005037 002402 CLR ERRWRD
5257 023400 104410 TRAP C$ESCAPE
5258 023402 000002 .WORD L10062-.
5259 ;*****
5260 ; ESCAPE TEST IF ERROR
5261 ;*****
5262 023404 L10062: TRAP C$ETST
5263 023404 104401

```

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;***** TEST 20 *****

```

5264
5265      .SBTTL ;***** TEST 21 *****
5266      .SBTTL ;READ/CLEAR TSS
5267 023406      ZZ
5268              ;*
5269              ;*
5270              ;* THIS TEST THAT READ CLEAR WORKS
5271              ;*
5272              ;*-
5273      .SBTTL ;***** TEST 21 *****
5274
5275 023406      T21::
5276 023406 004737 004522      JSR      PC,MINITS      ;MASTER CLEAR MODE-DEF
5277
5278 023412 005037 002402      CLR      ERRWRD
5279 023416 104410      TRAP     C#ESCAPE
5280 023420 000100      .WORD    L10063-.
5281
5282              ;*****
5283              ; JUMP TO END OF TEST IF ERROR
5284              ;*****
5285
5286 023422 012737 000003 002360      MOV     #03,TRIBN      ;SET TRIB NUMBER
5287 023430 012703 000001      MOV     #01,R3
5288 023434 004537 003162      JSR      R5,CONTIN      ;ESTABLISH TRIB
5289
5290              ;*****
5291              ; TIME OUT OR READY ERRORS REPORT THIS PC
5292              ;*****
5293
5294 023440 005037 002402      CLR      ERRWRD
5295 023444 104410      TRAP     C#ESCAPE
5296 023446 000052      .WORD    L10063-.
5297
5298              ;*****
5299              ; JUMP TO END OF TEST IF ERROR
5300              ;*****
5301
5302 023450 012703 000107      MOV     #107,R3
5303 023454 004537 003162      JSR      R5,CONTIN      ;READ/CLEAR ADD 7
5304
5305              ;*****
5306              ; TIME OUT OR READY ERRORS REPORT THIS PC
5307              ;*****
5308
5309 023460 005037 002402      CLR      ERRWRD
5310 023464 104410      TRAP     C#ESCAPE
5311 023466 000032      .WORD    L10063-.
5312
5313              ;*****
5314              ; JUMP TO END OF TEST IF ERROR
5315              ;*****
5316
5317 023470 004737 004244      JSR      PC,WAIT50
5318 023474 004737 004244      JSR      PC,WAIT50      ;DELAY
5319

```

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CZDMTF.P11 08-NOV-84 10:38 ;*****-***** TEST 21 *****

5320	023500	032777	000200	156736	BIT	0R00,08SEL2	
5321	023506	001004			BNE	104	,IF R00 THEN END ELSE ERROR
5322							
5323	023510	104455			TRAP	C#ERDF	
5324	023512	000051			.WORD	41	
5325	023514	011672			.WORD	MRFT	
5326	023516	007614			.WORD	ERR10	
5327	023520						
5328	023520						
5329	023520	104401					

104:
L10063:

					TRAP	C#ETST	
--	--	--	--	--	------	--------	--

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***** TEST 22 *****

```

5330 .SBTTL ***** TEST 22 *****
5331 .SBTTL *GLOBAL STATUS SLOT TESTS
5332 023522 ZZ
5333 ;*
5334 ;* THIS TEST CHECKS THAT GLOBAL STATUS
5335 ;* SLOTS RESPOND TO COMMANDS
5336 ;*
5337 ;*-
5338 .SBTTL ***** TEST 22 *****
5339 023522 T22::
5340
5341 023522 T22.1:
5342 023522 104402 TRAP CIBSUB
5343 ;*****
5344 ; READ ALL SLOTS TEST ;
5345 ;*****
5346
5347 023524 005037 002412 CLR TSSADD ;CLEAR ADD
5348 023530 005037 002360 CLR TRIBN ;MAKE TRIB #0(GLOBAL COMM)
5349 023534
5350 023534 004737 004522 54: JSR PC,MINITS ;MASTER CLEAR INIT
5351
5352 023540 005037 002402 CLR ERRWRD
5353 023544 104410 TRAP C$ESCAPE
5354 023546 000114 .WORD L10065-.
5355 ;*****
5356 ; JUMP TO END OF TEST IF ERROR
5357 ;*****
5358
5359 023550 013703 002412 MOV TSSADD,R3
5360 023554 052703 000040 BIS #BITS,R3 ;SET UP READ GSS COMMAND
5361 023560 004537 003162 JSR R5,CONTIN ;GO DO IT
5362
5363 023564 005037 002402 CLR ERRWRD
5364 023570 104410 TRAP C$ESCAPE
5365 023572 000070 .WORD L10065-.
5366 ;*****
5367 ; JUMP TO END OF TEST IF ERROR
5368 ;*****
5369
5370 023574 012737 000002 002336 MOV #2,$GDDAT
5371 023602 004537 003242 JSR R5,GETOUT ;CHECK CORRECT TYPE AND
5372 ; TRIB NO.
5373
5374 023606 005037 002402 CLR ERRWRD
5375 023612 104410 TRAP C$ESCAPE
5376 023614 000046 .WORD L10065-.
5377 ;*****
5378 ; ESCAPE SUB IF ERROR
5379 ;*****
5380
5381 023616 013737 002412 104: MOV TSSADD,$GDDAT
5382 023616 052737 000040 002336 BIS #BITS,$GDDAT ;SET THE READ TSS BIT
5383 023624 004537 003372 JSR R5,GETRKY ;CHECK RETURN KEY
5384
5385

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***** TEST 22 *****

```

5386 023636 005037 002402          CLR    ERRWRD
5387 023642 104410          TRAP    C#ESCAPE
5388 023644 000016          .WORD   L10065-.
5389                               ;
5390                               ; GO TO END OF SUB IF ERROR
5391                               ;
5392
5393
5394 023646 005237 002412 30$: INC    TSSADD      ;BUMP ADDRESS
5395 023652 022737 000040 002412 CMP    #40,TSSADD ; ARE WE ALL DONE
5396 023660 001325          BNE     5$          ; IF NOT GO BACK
5397                               ;ELSE END SUBTEST
5398 023662          L10065: TRAP    C#ESUB
5399 023662 104403          T22.2: TRAP    C#BSUB
5400 023664          ;
5401 023664 104402          ;
5402          ;
5403          ; WRITE ALL SLOTS TEST ;
5404          ;
5405
5406 023666 012737 000034 002412 MOV    #34,TSSADD ;START WITH FIRST WRITABLE ADD
5407 023674 005037 002360          CLR    TRIBN      ;AND TRIBN AT ZERO
5408 023700 004737 004522 40$: JSR    PC,4INITS ;MASTER CLEAR INT
5409
5410 023704 005037 002402          CLR    ERRWRD
5411 023710 104410          TRAP    C#ESCAPE
5412 023712 000226          .WORD   L10066-.
5413          ;
5414          ; JUMP TO END OF SUB IF ERROR
5415          ;
5416
5417 023714 013703 002412 45$: MOV    TSSADD,R3
5418 023720 052703 000200          BIS    #BIT7,R3      ;WRITE TSS(GLOBAL BECAUSE TRIBN=0)
5419 023724 013704 002412          MOV    TSSADD,R4      ;PUT IN ADD FOR DATA
5420 023730 004537 003162          JSR    R5,CONTIN      ;DO IT
5421
5422 023734 005037 002402          CLR    ERRWRD
5423 023740 104410          TRAP    C#ESCAPE
5424 023742 000176          .WORD   L10066-.
5425          ;
5426          ; JUMP TO END OF SUB IF ERROR
5427          ;
5428
5429 023744 005237 002412 002412 INC    TSSADD      ;BUMP ADD
5430 023750 022737 000040          CMP    #40,TSSADD      ;DONE ALL
5431 023756 001356          BNE     45$          ;NO GO FINISH!!!
5432 023760 012703 000227          MOV    #227,R3
5433 023764 013704 002412          MOV    TSSADD,R4
5434 023770 004537 003162          JSR    R5,CONTIN      ; TRY TO WRITE BAD ADDRESS
5435
5436 023774 005037 002402          CLR    ERRWRD
5437 024000 104410          TRAP    C#ESCAPE
5438 024002 000136          .WORD   L10066-.
5439          ;
5440          ; JUMP TO END OF SUB IF ERROR
5441          ;

```


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```

5442 024004 012737 000132 002410      MOV      #132,PERR
5443 024012 004537 003016      JSR      R5,WFPE      ;WAIT FOR PROCEDURE ERROR
5444
5445 024016 005037 002402      CLR      ERRWRD
5446 024022 104410      TRAP     C#ESCAPE
5447 024024 000222      .WORD    L10064-
5448      ;
5449      ; ESCAPE TEST IF ERROR
5450      ;
5451
5452 024026 042777 000200 156410 GSSREP: BIC      #RDO,00SEL2      ;CLEAR OUTPUT
5453 024034 005337 002412      DEC      TSSADD      ;GET TSSADD BACK TO MAX
5454 024040 013703 002412      MOV      TSSADD,R3
5455 024044 052703 000040      BIS      #BIT5,R3      ;SET READ BIT
5456 024050 004537 003162      JSR      R5,CONTIN      ;READ TSS
5457
5458 024054 005037 002402      CLR      ERRWRD
5459 024060 104410      TRAP     C#ESCAPE
5460 024062 000056      .WORD    L10066-
5461      ;
5462      ; JUMP TO END OF SUB IF ERROR
5463      ;
5464
5465 024064 012737 000002 002336      MOV      #2,#GDDAT
5466 024072 004537 003242      JSR      R5,GETOUT      ;CHECK FOR INFOR. OUT AND
5467
5468 024076 005037 002402      CLR      ERRWRD
5469      ;CORRECT TRIBN.
5470 024102 104410      TRAP     C#ESCAPE
5471 024104 000034      .WORD    L10066-
5472      ;
5473      ; JUMP TO END OF SUB IF ERROR
5474      ;
5475 024106 013737 002412 002336 604: MOV      TSSADD,#GDDAT
5476 024114 004537 003446      JSR      R5,GETDAT      ;CHECK FOR GOOD DATA
5477
5478 024120 005037 002402      CLR      ERRWRD
5479 024124 104410      TRAP     C#ESCAPE
5480 024126 000012      .WORD    L10066-
5481      ;
5482      ;JUMP TO END OF SUB IF ERROR
5483      ;
5484
5485 024130 022737 000034 002412 704: CMP      #34,TSSADD      ;ARE WE ALL DONE
5486 024136 001333      BNE      GSSREP      ;GO BACK IF NOT
5487
5488      L10066:
5489 024140 104403      TRAP     C#ESUB
5490 024142      T22.3:
5491 024142 104402      TRAP     C#BSUB
5492      ;
5493      ; READ CLEAR SLOT TEST :
5494      ;
5495
5496 024144 004737 004522      JSR      PC,MINITS      ;MASTER CLEAR MODE DEF
5497

```

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;***** TEST 22 *****

5498	024150	005037	002402	CLR	ERRWRD	
5499	024154	104410		TRAP	C#ESCAPE	
5500	024156	000066		.WORD	L10067-	
5501				!!!!!!		
5502				;JUMP	TO END OF SUB IF ERROR	
5503				!!!!!!		
5504						
5505	024160	005037	002360	CLR	TRIBN	
5506	024164	012703	000117	MOV	#117,R3	
5507	024170	004537	003162	JSR	R5,CONTIN	;READ CLEAR SLOT
5508						
5509	024174	005037	002402	CLR	ERRWRD	
5510	024200	104410		TRAP	C#ESCAPE	
5511	024202	000042		.WORD	L10067-	
5512				!!!!!!		
5513				;JUMP	TO END OF SUB IF ERROR	
5514				!!!!!!		
5515						
5516	024204	012737	000002	MOV	#02,%GDDAT	
5517	024212	004537	003242	JSR	R5,GETOUT	;CHECK FOR INFO OUT
5518						;AND CORRECT TRIBN.
5519	024216	005037	002402	CLR	ERRWRD	
5520	024222	104410		TRAP	C#ESCAPE	
5521	024224	000020		.WORD	L10067-	
5522				!!!!!!		
5523				;JUMP	TO END OF SUB IF ERROR	
5524				!!!!!!		
5525						
5526	024226	012737	000117	MOV	#117,%GDDAT	
5527	024234	004537	003372	JSR	R5,GETRKY	;CHECK FOR CORRECT RETURN KEY
5528						
5529	024240	005037	002402	CLR	ERRWRD	
5530	024244					
5531	024244	104403		L10067:	TRAP	C#ESUB
5532	024246			L10064:		
5533	024246	104401		TRAP	C#ETST	
5534						

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;***** TEST 22 *****

```

5535
5536      .SBTTL ;***** TEST 23 *****
5537      .SBTTL ;HALT TRIB COMMAND TEST
5538 024250      ZZ
5539      ;*
5540      ;*
5541      ;* THIS TEST CHECKS THE HALT TRIB COMMAND
5542      ;* AND THEN CHECKS THAN A 2ND HALT TRIB
5543      ;* DOES NOT CAUSE A CONTROL OUT.
5544      ;*-
5545      .SBTTL ;***** TEST 23 *****
5546 024250      T23::
5547
5548 024250 004737 004522      JSR      PC,MINITS      ;MASTER CLEAR -MODE DEF
5549 024254 005037 002402      CLR      ERRWRD      ;IF ERROR GO TO END TEST
5550 024260 104410      TRAP     C$ESCAPE
5551 024262 000412      .WORD    L10070-.
5552 024264 012737 000036 002360      MOV     #36,TRIBN      ;SET TRIBN
5553 024272 012703 000001      MOV     #01,R3
5554 024276 004537 003162      JSR      R5,CONTIN      ;ESTABLISH TRIB
5555
5556      ;IF TIME OUT OR READY ERRORS THE PROGRAM WILL
5557      ;REPORT THIS PC AS FAILING PC
5558
5559 024302 005037 002402      CLR      ERRWRD      ; JUMP TO END OF TEST IF ERROR
5560 024306 104410      TRAP     C$ESCAPE
5561 024310 000364      .WORD    L10070-.
5562 024312 012703 000003      MOV     #03,R3
5563 024316 004537 003162      JSR      R5,CONTIN      ;ISTRIB TRIB
5564
5565      ;IF TIME OUT OR READY ERRORS THE PROGRAM WILL
5566      ;REPORT THIS PC AS FAILING PC
5567 024322 005037 002402      CLR      ERRWRD      ; JUMP TO END OF TEST IF ERROR
5568 024326 104410      TRAP     C$ESCAPE
5569 024330 000344      .WORD    L10070-.
5570 024332 012737 000001 002336      MOV     #01,$GDDAT      ;CHECK
5571 024340 004537 003242      JSR      R5,GETOUT      ;FOR CONTROL OUT AND
5572      ;CORRECT TRIBN
5573      ;IF ERROR REPORT
5574      ;THIS PC AND ESCAPE TEST
5575 024344 005037 002402      CLR      ERRWRD      ; JUMP TO END OF TEST IF ERROR
5576 024350 104410      TRAP     C$ESCAPE
5577 024352 000322      .WORD    L10070-.
5578 024354 012737 000024 002336      MOV     #24,$GDDAT
5579 024362 004537 003670      JSR      R5,GETOC      ;CHECK FOR GOOD OUTPUT CODE
5580 024366 005037 002402      CLR      ERRWRD      ; JUMP TO END OF TEST IF ERROR
5581 024372 104410      TRAP     C$ESCAPE
5582 024374 000300      .WORD    L10070-.
5583
5584      ; QUE REC BUFFER WITH 100 DECIMAL LOCATIONS
5585
5586 024376 042777 000200 156040 201:      BIC     #RDO,$BSEL2      ;CLEAR READY OUT
5587 024404 052777 000200 156026      BIS     #RQI,$BSELO      ;SET REQUEST IN
5588      ;WAIT FOR READY IN
5589 024412 004537 002732      JSR      R5,WRDI      ;WAIT FOR RDI TO SET
5590

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;***** TEST 23 *****

5591	024416	005037	002402		CLR	ERRWRD	;CLEAR ERROR
5592	024422	104410			TRAP	C#ESCAPE	
5593	024424	000250			.WORD	L10070-	
5594	024426	042777	000200	156004	BIC	#RQI, #BSEL0	;CLEAR REQUEST IN
5595	024434	012777	034014	156006	MOV	#RECBU1, #BSEL4	
5596	024442	012777	000144	156004	MOV	#100, #BSEL6	
5597	024450	113777	002360	155770	MOVB	TRIBN, #BSEL3	
5598	024456	105077	155762		CLRB	#BSEL2	;QUE UP BUFF
5599	024462	012703	000005		MOV	#05, R3	
5600	024466	004537	003162		JSR	R5, CONTIN	;HALT TRIB
5601							;IF TIME OUT OR READY ERRORS THE PROGRAM WILL
5602							;REPORT THIS PC AS FAILING PC
5603							
5604	024472	005037	002402		CLR	ERRWRD	; JUMP TO END OF TEST IF ERROR
5605	024476	104410			TRAP	C#ESCAPE	
5606	024500	000174			.WORD	L10070-	
5607	024502	012737	000003	002336	MOV	#03, #GDDAT	
5608	024510	004537	003242		JSR	R5, GETOUT	;CHECK FOR BUFFER UNUSED
5609							;AND CORRECT TRIBN.
5610	024514	005037	002402		CLR	ERRWRD	; JUMP TO END OF TEST IF ERROR
5611	024520	104410			TRAP	C#ESCAPE	
5612	024522	000152			.WORD	L10070-	
5613	024524	012737	000144	002336	MOV	#100, #GDDAT	
5614	024532	004537	003514		JSR	R5, GETCC	;CHECK FOR GOOD CHAR.COUNT
5615	024536	005037	002402		CLR	ERRWRD	; JUMP TO END OF TEST IF ERROR
5616	024542	104410			TRAP	C#ESCAPE	
5617	024544	000130			.WORD	L10070-	
5618	024546	012737	034014	002336	MOV	#RECBU1, #GDDAT	
5619	024554	004537	003576		JSR	R5, GETBA	;CHECK FOR GOOD BUFF. ADD.
5620	024560	005037	002402		CLR	ERRWRD	; JUMP TO END OF TEST IF ERROR
5621	024564	104410			TRAP	C#ESCAPE	
5622	024566	000106			.WORD	L10070-	
5623	024570	042777	000200	155646	BIC	#RDO, #BSEL2	;CLEAR OUTPUT AND LOOK FOR NEXT
5624	024576	012737	000002	002336	MOV	#2, #GDDAT	
5625	024604	004537	003242		JSR	R5, GETOUT	;NEXT GET INFO OUT
5626	024610	005037	002402		CLR	ERRWRD	; JUMP TO END OF TEST IF ERROR
5627	024614	104410			TRAP	C#ESCAPE	
5628	024616	000056			.WORD	L10070-	
5629	024620	012737	000020	002336	MOV	#20, #GDDAT	
5630	024626	004537	003372		JSR	R5, GETRKY	;CHECK FOR GOOD RETURN KEY
5631							; BUFFER RETURN COMPLETE
5632	024632	005037	002402		CLR	ERRWRD	; JUMP TO END OF TEST IF ERROR
5633	024636	104410			TRAP	C#ESCAPE	
5634	024640	000034			.WORD	L10070-	
5635	024642	042777	000200	155574	BIC	#RDO, #BSEL2	;CLEAR OUTPUT
5636	024650	004737	004244		JSR	PC, WAIT50	
5637	024654	004737	004244		JSR	PC, WAIT50	;WAIT A WHILE
5638	024660	012703	000000		MOV	#0, R3	;DO A NO REQUEST
5639	024664	004537	003162		JSR	R5, CONTIN	
5640	024670	005037	002402		CLR	ERRWRD	;IF ERROR OCCURS THE SECOND
5641							;HALT TRIB CAUSED AN OUTPUT
5642							;AND SHOULD NOT HAVE.
5643	024674						
5644	024674	104401			L10070:	TRAP	C#ETST

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;***** TEST 23 *****

```

5645
5646      .SBTTL ;***** TEST 24 *****
5647      .SBTTL ;KILL TRIB TESTS
5648 024676      ZZ
5649      ;*
5650      ;* THIS TEST CHECKS THE KILL TRIB FUNCTIONS
5651      ;*-
5652      .SBTTL ;***** TEST 24 *****
5653 024676      T24::
5654
5655 024676 004737 004522      JSR      PC,MINITS
5656
5657 024702 005037 002402      CLR      ERRWRD
5658 024706 104410      TRAP     C$ESCAPE
5659 024710 000412      .WORD    L10071-.
5660      ;*****
5661      ; JUMP TO END OF TEST IF ERROR
5662      ;*****
5663
5664 024712 012737 000143 002360      MOV     #143,TRIBN      ;SET TRIB NUMBER
5665 024720 012703 000001      MOV     #01,R3
5666 024724 004537 003162      JSR      R5,CONTIN      ;ESTABLISH TRIB
5667      ;*****
5668      ; TIME OUT OR READY ERRORS REPORT THIS P
5669      ;*****
5670
5671 024730 005037 002402      CLR      ERRWRD
5672 024734 104410      TRAP     C$ESCAPE
5673 024736 000364      .WORD    L10071-.
5674      ;*****
5675      ; JUMP TO END OF TEST IF ERROR
5676      ;*****
5677
5678 024740 012703 000041      MOV     #41,R3
5679 024744 004537 003162      JSR      R5,CONTIN      ;READ TRIB STATUS SLOT 1
5680      ;*****
5681      ; TIME OUT OR READY ERRORS REPORT THIS PC
5682      ;*****
5683
5684 024750 005037 002402      CLR      ERRWRD
5685 024754 104410      TRAP     C$ESCAPE
5686 024756 000344      .WORD    L10071-.
5687      ;*****
5688      ; JUMP TO END OF TEST IF ERROR
5689      ;*****
5690
5691 024760 012737 000002 002336      MOV     #02,$GDDAT      ;SET TYPE FOR INFO OUT
5692 024766 004537 003242      JSR      R5,GETOUT      ;CHECK FOR INFO OUT AND
5693      ;CORRECT TRIBN.
5694
5695 024772 005037 002402      CLR      ERRWRD
5696 024776 104410      TRAP     C$ESCAPE
5697 025000 000322      .WORD    L10071-.
5698      ;*****
5699      ; JUMP TO END OF TEST IF ERROR
5700      ;*****

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;***** TEST 24 *****

```

5701
5702 025002 000377 155442 20: SWAB 88SEL4 ;SWAB BYTES
5703 025006 117737 155436 002340 MOV8 88SEL4,8BDDAT ;MOVE TRIB ADD TO BDDAT
5704 025014 113737 002360 002336 MOV8 TRIBN,8GDDAT ;MOVE TRIB NUMBER TO GDDAT
5705 025022 123737 002336 002340 CMP8 8GDDAT,8BDDAT ;COMPARE
5706 025030 001407 BEQ 30: ;IF OK GO TO 30
5707 ;ELSE ERROR
5708 025032 012737 012056 002430 MOV #M30F,CODEW
5709 025040 104455 TRAP C#ERDF
5710 025042 000052 .WORD 42
5711 025044 011550 .WORD EROIC
5712 025046 010366 .WORD ERR27
5713
5714 025050 042777 000200 155366 30: BIC #RDO,88SEL2 ;CLEAR OUTPUT
5715 025056 012703 000004 MOV #04,R3
5716 025062 004537 003162 JSR R5,CONTIN ;MAINT STATE TRIB
5717 ;*****
5718 ;TIME OUT OR READY ERRORS REPORT THIS PC
5719 ;*****
5720
5721 025066 005037 002402 CLR ERRWRD
5722 025072 104410 TRAP C#ESCAPE
5723 025074 000226 .WORD L10071-.
5724 ;*****
5725 ; JUMP TO END OF TEST IF ERROR
5726 ;*****
5727
5728 025076 012703 000002 MOV #02,R3
5729 025102 004537 003162 JSR R5,CONTIN ;KILL TRIB
5730 ;*****
5731 ; TIME OUT OR READY ERRORS REPORT THIS PC
5732 ;*****
5733
5734 025106 005037 002402 CLR ERRWRD
5735 025112 104410 TRAP C#ESCAPE
5736 025114 000206 .WORD L10071-.
5737 ;*****
5738 ; JUMP TO END OF TEST IF ERROR
5739 ;*****
5740
5741 025116 012737 000112 002410 MOV #112,PERR ;CHECK FOR KILL TO UNHALTED
5742 025124 004537 003016 JSR R5,WFPE ;WAIT FOR PROCEDURE ERROR
5743
5744 025130 005037 002402 CLR ERRWRD
5745 025134 104410 TRAP C#ESCAPE
5746 025136 000164 .WORD L10071-.
5747 ;*****
5748 ; ESCAPE TEST IF ERROR
5749 ;*****
5750 025140 042777 000200 155276 BIC #RDO,88SEL2 ;CLEAR OUTPUT
5751 025146 012703 000005 MOV #05,R3
5752 025152 004537 003162 JSR R5,CONTIN ;HALT TRIB
5753 ;*****
5754 ; TIME OUT OR READY ERRORS REPORT THIS PC
5755 ;*****
5756

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;***** TEST 24 *****

5757	025156	005037	002402		CLR	ERRWRD	
5758	025162	104410			TRAP	C#ESCAPE	
5759	025164	000136			.WORD	L10071-.	
5760					;	;	
5761					;	JUMP TO END OF TEST IF ERROR	
5762					;	;	
5763							
5764	025166	012737	000002	002336	MOV	#2, #GDDAT	
5765	025174	004537	003242		JSR	R5, GETOUT	;CHECK FOR INFO OUT
5766							;AND CORRECT PC
5767							
5768	025200	005037	002402		CLR	ERRWRD	
5769	025204	104410			TRAP	C#ESCAPE	
5770	025206	000114			.WORD	L10071-.	
5771					;	;	
5772					;	JUMP TO END OF TEST IF ERROR	
5773					;	;	
5774							
5775	025210	012737	000020	002336	MOV	#20, #GDDAT	
5776	025216	004537	003372		JSR	R5, GETRKY	;CHECK FOR GOOD RETURN KEY
5777							
5778							
5779	025222	005037	002402		CLR	ERRWRD	
5780	025226	104410			TRAP	C#ESCAPE	
5781	025230	000072			.WORD	L10071-.	
5782					;	;	
5783					;	JUMP TO END OF TEST IF ERROR	
5784					;	;	
5785							
5786	025232	042777	000200	155204 24:	BIC	#R00, #BSEL2	;CLEAR OUTPUT
5787	025240	012703	000002		MOV	#02, R3	;KILL TRIB
5788	025244	004537	003162		JSR	R5, CONTIN	
5789					;	;	
5790					;	TIME OUT OR READY ERRORS REPORT THIS PC	
5791					;	;	
5792							
5793	025250	005037	002402		CLR	ERRWRD	
5794	025254	104410			TRAP	C#ESCAPE	
5795	025256	000044			.WORD	L10071-.	
5796					;	;	
5797					;	JUMP TO END OF TEST IF ERROR	
5798					;	;	
5799							
5800	025260	012703	000041		MOV	#41, R3	;READ SLOT 1
5801	025264	004537	003162		JSR	R5, CONTIN	
5802					;	;	
5803					;	TIME OUT OR READY ERRORS REPORT THIS PC	
5804					;	;	
5805							
5806	025270	005037	002402		CLR	ERRWRD	
5807	025274	104410			TRAP	C#ESCAPE	
5808	025276	000024			.WORD	L10071-.	
5809					;	;	
5810					;	JUMP TO END OF TEST IF ERROR	
5811					;	;	
5812					;	;	

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5813	025300	012737	000106	002410	MOV	#106,PERR	;CHECK FOR PROCEDURE 106 ERROR
5814	025306	004537	003016		JSR	R5,WFPE	;WAIT FOR PROCEDURE ERROR
5815							
5816	025312	005037	002402		CLR	ERRWRD	
5817	025316	104410			TRAP	C#ESCAPE	
5818	025320	000002			.WORD	L10071-	
5819					!!!!!!		
5820					; ESCAPE TEST IF ERROR		
5821					!!!!!!		
5822							
5823	025322			L10071:			
5824	025322	104401			TRAP	C#ETST	
5825							
5826							

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***** TEST 24 *****

```

5827
5828
5829
5830 025324
5831
5832
5833
5834
5835
5836
5837
5838
5839 025324
5840 025324 012702 002414
5841
5842 025330 004737 004522
5843
5844 025334 005037 002402
5845 025340 104410
5846 025342 000074
5847
5848
5849
5850
5851 025344 052777 000200 155066
5852 025352 004537 002732
5853
5854 025356 005037 002402
5855 025362 104410
5856 025364 000052
5857 025366 042777 000200 155044
5858 025374 112277 155044
5859 025400 012737 000102 002410
5860 025406 004537 003016
5861
5862 025412 005037 002402
5863 025416 104410
5864 025420 000016
5865
5866
5867
5868 025422 042777 000200 155014
5869 025430 022702 002420
5870 025434 001335
5871
5872
5873 025436
5874 025436 104401
5875

.SBTTL ***** TEST 25 *****
.SBTTL *CHECK FOR PROCEDURE ERROR 102
ZZ
;*
;*
;* THIS TEST CHECKS THAT ILLEGAL TYPE CODES
;* ON INPUT COMMANDS WILL PRODUCE PROCEDURE
;* ERRORS.
;*
.SBTTL ***** TEST 25 *****
T25::
MOV      #TYLST,R2      ;SET R2 TO START OF LIST
104:     JSR      PC,HINITS      ;MASTER CLEAR-MODE DEF
CLR      ERRWRD
TRAP     C#ESCAPE
.WORD    L10072-.
;*****
; JUMP TO END OF TEST IF ERROR
;*****
BIS      #RQI,8BSEL0      ;SET REQUEST
JSR      R5,MRDI          ;WAIT FOR RDI TO SET
CLR      ERRWRD          ;CLEAR ERROR
TRAP     C#ESCAPE
.WORD    L10072-.
BIC      #RQI,8BSEL0      ;CLEAR REQUEST
MOVB     (R2)+,8BSEL2      ;DO FIRST BAD CODE
MOV      #102,PERR
JSR      R5,WFPE          ;WAIT FOR PROCEDURE ERROR
CLR      ERRWRD
TRAP     C#ESCAPE
.WORD    L10072-.
;*****
; ESCAPE TEST IF ERROR
;*****
BIC      #RDO,8BSEL2      ;CLEAR READY OUT
CMP      #TYEND,R2        ;IS IT END
BNE      104              ;IF NOT GO BACK

L10072:  TRAP     C#ETST

```

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;***** TEST 25 *****

```

5876
5877 .SBTTL ;***** TEST 26 *****
5878 .SBTTL * CHECK FOR PROCEDURE ERROR 110
5879 025440 ZZ
5880 ;*
5881 ;*
5882 ;* THIS TEST CHECKS FOR THE PROCEDURE ERROR
5883 ;* NON-GLOBAL COMMAND TO TRIB ADDRESS OF 0
5884 ;*
5885 ;*
5886 .SBTTL ;***** TEST 26 *****
5887 025440 T26::
5888
5889 025440 004737 004522 JSR PC,MINITS ;MASTER CLEAR -MODE-DEF
5890
5891 025444 005037 002402 CLR ERRWRD
5892 025450 104410 TRAP C$ESCAPE
5893 025452 000050 .WORD L10073-.
5894 ;*****
5895 ; JUMP TO END OF TEST IF ERROR
5896 ;*****
5897
5898 025454 005037 002360 CLR TRIBN ;MAKE TRIB ADDRESS 0
5899 025460 012703 000001 MOV #01,R3
5900 025464 004537 003162 JSR R3,CONTIN ;TRY TO DO ISTRT
5901
5902 025470 005037 002402 CLR ERRWRD
5903 025474 104410 TRAP C$ESCAPE
5904 025476 000024 .WORD L10073-.
5905 ;*****
5906 ; JUMP TO END OF TEST IF ERROR
5907 ;*****
5908
5909 025500 012737 000110 002410 MOV #110,PERR ;CHECK FOR PE ^ 110
5910 025506 004537 003016 JSR R3,WFPE ;WAIT FOR PROCEDURE ERROR
5911
5912 025512 005037 002402 CLR ERRWRD
5913 025516 104410 TRAP C$ESCAPE
5914 025520 000002 .WORD L10073-.
5915 ;*****
5916 ; ESCAPE TEST IF ERROR
5917 ;*****
5918
5919 025522 L10073: TRAP C$ETST
5920 025522 104401

```


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;***** TEST 26 *****

```

5921
5922
5923 .SBTTL ;***** TEST 27 *****
5924 .SBTTL * CHECKS FOR PROCEDURE ERROR 120
5925 025524 ZZ
5926 ;*
5927 ;*
5928 ;* THIS TEST ISSUES A CONTROL IN WITH A REQUEST
5929 ;* KEY OF 7 AND LOOKS FOR A PROCEDURE ERROR OF
5930 ;* ILLEGAL REQUEST KEY ON CONTROL IN (120)
5931 ;*
5932 ;*-
5933 .SBTTL ;***** TEST 27 *****
5934 025524 T27::
5935
5936 025524 004737 004522 JSR PC,MINITS ;MASTER CLEAR - MODE DEF
5937
5938 025530 005037 002402 CLR ERRWRD
5939 025534 104410 TRAP C#ESCAPE
5940 025536 000212 .WORD L10074-.
5941 ;*****
5942 ; JUMP TO END OF TEST IF ERROR
5943 ;*****
5944
5945 025540 012737 000003 002360 MOV #3,TRIBN
5946 025546 012703 000001 MOV #01,R3
5947 025552 004537 003162 JSR R5,CONTIN ;ESTABLISH TRIB
5948 ;*****
5949 ;TIME OUT OR READY ERRORS REPORT HERE
5950 ;*****
5951
5952 025556 005037 002402 CLR ERRWRD
5953 025562 104410 TRAP C#ESCAPE
5954 025564 000164 .WORD L10074-.
5955 ;*****
5956 ; JUMP TO END OF TEST IF ERROR
5957 ;*****
5958
5959 025566 012703 000007 MOV #07,R3
5960 025572 004537 003162 JSR R5,CONTIN ;DO CONTROL IN WITH KEY OF 07
5961
5962 025576 005037 002402 CLR ERRWRD
5963 025602 104410 TRAP C#ESCAPE
5964 025604 000144 .WORD L10074-.
5965 ;*****
5966 ; JUMP TO END OF TEST IF ERROR
5967 ;*****
5968
5969 025606 012737 000120 002410 MOV #120,PERR ;LOOK FOR ERROR
5970 025614 004537 003016 JSR R5,WFPE ;WAIT FOR PROCEDURE ERROR
5971
5972 025620 005037 002402 CLR ERRWRD
5973 025624 104410 TRAP C#ESCAPE
5974 025626 000122 .WORD L10074-.
5975 ;*****
5976 ; ESCAPE TEST IF ERROR

```

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***** TEST 27 *****

Address	Hex	Hex	Hex	Hex	Assembly	Comment
5977						
5978	025630	042777	000200	154606	BIC	#R00,8BSEL2 ;CLEAR R00
5979	025636	012703	000017		MOV	#17,R3 ;MOV 17 TO KEY WORD
5980	025642	004537	003162		JSR	R5,CONTIN ;DO CONTROL IN WITH KEY OF 17
5981						
5982	025646	005037	002402		CLR	ERRWRD
5983	025652	104410			TRAP	C#ESCAPE
5984	025654	000074			.WORD	L10074-.
5985						
5986					; JUMP	TO END OF TEST IF ERROR
5987						
5988						
5989	025656	012737	000120	002410	MOV	#120,PERR ;LOOK FOR ERROR
5990	025664	004537	003016		JSR	R5,WFPE ;WAIT FOR PROCEDURE ERROR
5991						
5992	025670	005037	002402		CLR	ERRWRD
5993	025674	104410			TRAP	C#ESCAPE
5994	025676	000052			.WORD	L10074-.
5995						
5996					; ESCAPE	TEST IF ERROR
5997						
5998	025700	042777	000200	154536	BIC	#R00,8BSEL2 ;CLEAR OUTPUT
5999	025706	005003			CLR	R3
6000	025710	004537	003162		JSR	R5,CONTIN ;DO A NO REQUEST
6001						
6002	025714	005037	002402		CLR	ERRWRD
6003	025720	104410			TRAP	C#ESCAPE
6004	025722	000026			.WORD	L10074-.
6005						
6006					; JUMP	TO END OF TEST IF ERROR
6007						
6008						
6009	025724	004737	004244		JSR	PC,WAIT50 ;THEN DELAY
6010	025730	032777	000200	154506	BIT	#R00,8BSEL2
6011	025736	001404			BEQ	10\$;IF NOT SET THEN END
6012						;ELSE ERROR
6013	025740	104455			TRAP	C#ERDF
6014	025742	000053			.WORD	43
6015	025744	012560			.WORD	MEF30
6016	025746	010464			.WORD	ERR32
6017	025750					
6018	025750					
6019	025750	104401			TRAP	C#ETST
6020						

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***** TEST 28 *****

```

6021 .SBTTL ;***** TEST 28 *****
6022 .SBTTL * CHECK FOR PROCEDURE ERROR 134
6023 025752 ZZ
6024 ;*
6025 ;*
6026 ;* THIS TEST CHECKS FOR PROCEDURE ERROR OF USING
6027 ;* RESERVED BITS IN BSEL7 ON CONTROL IN
6028 ;*
6029 ;*-
6030 .SBTTL ;***** TEST 28 *****
6031 025752 T28::
6032
6033 025752 004737 004522 JSR PC,MINITS ;MASTER CLEAR MODE DEF
6034
6035 025756 005037 002402 CLR ERRWRD
6036 025762 104410 TRAP C$ESCAPE
6037 025764 000212 .WORD L10075-.
6038 ;*****
6039 ; JUMP TO END OF TEST IF ERROR
6040 ;*****
6041
6042 025766 012737 000005 002360 MOV #5,TRIBN
6043 025774 012703 000001 MOV #1,R3
6044 026000 004537 003162 JSR R5,CONTIN ;ESTABLISH TRIB
6045 ;*****
6046 ;TIME OUT OR READY ERRORS REPORT THIS PC
6047 ;*****
6048
6049 026004 005037 002402 CLR ERRWRD
6050 026010 104410 TRAP C$ESCAPE
6051 026012 000164 .WORD L10075-.
6052 ;*****
6053 ; JUMP TO END OF TEST IF ERROR
6054 ;*****
6055
6056 026014 012703 100000 MOV #100000,R3 ;SET BIT 7
6057 026020 004537 003162 JSR R5,CONTIN
6058
6059 026024 005037 002402 CLR ERRWRD
6060 026030 104410 TRAP C$ESCAPE
6061 026032 000144 .WORD L10075-.
6062 ;*****
6063 ; JUMP TO END OF TEST IF ERROR
6064 ;*****
6065
6066 026034 012737 000134 002410 MOV #134,PERR
6067 026042 004537 003016 JSR R5,WFPE ;WAIT FOR PROCEDURE ERROR
6068
6069 026046 005037 002402 CLR ERRWRD
6070 026052 104410 TRAP C$ESCAPE
6071 026054 000122 .WORD L10075-.
6072 ;*****
6073 ; ESCAPE TEST IF ERROR
6074 ;*****
6075 026056 042777 000200 154360 BIC #R00,BSEL2 ;CLEAR OUTPUT
6076 026064 012703 046000 MOV #46000,R3 ;SET 6 3 AND2

```

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;***** TEST 28 *****

6077	026070	004537	003162		JSR	R5,CONTIN	;DO CONTROL IN
6078							
6079	026074	005037	002402		CLR	ERRWRD	
6080	026100	104410			TRAP	C#ESCAPE	
6081	026102	000074			WORD	L10075-.	
6082					;	;	
6083					;	JUMP TO END OF TEST IF ERROR	
6084					;	;	
6085							
6086	026104	012737	000134	002410	MOV	#134,PERR	
6087	026112	004537	003016		JSR	R5,WFPE	;WAIT FOR PROCEDURE ERROR
6088							
6089	026116	005037	002402		CLR	ERRWRD	
6090	026122	104410			TRAP	C#ESCAPE	
6091	026124	000052			.WORD	L10075-.	
6092					;	;	
6093					;	ESCAPE TEST IF ERROR	
6094					;	;	
6095	026126	005003			CLR	R3	
6096	026130	042777	000200	154306	BIC	#R00,88SEL2	;CLEAR OUTPUT
6097	026136	004537	003162		JSR	R5,CONTIN	;DO CONTROL IN
6098							
6099	026142	005037	002402		CLR	ERRWRD	
6100	026146	104410			TRAP	C#ESCAPE	
6101	026150	000026			.WORD	L10075-.	
6102					;	;	
6103					;	JUMP TO END OF TEST IF ERROR	
6104					;	;	
6105							
6106	026152	004737	004244		JSR	PC,WAIT50	;WAIT A WHILE
6107	026156	032777	000200	154260	BIT	#R00,88SEL2	;IS R00 SET NOW
6108	026164	001404			BEQ	104	;IF NOT THEN GO ON
6109							;ELSE ERROR
6110	026166	104455			TRAP	C#ERDF	
6111	026170	000054			.WORD	44	
6112	026172	012560			.WORD	MEF30	
6113	026174	010464			.WORD	ERR32	
6114	026176						
6115	026176						
6116	026176	104401			TRAP	C#ETST	
6117							

104:
L10075:

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;***** TEST 29 *****

```

6118 .SBTTL ;***** TEST 29 *****
6119 .SBTTL ;LATCH - UNLATCH POLL CHECK
6120 026200 ZZ
6121 ;*
6122 ;*
6123 ;* THIS TEST CHECKS THE LATCH - UNLATCH POLL
6124 ;* COMMANDS. FIRST LATCH TRIB IN DEAD STATE
6125 ;* MAKE SURE ITS DEAD. THEN UNLATCH AND MAKE
6126 ;* SURE THAT IT GOES ACTIVE.
6127 ;*
6128 ;*
6129 .SBTTL ;***** TEST 29 *****
6130 026200 T29::
6131
6132 026200 004737 004522 JSR PC,MINITS ;MASTER CLEAR MODE DEF
6133
6134 026204 005037 002402 CLR ERRWRD
6135 026210 104410 TRAP C#ESCAPE
6136 026212 000312 .WORD L10076-.
6137 ;*****
6138 ; JUMP TO END OF TEST IF ERROR
6139 ;*****
6140
6141 026214 012737 000027 002360 MOV #27,TRIBN
6142 026222 012703 000001 MOV #01,R3 ;ESTABLISH TRIB
6143 026226 004537 003162 JSR R5,CONTIN
6144 ;*****
6145 ;TIME OUT OR READY ERROR REPORT THIS PC
6146 ;*****
6147
6148 026232 005037 002402 CLR ERRWRD
6149 026236 104410 TRAP C#ESCAPE
6150 026240 000264 .WORD L10076-.
6151 ;*****
6152 ; JUMP TO END OF TEST IF ERROR
6153 ;*****
6154
6155 026242 012704 000003 MOV #3,R4
6156 026246 012703 020000 MOV #20000,R3 ;LATCH POLL DEAD
6157 026252 004537 003162 JSR R5,CONTIN
6158 ;*****
6159 ; TIME OUT OR READY ERRORS REPORT THIS PC
6160 ;*****
6161
6162 026256 005037 002402 CLR ERRWRD
6163 026262 104410 TRAP C#ESCAPE
6164 026264 000240 .WORD L10076-.
6165 ;*****
6166 ; JUMP TO END OF TEST IF ERROR
6167 ;*****
6168
6169 026266 012703 000042 MOV #42,R3
6170 026272 004537 003162 JSR R5,CONTIN ;READ SLOT 2 TSS
6171 ;*****
6172 ; TIME OUT OR READY ERRORS REPORT THIS PC
6173 ;*****

```

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;***** TEST 29 *****

6174					
6175	026276	005037	002402		CLR ERRWRD
6176	026302	104410			TRAP C\$ESCAPE
6177	026304	000220			.WORD L10076-.
6178					;
6179					; JUMP TO END OF TEST IF ERROR
6180					;
6181					
6182	026306	012737	000002	002336	MOV #02,\$GDDAT
6183	026314	004537	003242		JSR R5,GETOUT
6184					;
6185					; CHECK FOR INFO OUT AND CORRECT TRIBN
6186					; IF ERROR REPORT THIS PC
6187					;
6188					
6189	026320	005037	002402		CLR ERRWRD
6190	026324	104410			TRAP C\$ESCAPE
6191	026326	000176			.WORD L10076-.
6192					;
6193					; JUMP TO END OF TEST IF ERROR
6194					;
6195					
6196	026330	012737	000042	002336	MOV #42,\$GDDAT
6197	026336	004537	003372		JSR R5,GETRKY
6198					;
6199					; CHECK FOR CORRECT RETURN KEY
6200					;
6201					
6202	026342	005037	002402		CLR ERRWRD
6203	026346	104410			TRAP C\$ESCAPE
6204	026350	000154			.WORD L10076-.
6205					;
6206					; JUMP TO END OF TEST IF ERROR
6207					;
6208					
6209	026352	012737	100220	002336	MOV #100220,\$GDDAT ;
6210	026360	004537	003446		JSR R5,GETDAT
6211					;
6212					; CHECK FOR DEAD STATE
6213					;
6214					
6215	026364	005037	002402		CLR ERRWRD
6216	026370	104410			TRAP C\$ESCAPE
6217	026372	000132			.WORD L10076-.
6218					;
6219					; JUMP TO END OF TEST IF ERROR
6220					;
6221					
6222	026374	042777	000200	154042	BIC #R00,\$BSEL2 ;CLEAR OUTPUT
6223	026402	012703	010000		MOV #10000,R3
6224	026406	004537	003162		JSR R5,CONTIN ;UNLATCH POLL
6225					;
6226					; TIME OUT OR READY ERRORS REPORT THIS PC
6227					;
6228					
6229	026412	005037	002402		CLR ERRWRD

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;***** TEST 29 *****

6230	026416	104410			TRAP	C#ESCAPE
6231	026420	000104			.WORD	L10076-.
6232					;	*****
6233					; JUMP	TO END OF TEST IF ERROR
6234					;	*****
6235						
6236	026422	012703	000042		MOV	#42,R3
6237	026426	004537	003162		JSR	R5,CONTIN ;READ TSS SLOT 2
6238					;	*****
6239					;TIME OUT OR READY ERRORS REPORT THIS PC	
6240					;	*****
6241						
6242	026432	005037	002402		CLR	ERRWRD
6243	026436	104410			TRAP	C#ESCAPE
6244	026440	000064			.WORD	L10076-.
6245					;	*****
6246					; JUMP	TO END OF TEST IF ERROR
6247					;	*****
6248						
6249	026442	012737	000002	002336	MOV	#02,%GDDAT ;
6250	026450	004537	003242		JSR	R5,GETOUT
6251					;	*****
6252					;CHECK FOR INFORMATION OUT AND CORRECT TRIBN	
6253					;	*****
6254						
6255	026454	005037	002402		CLR	ERRWRD
6256	026460	104410			TRAP	C#ESCAPE
6257	026462	000042			.WORD	L10076-.
6258					;	*****
6259					; JUMP	TO END OF TEST IF ERROR
6260					;	*****
6261						
6262	026464	012737	000042	002336	MOV	#42,%GDDAT
6263	026472	004537	003372		JSR	R5,GETRKY
6264					;	*****
6265					;CHECK FOR CORRECT RETURN KEY	
6266					;	*****
6267						
6268	026476	005037	002402		CLR	ERRWRD
6269	026502	104410			TRAP	C#ESCAPE
6270	026504	000020			.WORD	L10076-.
6271					;	*****
6272					; JUMP	TO END OF TEST IF ERROR
6273					;	*****
6274						
6275	026506	012737	000600	002336	MOV	#600,%GDDAT
6276	026514	004537	003446		JSR	R5,GETDAT
6277					;	*****
6278					; CHECK FOR ACTIVE STATE	
6279					;	*****
6280	026520	005037	002402		CLR	ERRWRD
6281	026524					
6282	026524	104401			L10076:	
6283					TRAP	C#ETST

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;***** TEST 29 *****

```

6284
6285
6286
6287
6288 026526
6289
6290
6291
6292
6293
6294
6295
6296
6297
6298 026526
6299 026526 012737 001750 002424
6300 026534 012737 034014 002422
6301 026542 012737 033534 002420
6302 026550 012737 000004 002426
6303 026556 005037 002432
6304 026562 012737 000003 002360
6305 026570 004737 004522
6306
6307
6308 026574 005037 002402
6309 026600 104410
6310 026602 000016
6311
6312
6313
6314
6315 026604 004537 006410
6316 026610 005037 002402
6317 026614 104410
6318 026616 000002
6319 026620
6320 026620 104401
6321

```

```

.SBTTL ;***** TEST 30 *****
.SBTTL SHORT MESSAGE SENDING TEST, WITH INTERNAL LOOPBACK
ZZ
;*
;* THIS TEST SENDS A 4 BYTE MESSAGE FROM AN EVEN TRANSMIT
;* BUFFER TO AN EVEN REC BUFFER IN DDCHP FORMAT CONFIGURED
;* AS A MULTIPOINT CONTROL STATION FULL DUPLEX. THE TEST
;* CHECKS THAT REC BUFFERS ARE RETURNED AND THAT THE DATA
;* IS CORRECT. IT ALSO CHECKS THAT THE NEXT OUTPUT COMMAND
;* IS A TX BUFFER COMPLETE.
.SBTTL ;***** TEST 30 *****

T30::
MOV      #1000.,RXCC      ;SET UP RX CC
MOV      #RECBU1,RXADD    ;SET UP RX ADD
MOV      #MR1,TXADD       ;SET UP TX ADD
MOV      #4,TXCC          ;SET UP TX COUNT
CLR      GENWRD           ;CLEAR GEN WORD
MOV      #3,TRIBN         ;SET TRIB ADDRESS
JSR      PC,MINITS        ;INITIALIZE

CLR      ERRWRD
TRAP     C#ESCAPE
.WORD    L10077-.
;::::::;
; JUMP TO END OF TEST IF ERROR
;::::::;

JSR      R5,TXR#3          ;TRANSMIT AND REC.
CLR      ERRWRD
TRAP     C#ESCAPE
.WORD    L10077-.

L10077: TRAP     C#ETST

```


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;***** TEST 31 *****

```

6322      .SBTTL ;***** TEST 31 *****
6323      .SBTTL * PROCEDURE ERROR 122 CHECK
6324 026622 ZZ
6325      ;*
6326      ;*
6327      ;* THIS TEST CHECKS FOR PROCEDURE ERROR 122
6328      ;* ESTABLISH BUFFER FOR UNESTABLISHED TRIB.
6329      ;*
6330      .SBTTL ;***** TEST 31 *****
6331 026622 T31::
6332
6333 026622 004737 004522      JSR      PC,MINITS      ;MASTER CLEAR MODE DEF
6334
6335 026626 005037 002402      CLR      ERRWRD
6336 026632 104410      TRAP     C#ESCAPE
6337 026634 000104      .WORD    L10100-.
6338      ;:::
6339      ; JUMP TO END OF TEST IF ERROR
6340      ;:::
6341
6342 026636 052777 000200 153574      BIS      #RQI,#BSELO      ;SET REQUEST FOR INPUT
6343 026644 004537 002732      JSR      R5,WRDI      ;WAIT FOR RDI TO SET
6344
6345 026650 005037 002402      CLR      ERRWRD      ;CLEAR ERROR
6346 026654 104410      TRAP     C#ESCAPE
6347 026656 000062      .WORD    L10100-.
6348 026660 042777 000200 153552      BIC      #RQI,#BSELO      ;CLEAR REQUEST
6349 026666 112777 000003 153552      MOVB     #03,#BSEL3
6350 026674 012777 000010 153552      MOV      #10,#BSEL6      ;SET CC
6351 026702 012777 034014 153540      MOV      #RECBUI,#BSEL4      ;SET BA
6352 026710 112777 000000 153526      MOVB     #0, #BSEL2      ;ESTABLISH BUFFER
6353 026716 012737 000122 002410      MOV      #122,PERR      ;WAIT
6354 026724 004537 003016      JSR      R5,WFPE      ;WAIT FOR PROCEDURE ERROR
6355
6356 026730 005037 002402      CLR      ERRWRD
6357 026734 104410      TRAP     C#ESCAPE
6358 026736 000002      .WORD    L10100-.
6359      ;:::
6360      ; ESCAPE TEST IF ERROR
6361      ;:::
6362 026740      L10100:
6363 026740 104401      TRAP     C#ETST
6364

```

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;***** TEST 32 *****

6365					.SBTTL	;***** TEST 32 *****
6366					.SBTTL	*PROCEDURE ERROR 124 CHECK
6367	026742					ZZ
6368						;
6369						;
6370						;* THIS TEST CHECKS FOR PROCEDURE ERROR 124
6371						;* ESTABLISHING BUFFER FOR HALTED TRIB
6372						;
6373					.SBTTL	;***** TEST 32 *****
6374	026742				T32::	
6375	026742	004737	004522		JSR	PC,MINITS ;MASTER CLEAR MODE DEF
6376	026746	005037	002402		CLR	ERRWRD
6377	026752	104410			TRAP	C\$ESCAPE
6378	026754	000132			.WORD	L10101-.
6379					;	;
6380						; JUMP TO END OF TEST IF ERROR
6381						;
6382	026756	012737	000047	002360	MOV	#47,TRIBN
6383	026764	012703	000001		MOV	#01,R3
6384	026770	004537	003162		JSR	R5,CONTIN ;ESTABLISH TRIB
6385					;	;
6386						; TIME OUT AND READY ERRORS REPORT THIS PC
6387					;	;
6388	026774	005037	002402		CLR	ERRWRD
6389	027000	104410			TRAP	C\$ESCAPE
6390	027002	000104			.WORD	L10101-.
6391					;	;
6392						; JUMP TO END OF TEST IF ERROR
6393					;	;
6394						
6395	027004	052777	000200	153426	BIS	#RQI,#BSELO ;SET REQUEST
6396	027012	004537	002732		JSR	R5,WRDI ;WAIT FOR RDI TO SET
6397						
6398	027016	005037	002402		CLR	ERRWRD ;CLEAR ERROR
6399	027022	104410			TRAP	C\$ESCAPE
6400	027024	000062			.WORD	L10101-.
6401	027026	042777	000200	153404	BIC	#RQI,#BSELO ;CLEAR REQUEST
6402	027034	012777	000010	153412	MOV	#10,#BSEL6 ;SET CC
6403	027042	012777	034014	153400	MOV	#RECBU1,#BSEL4 ;SET BA
6404	027050	113777	002360	153370	MOVB	TRIBN,#BSEL3 ;SET TRIB NO.
6405	027056	112777	000000	153360	MOVB	#0,#BSEL2 ;ESTABLISH BUFFER
6406	027064	012737	000124	002410	MOV	#124,PERR ;WAIT FOR ERROR
6407	027072	004537	003016		JSR	R5,WFPE ;WAIT FOR PROCEDURE ERROR
6408						
6409	027076	005037	002402		CLR	ERRWRD
6410	027102	104410			TRAP	C\$ESCAPE
6411	027104	000002			.WORD	L10101-.
6412					;	;
6413						; ESCAPE TEST IF ERROR
6414					;	;
6415	027106				L10101:	
6416	027106	104401			TRAP	C\$ETST
6417						
6418						
6419						
6420						

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***** TEST 33 *****

```

6421 .SBTTL ***** TEST 33 *****
6422 .SBTTL *PROCEDURE ERROR #126 CHECK
6423 027110 ZZ
6424 ;*
6425 ;*
6426 ;* THIS TEST CHECKS FOR A PROCEDURE ERROR OF #126
6427 ;* ASSIGNING A BUFFER WITH A ZERO BYTE COUNT
6428 ;*
6429 ;*
6430 .SBTTL ***** TEST 33 *****
6431 027110 T33::
6432
6433 027110 004737 004522 JSR PC,MINITS ;MASTER CLEAR MODE DEF
6434
6435 027114 005037 002402 CLR ERRWRD
6436 027120 104410 TRAP C#ESCAPE
6437 027122 000152 .WORD L10102-.
6438 ;*****
6439 ; JUMP TO END OF TEST IF ERROR
6440 ;*****
6441
6442 027124 012737 000074 002360 MOV #74,TRIBN
6443 027132 012703 000001 MOV #01,R3
6444 027136 004537 003162 JSR R5,CONTIN ; ESTABLISH TRIB
6445
6446 027142 005037 002402 CLR ERRWRD
6447 027146 104410 TRAP C#ESCAPE
6448 027150 000124 .WORD L10102-.
6449 ;*****
6450 ; JUMP TO END OF TEST IF ERROR
6451 ;*****
6452
6453 027152 012703 000004 MOV #04,R3
6454 027156 004537 003162 JSR R5,CONTIN ;MAINT STATE
6455
6456 027162 005037 002402 CLR ERRWRD
6457 027166 104410 TRAP C#ESCAPE
6458 027170 000104 .WORD L10102-.
6459 ;*****
6460 ; JUMP TO END OF TEST IF ERROR
6461 ;*****
6462
6463 027172 052777 000200 153240 BIS #RQI,#BSELO ;SET REQUEST
6464 027200 004537 002732 JSR R5,WRDI ;WAIT FOR RDI TO SET
6465
6466 027204 005037 002402 CLR ERRWRD ;CLEAR ERROR
6467 027210 104410 TRAP C#ESCAPE
6468 027212 000062 .WORD L10102-.
6469 027214 042777 000200 153216 BIC #RQI,#BSELO ;CLEAR REQUEST
6470 027222 012777 000000 153224 MOV #0,#BSEL6 ;0 BYTES
6471 027230 012777 034014 153212 MOV #RECBU1,#BSEL4 ;BA
6472 027236 113777 002360 153202 MOVB TRIBN,#BSEL3 ;SET TRIBN
6473 027244 112777 000000 153172 MOVB #0,#BSEL2 ;SET BUFFER
6474 027252 012737 000126 002410 MOV #126,PERR ;WAIT FOR ERROR
6475 027260 004537 003016 JSR R5,WFPE ;WAIT FOR PROCEDURE ERROR
6476

```

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..... TEST 33

6477 027264 005037 002402
6478 027270 104410
6479 027272 000002
6480
6481
6482
6483
6484 027274
6485 027274 104401
6486

CLR ERRWRD
TRAP C0ESCAPE
.WORD L10102-.
!!!!!!
; ESCAPE TEST IF ERROR
!!!!!!
L10102:
TRAP C0ETST

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***** TEST 34 *****

```

6487 .SBTTL ***** TEST 34 *****
6488 .SBTTL *CHECK FOR PROCEDURE ERROR 130
6489 027276 ZZ
6490 ;*
6491 ;*
6492 ;* THIS TEST CHECKS FOR A PROCEDURE ERROR OF 130
6493 ;* ASSIGNING TRANSMIT BUFFER FOR TRIB 0
6494 ;*
6495 ;*-
6496 .SBTTL ***** TEST 34 *****
6497 027276 T34::
6498
6499 027276 004737 004522 JSR PC,MINITS ;MASTER CLEAR MODE DEF
6500
6501 027302 005037 002402 CLR ERRMRD
6502 027306 104410 TRAP C!ESCAPE
6503 027310 000102 .WORD L10103-.
6504 ;*****
6505 ; JUMP TO END OF TEST IF ERROR
6506 ;*****
6507
6508 027312 052777 000200 153120 BIS #RQI,8BSEL0 ;SET REQUEST
6509 ;WAIT FOR READY
6510 027320 004537 002732 JSR R5,WRDI ;WAIT FOR RDI TO SET
6511
6512 027324 005037 002402 CLR ERRMRD ;CLEAR ERROR
6513 027330 104410 TRAP C!ESCAPE
6514 027332 000060 .WORD L10103-.
6515 027334 042777 000200 153076 BIC #RQI,8BSEL0 ;CLEAR REQUEST.
6516 027342 105077 153100 CLRB 8BSEL3 ;MAKE TRIB NO. 0
6517 027346 012777 000010 153100 MOV #10,8BSEL6 ;MAKE CC 10
6518 027354 012777 033534 153066 MOV #NR1,8BSEL4 ;MAKE ADD NR1
6519 027362 012777 000004 153054 MOV #4,8BSEL2 ;CLEAR RDI AND ESTAB
6520 ;TRANSMIT BUFFER
6521 027370 012737 000130 002410 MOV #130,PERR ;WAIT FOR PROCEDURE ERROR
6522 027376 004537 003016 JSR R5,WFPE ;WAIT FOR PROCEDURE ERROR
6523
6524 027402 005037 002402 CLR ERRMRD
6525 027406 104410 TRAP C!ESCAPE
6526 027410 000002 .WORD L10103-.
6527 ;*****
6528 ; ESCAPE TEST IF ERROR
6529 ;*****
6530 027412 L10103:
6531 027412 104401 TRAP C!ETST
6532
6533
6534

```

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***** TEST 34 *****

```

6535
6536
6537
6538 027414
6539
6540
6541
6542
6543
6544
6545
6546
6547
6548
6549 027414
6550 027414 012737 000035 002370
6551
6552 027422 012737 001750 002424
6553 027430 012737 034014 002422
6554 027436 012737 000400 002426
6555 027444 012737 033534 002420
6556 027452 005037 002432
6557 027456 012737 000001 002360
6558 027464 022737 000004 002476
6559 027472 001402
6560 027474 005237 002400
6561 027500 004737 004512
6562 027504 005037 002400
6563 027510 005037 002402
6564 027514 104410
6565 027516 000016
6566
6567
6568
6569
6570 027520 004537 005720
6571
6572 027524 005037 002402
6573 027530 104410
6574 027532 000002
6575
6576
6577
6578
6579 027534
6580 027534 104401
6581
6582

.SBTTL ***** TEST 35 *****
.SBTTL * TRANSMIT REC 256,PTP,DOCHP
ZZ
;*
;*
;* THIS TEST WILL TRANSMIT 256 BYTE MESSAGE
;* DOCHP PROTOCOL
;* THIS WILL BE DONE EXTERNAL LOOPBACK IF
;* IT EXISTS ELSE INTERNAL LOOPBACK WILL
;* BE USED
;*
;*
.SBTTL ***** TEST 35 *****
T35::
MOV #35,ROMN1 ;SET UP TEST NUMBER
MOV #1000.,RXCC ;SET REC BUFFER FOR 1000BYTES
MOV #RECBU1,RXADD ;SET UP BUFF ADD
MOV #256.,TXCC ;SET UP RX CHAR COUNT
MOV #MR1,TXADD ;AND ADDRESS
CLR GENWRD ;CLEAR GEN WORD
MOV #01,TRIBN ;SET THE TRIB TO 01
CMP #4,TSTCON ;CHECK FOR LOOPBACK CONNECTOR.
BEQ 14
INC EXLOOP ;EXT CONNECTOR PRESENT: SET EXT LOOP FLAG
JSR PC,INIT1 ;MASTER CLEAR-MODE DEF
CLR EXLOOP ;CLEAR EXTERNAL LOOP FLAG
CLR ERRWRD
TRAP C#ESCAPE
.WORD L10104-.
;*****
; JUMP TO END OF TEST IF ERROR
;*****
JSR R5,TXRXSR ;GO TRANSMIT RX AND CHECK
CLR ERRWRD
TRAP C#ESCAPE
.WORD L10104-.
;*****
; JUMP TO END OF TEST IF ERROR
;*****
L10104:
TRAP C#ETST

```


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;***** TEST 35 *****

```

6583
6584
6585
6586 027536
6587
6588
6589
6590
6591
6592
6593
6594
6595
6596 027536
6597 027536 032737 000003 002472
6598 027544 001454
6599
6600 027546 012737 000036 002370
6601 027554 012737 001750 002424
6602 027562 012737 034014 002422
6603 027570 012737 000400 002426
6604 027576 012737 033534 002420
6605 027604 005037 002432
6606 027610 012737 000001 002360
6607 027616 022737 000004 002476
6608 027624 001402
6609 027625 005237 002400
6610 027632 004737 004512
6611 027636 005037 002400
6612 027642 005037 002402
6613 027646 104410
6614 027650 000026
6615
6616
6617
6618 027652 005237 002376
6619 027656 004537 005720
6620 027662 005037 002402
6621 027666 005037 002376
6622 027672 104410
6623 027674 000002
6624
6625
6626
6627 027676
6628 027676
6629 027676 104401
6630

```

```

.SBTTL ;***** TEST 36 *****
.SBTTL * DMV Q22 MODE TX AND RX,256 BYTES,DDCMP
ZZ
;*
;*
;*      **** DMV ONLY ****
;* THIS TEST WILL TRANSMIT A 256 BYTE MESSAGE DDCMP PROTOCOL
;* USING THE "Q22" CSR MODE OF THE DMV-11
;* THIS WILL BE DONE EXTERNAL LOOPBACK IF IT EXISTS ( ELSE
;* INTERNAL LOOPBACK WILL BE USED).
;*
;*
.SBTTL ;***** TEST 36 *****
T36::
BIT      #3,OPTYP      ;IS THIS A DMV ?
BEQ      T36END        ;IF NOT: EXIT TEST

MOV      #36,ROMN1      ;SET UP TEST NUMBER
MOV      #1000.,RXCC     ;SET REC BUFFER FOR 1000BYTES
MOV      @RECBU1,RXADD   ;SET UP BUFF ADD
MOV      #256.,TXCC      ;SET UP RX CHAR COUNT
MOV      @MR1,TXADD      ;AND ADDRESS
CLR      GENWRD          ;CLEAR GEN WORD
MOV      #01,TRIBN       ;SET THE TRIB TO 01
CMP      #4,TSTCON       ;CHECK FOR LOOPBACK CONNECTOR.
BEQ      1$
INC      EXLOOP          ;EXT CONNECTOR PRESENT: SET EXT LOOP FLAG
JSR      PC,MINIT1       ;MASTER CLEAR-MODE DEF
CLR      EXLOOP          ;CLEAR NO TTLOOP FLAG
CLR      ERRWRD
TRAP     C#ESCAPE
.WORD    L10105-.

;*****
; JUMP TO END OF TEST IF ERROR
;*****
INC      MODQ22          ;SET Q22 MODE FLAG (FOR TXRXSR)
JSR      R5,TXRXSR       ;GO TRANSMIT RX AND CHECK
CLR      ERRWRD
CLR      MODQ22
TRAP     C#ESCAPE
.WORD    L10105-.

;*****
; JUMP TO END OF TEST IF ERROR
;*****
T36END:
L10105:
TRAP     C#ETST

```

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;***** TEST 37 *****

```

6631 .SBTTL ;***** TEST 37 *****
6632 .SBTTL ; TX AND RX,255 BYTES,EVEN TX,ODD RX,DDCMP,MULTIPOINT
6633 027700 ZZ
6634 ;*
6635 ;*
6636 ;* THIS TEST WILL TRANSMIT A MESSAGE OF 255
6637 ;* BYTES FROM AN EVEN TX START ADD TO AN ODD
6638 ;* REC START ADD. IN DDCMP MODE MULTI POINT
6639 ;* CONTROL STATION.
6640 ;*
6641 ;*-
6642 .SBTTL ;***** TEST 37 *****
6643 T37::
6644 027700 012737 000377 002426 MOV #255.,TXCC ;SET UP TRANSMIT CHAR COUNT
6645 027706 012737 033534 002420 MOV #MR1,TXADD ;SET UP TRANSMIT ADD
6646 027714 012737 000764 002424 MOV #500.,RXCC ;SET UP REC CHAR COUNT
6647 027722 012737 034015 002422 MOV #RECBUI+1,RXADD ;SET UP REC ADD
6648 027730 012737 000075 002360 MOV #75,TRIBN ;SET UP TRIB NO.
6649 027736 005037 002432 CLR GENWRD ;CLEAR THE GENWRD
6650 027742 004737 004522 JSR PC,MINITS ;MASTER CLEAR MODE DEF
6651 ;MULTI POINT CONTROL
6652
6653 027746 005037 002402 CLR ERRWRD
6654 027752 104410 TRAP C#ESCAPE
6655 027754 000016 .WORD L10106-.
6656 ;*****
6657 ; JUMP TO END OF TEST IF ERROR
6658 ;*****
6659
6660 027756 004537 006410 201: JSR R5,TXRX3 ;GO TRANSMIT AND REC
6661 ; AND CHECK DATA.
6662
6663 027762 005037 002402 CLR ERRWRD
6664 027766 104410 TRAP C#ESCAPE
6665 027770 000002 .WORD L10106-.
6666 ;*****
6667 ; JUMP TO END OF TEST IF ERROR
6668 ;*****
6669
6670 027772 L10106:
6671 027772 104401 TRAP C#ETST
6672

```


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***** TEST 38 *****

```

6673 .SBTTL ***** TEST 38 *****
6674 .SBTTL *READ/WRITE MODEM TESTS
6675 027774 ZZ
6676 ;*
6677 ;*
6678 ;* THIS TEST WILL SELECT EACH OF THE 4 MODEM
6679 ;* INTERFACES AND WRITE AND READ THEM. THIS IS
6680 ;* ONLY DONE IF CONNECTORS ARE PRESENT
6681 ;* ( DMP ONLY ).
6682 ;*-
6683 .SBTTL ***** TEST 38 *****
6684 027774 T38::
6685
6686 027774 032737 000003 002472 BIT #3,OPTYP ;IS THIS A DMV11 ?
6687 030002 001402 BEQ 1$ ; NO: GOOD, CONTINUE TEST
6688 030004 104432 TRAP C$EXIT
6689 030006 000412 .WORD L10107-.
6690
6691 030010 005002 1$: CLR R2 ;CLEAR R2
6692 030012 022737 000000 002476 CMP #0,TSTCON ;IS THIS WITH TEST CONN LOOPBACK
6693 030020 001135 BNE MODEX ;IF NOT GO TO END
6694 030022 016237 030374 002506 MODEB: MOV DUPTYP(R2),AXNUM
6695 030030 004737 004530 JSR PC,MINTR ;MASTER CLEAR MODE DEF
6696 030034 004737 004244 JSR PC,WAIT50 ;DELAY
6697
6698 030040 005037 002402 CLR ERRWRD
6699 030044 104410 TRAP C$ESCAPE
6700 030046 000352 .WORD L10107-.
6701 ;*****
6702 ; JUMP TO END OF TEST IF ERROR
6703 ;*****
6704
6705 030050 022702 000010 CMP #10,R2
6706 030054 101403 BLOS MODEA ;DON'T TURN OFF LINE UNT LOOP
6707 ;IF PAST THIS POINT IN TABLES
6708 030056 142777 000010 152356 BICB #BIT3,88SEL1
6709
6710 030064 005037 002360 MODEA: CLR TRIBN ;MAKE TRIB NO. = 0
6711 030070 016204 030320 MOV MODTYP(R2),R4 ;SELECT TYPE OF INTERFACE
6712 030074 012703 000023 MOV #23,R3 ;SELECT INTERFACE
6713 030100 004537 003162 JSR R5,CONTIN
6714 ;*****
6715 ; TIME OUT OR READY ERRORS REPORT THIS PC
6716 ;*****
6717
6718 030104 005037 002402 CLR ERRWRD
6719 030110 104410 TRAP C$ESCAPE
6720 030112 000306 .WORD L10107-.
6721 ;*****
6722 ; JUMP TO END OF TEST IF ERROR
6723 ;*****
6724 030114 012704 000100 MOV #100,R4
6725 030120 012703 000021 MODED: MOV #21,R3 ;WRITE MODEM
6726 030124 004537 003162 JSR R5,CONTIN
6727 ;*****
6728 ; TIME OUT OR READY ERRORS REPORT THIS PC

```

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;***** TEST 38 *****

```

6729                                     ;*****
6730                                     ;*****
6731 030130 005037 002402             CLR    ERRWRD
6732 030134 104410                     TRAP   C#ESCAPE
6733 030136 000262                     .WORD  L10107-.
6734                                     ;*****
6735                                     ; JUMP TO END OF TEST IF ERROR
6736                                     ;*****
6737                                     ;*****
6738 030140 012703 000020             MOV     #20,R3
6739 030144 004537 003162             JSR     R5,CONTIN      ;READ MODEM
6740                                     ;*****
6741                                     ; TIME OUT OR READY ERRORS REPORT THIS PC
6742                                     ;*****
6743                                     ;*****
6744 030150 005037 002402             CLR    ERRWRD
6745 030154 104410                     TRAP   C#ESCAPE
6746 030156 000242                     .WORD  L10107-.
6747                                     ;*****
6748                                     ; JUMP TO END OF TEST IF ERROR
6749                                     ;*****
6750                                     ;*****
6751 030160 012737 000002 002336      MOV     #02,#GDDAT
6752 030166 004537 003242             JSR     R5,GETOUT
6753                                     ;*****
6754                                     ; CHECK FOR INFORMATION OUT AND CORRECT TRIBN
6755                                     ;*****
6756                                     ;*****
6757 030172 005037 002402             CLR    ERRWRD
6758 030176 104410                     TRAP   C#ESCAPE
6759 030200 000220                     .WORD  L10107-.
6760                                     ;*****
6761                                     ; JUMP TO END OF TEST IF ERROR
6762                                     ;*****
6763                                     ;*****
6764 030202 012737 000010 002336      MOV     #10,#GDDAT
6765 030210 004537 003372             JSR     R5,GETRKY
6766                                     ;*****
6767                                     ;CHECK FOR CORRECT RETURN KEY MODEM STATUS
6768                                     ;*****
6769                                     ;*****
6770 030214 005037 002402             CLR    ERRWRD
6771 030220 104410                     TRAP   C#ESCAPE
6772 030222 000176                     .WORD  L10107-.
6773                                     ;*****
6774                                     ; JUMP TO END OF TEST IF ERROR
6775                                     ;*****
6776 030224 005037 002336             CLR     #GDDAT
6777 030230 005037 002340             CLR     #BDDAT
6778 030234 117737 152210 002340      MOVB    @BSEL4,@BDDAT
6779 030242 116237 030350 002336      MOVB    MODOUT(R2),#GDDAT
6780 030250 123737 002340 002336      CMPB    @BDDAT,#GDDAT
6781 030256 001411                     BEQ     10#
6782 030260 012737 012056 002430      MOV     #M30F,CODEW
6783 030266 104455                     TRAP   C#ERDF
6784 030270 000055                     .WORD  45

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;***** TEST 38 *****

6785	030272	011550		.WORD	EROIC	
6786	030274	010366		.WORD	ERR27	
6787	030276	104410		TRAP	C#ESCAPE	
6788	030300	000120		.WORD	L10107-.	
6789	030302	062702	000002	104: ADD	#2,R2	
6790						
6791	030306	022702	000024	CMP	#24,R2	
6792	030312	001243		BNE	MODEB	;IF NOT DONE GO TO B
6793	030314			MODEX:		
6794	030314	104432		TRAP	C#EXI7	
6795	030316	000102		.WORD	L10107-.	
6796						
6797	030320	000323		MODTYP: .WORD	323	
6798	030322	000313		.WORD	313	
6799	030324	000233		.WORD	233	
6800	030326	000133		.WORD	133	
6801	030330	000133		.WORD	133	
6802	030332	000233		.WORD	233	
6803	030334	000323		.WORD	323	
6804	030336	000323		.WORD	323	
6805	030340	000323		.WORD	323	
6806	030342	000313		.WORD	313	
6807	030344	000377		MODIN: .WORD	377	
6808	030346	000100		.WORD	100	
6809						
6810	030350	000310		MODOUT: .WORD	310	
6811	030352	000310		.WORD	310	
6812	030354	000330		.WORD	330	
6813	030356	000330		.WORD	330	
6814	030360	000330		.WORD	330	
6815	030362	000330		.WORD	330	
6816	030364	000330		.WORD	330	
6817	030366	000330		.WORD	330	
6818	030370	000310		.WORD	310	
6819	030372	000310		.WORD	310	
6820						
6821						
6822						
6823	030374	000005		DUPTYP: .WORD	5	
6824	030376	000005		.WORD	5	
6825	030400	000004		.WORD	4	
6826	030402	000004		.WORD	4	
6827	030404	000004		.WORD	4	
6828	030406	000004		.WORD	4	
6829	030410	000004		.WORD	4	
6830	030412	000004		.WORD	4	
6831	030414	000005		.WORD	5	
6832	030416	000005		.WORD	5	
6833						
6834	030420			L10107:		
6835	030420	104401		TRAP	C#ETST	
6836						
6837						
6838						
6839						
6840						

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***** TEST 39 *****

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6841 .SBTTL ***** TEST 39 *****
6842 .SBTTL TEST OF MEM EXTENSION BIT 16, ADDRESS 200000
6843 030422 ZZ
6844 ;*
6845 ;*
6846 ;* THIS TEST WE'LL TRY TRANSMITTING A MESSAGE
6847 ;* TO VIRTUAL ADDRESS 200000 (BIT 16 SET).
6848 ;* IF MEMORY MANAGEMENT AND/OR SUFFICIENT MEMORY IS NOT
6849 ;* AVAILABLE FOR MESSAGE STORAGE, WE WILL EXPECT THE LMP-11
6850 ;* TO RETURN A NON-EXISTENT MEMORY ERROR FOR THE BUFFER.
6851 ;* IF ENOUGH MEMORY EXISTS, WE'LL MAKE SURE THE TRANSFER TAKES
6852 ;* PLACE PROPERLY.
6853 ;*
6854 ;*-
6855 .SBTTL ***** TEST 39 *****
6856 030422 T39::
6857
6858 030422 012737 004222 000004 MOV #META,4 ;SET UP TRAP FOR NO MEM
6859 030430 005037 000006 CLR 6
6860 030434 012737 000002 002542 MOV #2, TMP0
6861 030442 012746 000002 MOV #2, -(SP) ;DUMMY MOVE TO STACK
6862 030446 012705 030656 MOV #RET16, R5 ;SET UP R5 FOR RETURN IF TRAP
6863 ; TAKES U TO SR.
6864 030452 005737 177572 TST #177572 ;DOES MEM MANAGEMENT EXIST
6865 ;IF NOT TRAP TO META
6866 ; ELSE CONTINUE
6867 030456 062706 000002 ADD #2, SP ;FIX THE STACK ;(SP) VRG021882
6868 030462 012700 000000 MOV #0, R0
6869 030466 104441 TRAP C$SPRI
6870 030470 012701 172300 MOV #172300, R1 ;GET ADDRESS OF KERNEL PDR REQD/
6871 030474 012702 000010 MOV #8, R2 ; DO 8 TIMES
6872 030500 104::
6873 030500 012721 077406 MOV #77406, (R1)+
6874 030504 005302 DEC R2
6875 030506 001374 BNE 104
6876 030510 012701 172340 MOV #172340, R1
6877 030514 005011 CLR (R1)
6878 030516 012761 000200 000002 MOV #200, 2(R1)
6879 030524 012761 000400 000004 MOV #400, 4(R1)
6880 030532 012761 000600 000006 MOV #600, 6(R1)
6881 030540 012761 001000 000010 MOV #1000, 10(R1)
6882 030546 012761 177600 000016 MOV #177600, 16(R1) ;CHANGED FROM 7600 FOR
6883 ;AN 11/24 VRG030482
6884 030554 012761 002000 000012 MOV #2000, 12(R1)
6885 030562 005037 002432 CLR GENWRD
6886 030566 012737 000033 002360 MOV #33, TRIBN ;MAP MEM CLEAR GEN AND SET UP TRIB
6887 030574 052737 040000 002432 BIS #BIT14, GENWRD ;SET MM BIT
6888 030602 012737 177776 002422 MOV #177776, RXADD ;SET UP RX ADD
6889 030610 012737 001750 002424 MOV #1750, RXCC ;SET UP RX COUNT(1000 DEC)
6890 030616 012737 033534 002420 MOV #MR1, TXADD ;SET UP TRANSMIT COUNT
6891 030624 012737 001000 002426 MOV #512, TXCC ;SET UP TRANSMIT COUNT

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;***** TEST 39 *****

6892	030632	004737	004522	JSR	PC,MINITS	; MASTER CLEAR MODE DEF
6893	030636	004537	006410	JSR	R5,TRRX3	;GO TRANSMIT AND RX
6894	030642	005037	002402	CLR	ERRWRD	; IF ERROR GO TO END
6895	030646	104410		TRAP	C\$ESCAPE	
6896	030650	000012		.WORD	L10110-	
6897	030652	004537	003744	JSR	R5,MEMEX	;CHECK MEM EXTENSION
6898	030656	005037	002402	CLR	ERRWRD	;CLEAR ERROR WORD
6899	030662					
6900	030662	104401		TRAP	C\$ETST	

RET16:
L10110:

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***** TEST 40 *****

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6901      .SBTTL      ;***** TEST 40 *****
6902      .SBTTL      TEST OF MEM EXTENSION BIT 17, ADDRESS 400000
6903      030664      ZZ
6904      ;*
6905      ;*
6906      ;* THIS TEST WE'LL TRY TRANSMITTING A MESSAGE
6907      ;* TO VIRTUAL ADDRESS 400000 (BIT 17 SET).
6908      ;* IF MEMORY MANAGEMENT AND/OR SUFFICIENT MEMORY IS NOT
6909      ;* AVAILABLE FOR MESSAGE STORAGE, WE WILL EXPECT THE DMP-11
6910      ;* TO RETURN A NON-EXISTENT MEMORY ERROR FOR THE BUFFER.
6911      ;* IF ENOUGH MEMORY EXISTS, WE'LL MAKE SURE THE TRANSFER TAKES
6912      ;* PLACE PROPERLY.
6913      ;*
6914      ;*-
6915      .SBTTL      ;***** TEST 40 *****
6916      030664      T40::
6917
6918      030664      012737      004222      000004      MOV      #META,4      ;SET UP TRAP FOR NO MEM
6919      030672      005037      000006      CLR      6
6920      030676      012737      000004      002542      MOV      #4,#TMP0
6921      030704      012746      000004      MOV      #4,-(SP)      ;DUMMY MOVE ON STACK IF TRAP
6922      030710      012705      031120      MOV      #RET17,R5      ;SET UP R5 FOR RETURN IF TRAP IS
6923      ; TO SR.EXNEM.
6924      030714      005737      177572      TST      B#177572      ;DOES MEM MANAGEMENT EXIST
6925      ;IF NOT TRAP TO META
6926      ; ELSE CONTINUE
6927      030720      062706      000002      ADD      #2,SP      ;FIX THE STACK ;:(SP)      VRG021882
6928      030724      012700      000000      MOV      #0,R0
6929      030730      104441      TRAP      C$SPRI
6930      030732      012701      172300      MOV      #172300,R1      ;GET ADDRESS OF KERNEL PDR REQD/
6931      030736      012702      000010      MOV      #8.,R2      ; DO 8 TIMES
6932      030742      10$:
6933      030742      012721      077406      MOV      #77406,(R1)+
6934      030746      005302      DEC      R2
6935      030750      001374      BNE      10$
6936      030752      012701      172340      MOV      #172340,R1
6937      030756      005011      CLR      (R1)
6938      030760      012761      000200      000002      MOV      #200,2(R1)
6939      030766      012761      000400      000004      MOV      #400,4(R1)
6940      030774      012761      000600      000006      MOV      #600,6(R1)
6941      031002      012761      001000      000010      MOV      #1000,10(R1)
6942      031010      012761      177600      000016      MOV      #177600,16(R1)      ;;CHANGED FROM 7600 FOR
6943      ;AN 11/24      VRG030482
6944
6945      031016      012761      004000      000012      MOV      #4000,12(R1)
6946      031024      005037      002432      CLR      GENWRD
6947      031030      012737      000033      002360      MOV      #33,TRIBN      ;MAP MEM CLEAR GEN AND SET UP TRIB
6948      031036      052737      040000      002432      BIS      #BIT14,GENWRD      ;SET MM BIT
6949      031044      012737      177776      002422      MOV      #177776,RXADD      ;SET UP RX ADD

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;***** TEST 40 *****

6950	031052	012737	041750	002424	MOV	#41750,RXCC	;SET UP RX COUNT (1000 DEC).BA16
6951	031060	012737	033534	002420	MOV	#MR1,TXADD	;SET UP TRANSMIT COUNT
6952	031066	012737	001000	002426	MOV	#512.,TXCC	;SET UP TRANSMIT COUNT
6953	031074	004737	004522		JSR	PC,MINITS	; MASTER CLEAR MODE DEF
6954	031100	004537	006410		JSR	R5,TXRX3	;GO TRANSMIT AND RX
6955	031104	005037	002402		CLR	ERRWRD	; IF ERROR GO TO END
6956	031110	104410			TRAP	C\$ESCAPE	
6957	031112	000012			.WORD	L10111-	
6958	031114	004537	003744		JSR	R5,MEMEX	;CHECK MEM EXTENSION
6959	031120	005037	002402	RET17:	CLR	ERRWRD	;CLEAR ERROR WORD
6960	031124			L10111:			
6961	031124	104401			TRAP	C\$ETST	
6962							

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;***** TEST 41 *****

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6963 .SBTTL ;***** TEST 41 *****
6964 .SBTTL TEST OF MEM EXTENSION BIT 16 AND 17. ADDRESS 600000
6965 031126 ZZ
6966 ;*
6967 ;*
6968 ;* THIS TEST WE'LL TRY TRANSMITTING A MESSAGE
6969 ;* TO VIRTUAL ADDRESS 600000 (BIT 16 AND 17 SET).
6970 ;* IF MEMORY MANAGEMENT AND/OR SUFFICIENT MEMORY IS NOT
6971 ;* AVAILABLE FOR MESSAGE STORAGE, WE WILL EXPECT THE DMP-11
6972 ;* TO RETURN A NON-EXISTENT MEMORY ERROR FOR THE BUFFER.
6973 ;* IF ENOUGH MEMORY EXISTS, WE'LL MAKE SURE THE TRANSFER TAKES
6974 ;* PLACE PROPERLY.
6975 ;*
6976 ;*
6977 .SBTTL ;***** TEST 41 *****
6978 031126 T41::
6979
6980 031126 012737 004222 000004 MOV #META,4 ;SET UP TRAP FOR NO MEM
6981 031134 005037 000006 CLR 6
6982 031140 012737 000006 002542 MOV #6,THPO
6983 031146 012746 000006 MOV #6,-(SP) ;DUPPY MOVE TO STACK IF
6984 ;TRAP TAKES U TO SR.
6985 031152 012705 031362 MOV #RET18,R5 ;SET UP R5 FOR RETURN
6986
6987 031156 005737 177572 TST #0177572 ;DOES MEM MANAGEMENT EXIST
6988 ;IF NOT TRAP TO META
6989 ; ELSE CONTINUE
6990 031162 062706 000002 ADD #2,SP ;FIX STACK ;(SP) VRG021882
6991 031166 012700 000000 MOV #0,R0
6992 031172 104441 TRAP C:SPRI
6993 031174 012701 172300 MOV #172300,R1 ;GET ADDRESS OF KERNEL PDR REQD/
6994 031200 012702 000010 MOV #0,R2 ; DO 8 TIMES
6995 031204
6996 031204 012721 077406 104: MOV #77406,(R1).
6997 031210 005302 DEC R2
6998 031212 001374 BNE 104
6999 031214 012701 172340 MOV #172340,R1
7000 031220 005011 CLR (R1)
7001 031222 012761 000200 000002 MOV #200,2(R1)
7002 031230 012761 000400 000004 MOV #400,4(R1)
7003 031236 012761 000600 000006 MOV #600,6(R1)
7004 031244 012761 001000 000010 MOV #1000,10(R1)
7005 031252 012761 177600 000016 MOV #177600,16(R1) ;,CHANGED FROM 7600 FOR
7006 ;,AN 11/24 VRG030482
7007
7008 031260 012761 006000 000012 MOV #6000,12(R1)
7009 031266 005037 002432 CLR GENMRD
7010 031272 012737 000033 002360 MOV #33,TRIBN ;MAP MEM CLEAR GEN AND SET UP TRIB
7011 031300 052737 040000 002432 BIS #BIT14,GENMRD ;SET MM BIT
7012 031306 012737 177776 002422 MOV #177776,RXADD ;SET UP RX ADD
7013 031314 012737 101750 002424 MOV #101750,RXCC ;SET UP RX COUNT (1000 DEC).BA17

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;***** TEST 41 *****

7014	031322	012737	033534	002420	MOV	@R1, TXADD	;SET UP TRANSMIT COUNT
7015	031330	012737	001000	002426	MOV	@512, TXCC	;SET UP TRANSMIT COUNT
7016	031336	004737	004522		JSR	PC, MINITS	; MASTER CLEAR MODE DEF
7017	031342	004537	006410		JSR	R5, TXRX3	;GO TRANSMIT AND RX
7018	031346	005037	002402		CLR	ERRWRD	; IF ERROR GO TO END
7019	031352	104410			TRAP	C1ESCAPE	
7020	031354	000012			.WORD	L10112-	
7021	031356	004537	003744		JSR	R5, MEMEX	;CHECK MEM EXTENSION
7022	031362	005037	002402		CLR	ERRWRD	;CLEAR ERROR WORD
7023	031366			RET18:			
7024	031366	104401		L10112:			
7025					TRAP	C1ETST	

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;***** TEST 42 *****

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7026 .SBTTL ;***** TEST 42 *****
7027 .SBTTL ;TX AND RX 257 BYTES,ODD TX,ODD RX,DDCMP,POINT TO POINT
7028 031370 ZZ
7029 ;*
7030 ;*
7031 ;* THIS TEST WILL TRANSMIT A MESSAGE OF 257 BYTES
7032 ;* FROM A TX BUFFER STARTING WITH AN ODD BYTE TO
7033 ;* A RECEIVE BUFFER STARTING WITH AN ODD BYTE IN
7034 ;* DDCMP MODE,POINT TO POINT IF THERE IS EXTERNAL LOOP
7035 ;* BACK THEN THE TEST WILL BE DONE OVER THAT LOOPBACK
7036 ;* ELSE THE LOOPBACK WILL BE SET TO INTERNAL(TTL).
7037 ;*
7038 ;*-
7039 .SBTTL ;***** TEST 42 *****
7040 031370 T42.:
7041
7042 031370 012737 000042 002370 MOV #42,ROMN1 ;SET UP TEST NUMBER
7043
7044 031376 005037 002432 CLR GENWRD ;CLEAR THE GEN WORD
7045 031402 012737 000401 002426 MOV #257.,TXCC ;SET UP TRANSMIT CHAR COUNT
7046 031410 012737 033535 002420 MOV #MR1+1,TXADD ;SET UP ADD FOR TX
7047 031416 012737 034015 002422 MOV #RECBUI+1,RXADD ;SET UP RX
7048 031424 012737 001750 002424 MOV #1000.,RXCC ;SET UP RX COUNT 1000 DECIMAL
7049 031432 012737 000001 002360 MOV #01,TRIBN ;SET TRIB # TO 1
7050 031440 022737 000004 002476 CMP #4,TSTCON ;CHECK FOR LOOPBACK CONNECTOR
7051 031446 001402 BEQ 11 ;
7052 031450 005237 002400 INC EXLOOP ;EXT CONNECTOR PRESENT: SET EXT LOOP FLAG
7053 031454 004737 004512 11: JSR PC,INIT1 ;MASTER CLEAR-MODE DEF
7054 031460 005037 002400 CLR EXLOOP ;CLEAR EXTERNAL LOOP FLAG
7055 031464 005037 002402 CLR ERRWRD
7056 031470 104410 TRAP C#ESCAPE
7057 031472 000012 .WORD L10113-.
7058 ;!!!!
7059 ;ESCAPE TEST IF ERROR
7060 ;!!!!!!
7061 031474 004537 005720 204: JSR R5,TXRXSR ;GO DO IT
7062 031500 005037 002402 CLR ERRWRD
7063 031504 L10113: TRAP C#ETST
7064 031504 104401
7065

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***** TEST 43 *****

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7066 .SBTTL ***** TEST 43 *****
7067 .SBTTL *TX AND RX 1 BYTE, ODD TX, EVEN RX, MAINT, MULTIPOINT
7068 031506 ZZ
7069 ;*
7070 ;*
7071 ;* THIS TEST TRANSMITS AND RECEIVES 1 BYTE MESSAGE
7072 ;* FROM AND ODD TRANSMIT BUFFER TO AN EVEN RX BUFFER
7073 ;* IN MAINTAINCE MODE, MULTIPOINT
7074 ;*
7075 ;*-
7076 .SBTTL ***** TEST 43 *****
7077 031506 T43::
7078
7079 031506 012737 000001 002360 MOV #01,TRIBN
7080 031514 012737 000001 002426 MOV #01, TXCC
7081 031522 012737 033535 002420 MOV #MR1+1, TXADD
7082 031530 012737 000764 002424 MOV #500, RXCC
7083 031536 012737 034014 002422 MOV #RECBUI, RXADD
7084 031544 005037 002432 CLR GENWRD
7085 031550 052737 100000 002432 BIS #BIT15, GENWRD ;SET UP TX RX AND MAINT STATE
7086 031556 004737 004522 JSR PC, MINITS ;MASTER CLEAR MULTIPOINT
7087 031562 005037 002402 CLR ERRWRD
7088 031566 104410 TRAP C#ESCAPE
7089 031570 000012 .WORD L10114-.
7090 ;*****
7091 ; ESCAPE TEST IF ERROR
7092 ;*****
7093 031572 004537 006410 201: JSR R5, TXRX3 ;GO DO IT
7094 031576 005037 002402 CLR ERRWRD ;CLEAR ERROR WORD
7095 031602
7096 031602 104401 L10114: TRAP C#ETST

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;***** TEST 44 *****

```

7097 .SBTTL ;***** TEST 44 *****
7098 .SBTTL POLLING STATE TESTS
7099 031604 ZZ
7100 ;*
7101 ;*
7102 ;* THIS TEST CHECKS THE DEGRADING OF THE POLLING
7103 ;* STATES FROM ACTIVE TO INACTIVE TO POTEN. DEAD
7104 ;* TO DEAD.
7105 ;*
7106 .SBTTL ;***** TEST 44 *****
7107 031604 T44::
7108
7109 031604 005037 002432 CLR GENWRD ;CLEAR FLAG WORD
7110 031610 004737 004522 BEGPOL: JSR PC,MINITS ;MASTER CLEAR MODE DEF(FD/CS/MP)
7111 031614 005037 002402 CLR ERRWRD
7112 031620 104410 TRAP C$ESCAPE
7113 031622 000774 .WORD L10115-.
7114 ;*****
7115 ;SET POLL DELAY
7116 ;*****
7117 031624 005037 002360 CLR TRIBN
7118 031630 012703 000237 MOV #237,R3
7119 031634 012704 000100 MOV #100,R4
7120 031640 004537 003162 JSR R5,CONTIN
7121 031644 005037 002402 CLR ERRWRD
7122 031650 104410 TRAP C$ESCAPE
7123 031652 000744 .WORD L10115-.
7124 ;*****
7125 ; ESTABLISH TRIB
7126 ;*****
7127 MOV #34,TRIBN ;SET TRIB NO.
7128 031654 012737 000034 002360 MOV #01,R3
7129 031662 012703 000001 MOV #01,R3
7130 031666 004537 003162 JSR R5,CONTIN
7131 031672 005037 002402 CLR ERRWRD
7132 031676 104410 TRAP C$ESCAPE
7133 031700 000716 .WORD L10115-.
7134 ;*****
7135 ; SET SELECTION TIMER TO 1 SEC
7136 ;*****
7137 031702 012703 000236 MOV #236,R3
7138 031706 012704 002000 MOV #2000,R4
7139 031712 032737 000003 002472 BIT #3,OPTYP ;* IS THIS A DMV ?
7140 031720 001402 BEQ 14 ;*
7141 031722 012704 000144 MOV #144,R4 ;* IF YES: ADJUST VALUE.
7142 031726 004537 003162 JSR R5,CONTIN
7143 031732 005037 002402 CLR ERRWRD
7144 031736 104410 TRAP C$ESCAPE
7145 031740 000656 .WORD L10115-.
7146 ;*****
7147 ; WRITE NDM > INACTIVE AND #TO > PDEAD
7148 ;*****
7149 031742 012704 002010 MOV #2010,R4
7150 031746 012703 000234 104: MOV #234,R3
7151 031752 004537 003162 JSR R5,CONTIN ;WRITE TSS SLOT
7152 031756 005037 002402 CLR ERRWRD

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;***** TEST 44 *****

7153	031762	104410			TRAP	C#ESCAPE	
7154	031764	000632			.WORD	L10115-.	
7155					;	ISTRT TRIB	
7156					;		
7157					;		
7158	031766	012703	000003		MOV	#03,R3	
7159	031772	004537	003162		JSR	R5,CONTIN	
7160	031776	005037	002402		CLR	ERRWRD	
7161	032002	104410			TRAP	C#ESCAPE	
7162	032004	000612			.WORD	L10115-.	
7163					;		
7164					;	WAIT FOR RUN STATE	
7165					;		
7166	032006	012737	000001	002336	MOV	#01,#GDDAT	
7167	032014	004537	003242		JSR	R5,GETOUT	
7168	032020	005037	002402		CLR	ERRWRD	
7169	032024	104410			TRAP	C#ESCAPE	
7170	032026	000570			.WORD	L10115-.	
7171	032030	012737	000024	002336	MOV	#24,#GDDAT	
7172	032036	004537	003670		JSR	R5,GETOC	
7173	032042	005037	002402		CLR	ERRWRD	
7174	032046	104410			TRAP	C#ESCAPE	
7175	032050	000546			.WORD	L10115-.	
7176					;		
7177					;	READ TSS SLOT WITH POLL STATUS	
7178					;		
7179	032052	042777	000200	150364 201:	BIC	#RDO,#BSEL2	;CLEAR RDO
7180	032060	012703	000042		MOV	#42,R3	
7181	032064	004537	003162		JSR	R5,CONTIN	;READ TSS SLOT 2
7182	032070	005037	002402		CLR	ERRWRD	
7183	032074	104410			TRAP	C#ESCAPE	
7184	032076	000520			.WORD	L10115-.	
7185	032100	012737	000002	002336	MOV	#02,#GDDAT	
7186	032106	004537	003242		JSR	R5,GETOUT	;GET INFO OUT
7187	032112	005037	002402		CLR	ERRWRD	
7188	032116	104410			TRAP	C#ESCAPE	
7189	032120	000476			.WORD	L10115-.	
7190	032122	032777	001000	150320	BIT	#BIT9,#BSEL4	;IS IT INACTIVE
7191	032130	001750			BEG	201	;IF NOT GO BACK
7192					;		
7193					;	GET HERE WHEN STATE GOES TO INACTIVE	
7194					;		
7195	032132	042777	000200	150304	BIC	#RDO,#BSEL2	;CLEAR OUTPUT
7196					;		
7197					;	READ # OF SELECTION INTERVALS	
7198					;		
7199	032140	012703	000051		MOV	#51,R3	
7200	032144	004537	003162		JSR	R5,CONTIN	
7201	032150	005037	002402		CLR	ERRWRD	
7202	032154	104410			TRAP	C#ESCAPE	
7203	032156	000440			.WORD	L10115-.	
7204	032160	012737	000002	002336	MOV	#02,#GDDAT	
7205	032166	004537	003242		JSR	R5,GETOUT	
7206					;		
7207					;	MAKE SURE #OF SELC. INTV IS CORRECT	
7208					;		

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7209	032172	012737	000010	002336	MOV	#10,IGDDAT	
7210	032200	004537	003446		JSR	R5,GETDAT	
7211					;	*****	
7212					;	GET HERE IN INACTIVE STATE	
7213					;	*****	
7214	032204				40:		
7215	032204	042777	000200	150232	BIC	#RDO,8BSEL2	;CLEAR OUTPUT
7216					;	*****	
7217					;	CHANGE MODE TO HALF DUPLEX	
7218					;	*****	
7219	032212	052777	000200	150220	BIS	#RQI,8BSEL0	
7220	032220	004537	002732		JSR	R5,WRDI	;WAIT FOR RDI TO SET
7221							
7222	032224	005037	002402		CLR	ERRWRD	;CLEAR ERROR
7223	032230	104410			TRAP	C#ESCAPE	
7224	032232	000364			.WORD	L10115-	
7225	032234	042777	000200	150176	BIC	#RQI,8BSEL0	
7226	032242	012777	000004	150204	MOV	#04,8BSEL6	
7227	032250	112777	000002	150166	MOVB	#02,8BSEL2	
7228	032256	042777	000200	150160	50:	BIC	#RDO,8BSEL2
7229							
7230							
7231					;	*****	
7232					;	READ POLL STATUS SLOT	
7233					;	*****	
7234	032264	012703	000042		MOV	#42,R3	
7235	032270	004537	003162		JSR	R5,CONTIN	
7236	032274	005037	002402		CLR	ERRWRD	
7237	032300	104410			TRAP	C#ESCAPE	
7238	032302	000314			.WORD	L10115-	
7239	032304	012737	000002	002336	MOV	#02,IGDDAT	
7240							
7241	032312	004537	003242		JSR	R5,GETOUT	
7242							
7243					;	*****	
7244					;	IS THE STATE POTN. DEAD??	
7245					;	*****	
7246							
7247	032316	032777	010000	150124	BIT	#BIT12,8BSEL4	
7248	032324	001754			BEQ	50	
7249							
7250					;	*****	
7251					;	IF NOT GO BACK TO 50	
7252					;	*****	
7253							
7254					;	*****	
7255					;	IF SO READ THE SELECTION TIMER	
7256					;	*****	
7257							
7258	032326	012703	000056		MOV	#56,R3	
7259	032332	042777	000200	150104	BIC	#RDO,8BSEL2	
7260	032340	004537	003162		JSR	R5,CONTIN	
7261	032344	005037	002402		CLR	ERRWRD	
7262	032350	104410			TRAP	C#ESCAPE	
7263	032352	000244			.WORD	L10115-	
7264	032354	012737	000002	002336	MOV	#02,IGDDAT	

CZDMTFO DMP/V-11 FCTNL TST #1
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;***** TEST 44 *****

7265	032362	004537	003242		JSR	R5,GETOUT
7266	032366	005037	002402		CLR	ERRWRD
7267	032372	104410			TRAP	C#ESCAPE
7268	032374	000222			.WORD	L10115-.
7269						
7270					;	*****
7271					;	COMPARE SELECTION TIME OUTS WITH # WRITTEN
7272					;	
7273					;	*****
7274						
7275	032376	012737	001004	002336	MOV	#1004,#GDDAT
7276	032404	004537	003446		JSR	R5,GETDAT
7277						
7278					;	*****
7279					;	WAIT FOR TRIB TO POST SELECT. THRESH. ERROR
7280					;	*****
7281						
7282	032410	042777	000200	150026	BIC	#R00,#BSEL2 ;CLEAR OUTPUT CODE
7283						
7284	032416	012737	000001	002336	MOV	#01,#GDDAT
7285	032424	004537	003242		JSR	R5,GETOUT
7286	032430	005037	002402		CLR	ERRWRD
7287	032434	104410			TRAP	C#ESCAPE
7288	032436	000160			.WORD	L10115-.
7289	032440	012737	000006	002336	MOV	#6,#GDDAT
7290	032446	004537	003670		JSR	R5,GETOC
7291	032452	005037	002402		CLR	ERRWRD
7292	032456	104410			TRAP	C#ESCAPE
7293	032460	000136			.WORD	L10115-.
7294	032462	042777	000200	147754	BIC	#R00,#BSEL2
7295						
7296					;	*****
7297					;	NOW WAIT FOR TRIB TO POST DEAD STATUS
7298					;	*****
7299						
7300	032470	012737	000001	002336	MOV	#01,#GDDAT
7301	032476	004537	003242		JSR	R5,GETOUT
7302	032502	005037	002402		CLR	ERRWRD
7303	032506	104410			TRAP	C#ESCAPE
7304	032510	000106			.WORD	L10115-.
7305	032512	012737	000022	002336	MOV	#22,#GDDAT
7306	032520	004537	003670		JSR	R5,GETOC
7307						
7308	032524	005037	002402		CLR	ERRWRD
7309	032530	104410			TRAP	C#ESCAPE
7310	032532	000064			.WORD	L10115-.
7311						
7312					;	*****
7313					;	NOW READ SELECTION TIMER AND
7314					;	SEE IF IT IS EQUAL TO 10
7315					;	*****
7316						
7317	032534	042777	000200	147702	BIC	#R00,#BSEL2
7318	032542	012703	000056		MOV	#56,R3
7319	032546	004537	003162		JSR	R5,CONTIN
7320	032552	005037	002402		CLR	ERRWRD

CZDMTFO DMP/V-11 FCTNL TST #1 MACY11 30A(1052) 08-NOV-84 10:42 PAGE 166
CZDMTF.P11 08-NOV-84 10:38 ;***** TEST 44 *****

7321	032556	104410			TRAP	C#ESCAPE
7322	032560	000036			.WORD	L10115-
7323	032562	012737	000002	002336	MOV	#02,\$GDDAT
7324	032570	004537	003242		JSR	R5,GETOUT
7325	032574	005037	002402		CLR	ERRWRD
7326	032600	104410			TRAP	C#ESCAPE
7327	032602	000014			.WORD	L10115-
7328	032604	012737	001010	002336	MOV	#1010,\$GDDAT
7329	032612	004537	003446		JSR	R5,GETDAT
7330						
7331						
7332	032616			L10115:		
7333	032616	104401			TRAP	C#ETST
7334						
7335						.SBTTL ----- END OF HARDWARE TESTS -----
7336						
7337						
7338						
7339						

CZDMTFO DMP/V-11 FCTNL TST #1
CZDMTF.P11 08-NOV-84 10:38

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----- END OF HARDWARE TESTS -

7340

7341

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7349

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7351

7352

7353

7354 032620 000041

7355 032622

7356 032622 000032

7357 032624 032724

7358 032626 000007

7359 032630 000000

7360 032632 000007

7361 032634 001031

7362 032636 033007

7363 032640 160000

7364 032642 177776

7365 032644 002031

7366 032646 033035

7367 032650 000000

7368 032652 000674

7369 032654 003032

7370 032656 033066

7371 032660 007000

7372 032662 000004

7373 032664 000007

7374 032666 010032

7375 032670 033117

7376 032672 000007

7377 032674 000000

7378 032676 000004

7379 032700 011032

7380 032702 033223

7381 032704 000007

7382 032706 000000

7383 032710 000007

7384 032712 013032

7385 032714 033434

7386 032716 000007

7387 032720 000000

7388 032722 000007

7389

7390

7391

7392 032724

7393

7394 032724 042523 042514 052103

7395 032732 052040 050131 020105

.SBTTL HARDWARE PARAMETER CODING SECTION

```

////////////////////////////////////
;/ THE HARDWARE PARAMETER CODING SECTION CONTAINS MACROS
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;/ WITH THE OPERATOR.
////////////////////////////////////

```

```

        .WORD L10116-L#HARD/2
L#HARD::

```

```

        .WORD T#CODE
        .WORD OPTYPM
        .WORD 7
        .WORD T#LOLIM
        .WORD T#HILIM
        .WORD T#CODE
        .WORD ADDRES
        .WORD T#LOLIM
        .WORD T#HILIM
        .WORD T#CODE
        .WORD VECTOR
        .WORD T#LOLIM
        .WORD T#HILIM
        .WORD T#CODE
        .WORD PRIITY
        .WORD 7000
        .WORD T#LOLIM
        .WORD T#HILIM
        .WORD T#CODE
        .WORD LOOPBK
        .WORD 7
        .WORD T#LOLIM
        .WORD T#HILIM
        .WORD T#CODE
        .WORD SPEDM
        .WORD 7
        .WORD T#LOLIM
        .WORD T#HILIM
        .WORD T#CODE
        .WORD IFTYPM
        .WORD 7
        .WORD T#LOLIM
        .WORD T#HILIM

```

```

        .EVEN
L10116:

```

```

OPTYPM: .ASCIZ /SELECT TYPE ( 0=8207'DMP',1=8053'DMV',2=8064'DMV'):

```

CZDMTFO DMP/V-11 FCTNL TST #1 MACY11 30A(1052) 08-NOV-84 10:42 PAGE 168
 CZDMTF.P11 08-NOV-84 10:38 HARDWARE PARAMETER CODING SECTION

7396	032740	020050	036460	031070	
7397	032746	033460	042047	050115	
7398	032754	026047	036461	030070	
7399	032762	031465	042047	053115	
7400	032770	026047	036462	030070	
7401	032776	032066	042047	053115	
7402	033004	035051	000		
7403	033007	104	053105	041511	ADDRES: .ASCIZ /DEVICE CSR ADDRESS : /
7404	033014	020105	051503	020122	
7405	033022	042101	051104	051505	
7406	033030	020123	020072	000	
7407	033035	104	053105	041511	VECTOR: .ASCIZ /DEVICE VECTOR ADDRESS : /
7408	033042	020105	042526	052103	
7409	033050	051117	040440	042104	
7410	033056	042522	051523	035040	
7411	033064	000040			
7412	033066	042504	044526	042503	PRIITY: .ASCIZ /DEVICE PRIORITY LEVEL : /
7413	033074	050040	044522	051117	
7414	033102	052111	020131	042514	
7415	033110	042526	020114	020072	
7416	033116	000			
7417	033117	124	051125	040516	LOOPBK: .ASCII /TURNAROUND TYPE -/
7418	033124	047522	047125	020104	
7419	033132	054524	042520	026440	
7420	033140	030050	044075	031063	.ASCIZ /(0=M3254&M3255,1=CABLE,2=MOD LOC,3=MOD REM,4=NONE)/
7421	033146	032065	044046	031063	
7422	033154	032465	030454	041475	
7423	033162	041101	042514	031054	
7424	033170	046475	042117	046040	
7425	033176	041517	031454	046475	
7426	033204	042117	051040	046505	
7427	033212	032054	047075	047117	
7428	033220	024505	000		
7429	033223	120	042514	051501	SPEDEM: .ASCII "PLEASE SELECT BAUD RATE;TYPE '0' FOR 2.4K; '1' FOR 4.8K;"
7430	033230	020105	042523	042514	
7431	033236	052103	041040	052501	
7432	033244	020104	040522	042524	
7433	033252	052073	050131	020105	
7434	033260	030047	020047	047506	
7435	033266	020122	027062	045464	
7436	033274	020073	030447	020047	
7437	033302	047506	020122	027064	
7438	033310	045470	073		
7439	033313	015	023412	023462	.ASCII<15><12>"'2' FOR 9.6K; '3' FOR 19.2K; '4' FOR 56K; '5' FOR 250K;"
7440	033320	043040	051117	034440	
7441	033326	033056	035513	023440	
7442	033334	023463	043040	051117	
7443	033342	030440	027071	045462	
7444	033350	020073	032047	020047	
7445	033356	047506	020122	033065	
7446	033364	035513	023440	023465	
7447	033372	043040	051117	031040	
7448	033400	030065	035513		
7449	033404	005015	051117	023440	.ASCIZ<15><12>"OR '6' FOR 500K BAUDS"
7450	033412	023466	043040	051117	
7451	033420	032440	030060	020113	

CZDMTFO DMP/V-11 FCTNL TST #1 MACY11 30A(1052) 08-NOV-84 10:42 PAGE 169
CZDMTF.P11 08-NOV-84 10:38 HARDWARE PARAMETER CODING SECTION

7452	033426	040502	042125	000123	
7453	033434	042523	042514	052103	IFTYPM: .ASCIZ /SELECT INTERFACE TYPE (1=INTEGRAL,2=EIA,3=V.35,4=422):/
7454	033442	044440	052116	051105	
7455	033450	040506	042503	052040	
7456	033456	050131	020105	030450	
7457	033464	044475	052116	043505	
7458	033472	040522	026114	036462	
7459	033500	044505	026101	036463	
7460	033506	027126	032463	032054	
7461	033514	032075	031062	035051	
7462	033522	000			
7463					
7464	033524				.EVEN
7465					
7466					
7467					

CZDMTFO DMP/V 11 FCTNL TST #1
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SOFTWARE PARAMETER CODING SECTION

.SBTTL SOFTWARE PARAMETER CODING SECTION

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;////////////////////////////////////
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;////////////////////////////////////

```

.WORD L10117-L\$SOFT/2
L\$SOFT::

.EVEN
L10117:

```

;***** PATCH AREA FOR DEBUG *****
PATCH:
      NOP
      NOP
      NOP
;*****

```

MR1: .ASCIZ "ABC"
MR1E:

MR12: .ASCII "NOW IS THE TIME FOR ALL GOOD PEOPLE TO COME TO THE"

.ASCII "THE QUICK BROWN FOX JUMPED OVER THE LAZY DOG'S"

.ASCII "BACK. LOPS ARE TOPS!"

```

7468
7469
7470
7471
7472
7473
7474
7475
7476
7477
7478
7479
7480 033524 000000
7481 033526
7482
7483
7484 033526
7485
7486
7487
7488
7489
7490
7491
7492
7493
7494
7495 033526
7496 033526 000240
7497 033530 000240
7498 033532 000240
7499
7500
7501
7502 033534 041101 000103
7503 033540
7504
7505 033540 047516 020127 051511
7506 033546 052040 042510 052040
7507 033554 046511 020105 047506
7508 033562 020122 046101 020114
7509 033570 047507 042117 050040
7510 033576 047505 046120 020105
7511 033604 047524 041440 046517
7512 033612 020105 047524 052040
7513 033620 042510
7514 033622 044124 020105 052521
7515 033630 041511 020113 051102
7516 033636 053517 020116 047506
7517 033644 020130 052512 050115
7518 033652 042105 047440 042526
7519 033660 020122 044124 020105
7520 033666 040514 054532 042040
7521 033674 043517 051447
7522 033700 040502 045503 020056
7523 033706 047514 051520 040440

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CZDMTFO DMP/V-11 FCTNL TST 01 MACY11 30A(1052) 08-NOV-84 10:42 PAGE 171
 CZDMTF.P11 08-NOV 84 10:38 SOFTWARE PARAMETER CODING SECTION

7524	033714	042522	052040	050117	
7525	033722	020523			
7526	033724	041101	042103	043105	.ASCII "ABCDEFGHIJKLMNOPQRSTUVWXYZ"
7527	033732	044107	045111	046113	
7528	033740	047115	050117	051121	
7529	033746	052123	053125	054127	
7530	033754	055131			
7531	033756	041501	043505	045511	.ASCII "ACEGIKMOQSUY"
7532	033764	04715	051521	053525	
7533	033772	131			
7534					
7535		033774			.EVEN
7536	033774				MR12E:
7537					
7538	033774	000000			DATLST: 0
7539	033776	125252			125252
7540	034000	052525			052525
7541	034002	000000			0
7542	034004	177777			-1
7543	034006	000377			377
7544	034010	177400			177400
7545	034012	000562			562
7546					
7547	034014	001750			RECBU1: .BLKW 1000.
7548					
7549					.EVEN
7550	037734	000000			.WORD 0
7551	037736	000000			.WORD 0
7552	037740				L&LAST::
7553					
7554		000001			.END

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CROSS REFERENCE TABLE .. USER SYMBOLS

[illegible]

CZDMTFO DMP/V-11 FCTNL TST #1
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CROSS REFERENCE TABLE -- USER SYMBOLS

		2700*	2821	4245	4247	4332*	4510*	4627*	4681*	4753*	4773	4819	4837*	4919*
		5596*	6350*	6402*	6470*	6517*	7226*							
BSEL7	002456	1508*	3480*	3481*	3725	3728	3748	3761	3772	3875	3878	3898	3911	3922
		4025	4028	4048	4061	4072	4319*	4333*	4346	4386				
CADDR	002404	1479*	2119	2123	3645*	3651*	3654*	3655	3670*	3684*	3695*	3720*	3726*	3729*
		3730	3745*	3759*	3770*	3795*	3801*	3804*	3805	3820*	3834*	3845*	3870*	3876*
		3879*	3880	3895*	3909*	3920*	3945*	3951*	3954*	3955	3970*	3984*	3995*	4020*
		4026*	4029*	4030	4045*	4059*	4070*							
CFM1	005306	2333	2362*											
CFM2	005373	2342	2371*											
CFM3	005451	2350	2379*											
CFM4	005466	2356	2382*											
CODEM	002430	1490*	1730*	1744*	1823*	1864*	1894*	1994*	2038*	3037	4703*	4765*	4776*	5708*
		6782*												
CONTIN	003162	1778*	2511	2612	2621	2632	2653	4885	4966	4983	5010	5056	5071	5085
		5165	5180	5229	5242	5288	5303	5361	5420	5434	5456	5507	5554	5563
		5600	5639	5666	5679	5716	5729	5752	5788	5801	5900	5947	5960	5980
		6000	6044	6057	6077	6097	6143	6157	6170	6224	6237	6384	6444	6454
		6713	6726	6739	7120	7130	7142	7151	7159	7181	7200	7235	7260	7319
COUNT	002342	1461*	3502*	3507*	4228*	4234*								
COUNTT	005134	2299*	2306*	2312*										
CRCCAL	002434	1492*	2417*	2437										
CRCR	004376	2164*	2425	3658	3733	3808	3883	3958	4033					
CWORD	002374	1475*	2168*	2172	2173*	2174*	2399*	2438	2983	3647*	3661*	3662	3722*	3736*
		3737	3797*	3811*	3812	3872*	3886*	3887	3947*	3961*	3962	4022*	4036*	4037
C\$AU	= 000052	1102*	3561											
C\$AUTO	= 000061	1102*	3515											
C\$BRK	= 000022	1102*	2309											
C\$BSEG	= 000004	1102*												
C\$BSUB	= 000002	1102*	5342	5401	5491									
C\$CEFG	= 000045	1102*												
C\$CLCK	= 000062	1102*												
C\$CLEA	= 000012	1102*	3528											
C\$CLOS	= 000035	1102*												
C\$CLP1	= 000006	1102*												
C\$CVEC	= 000036	1102*	3605	4497	4499									
C\$DCLN	= 000044	1102*	3602											
C\$DODU	= 000051	1102*	3510											
C\$DRPT	= 000024	1102*												
C\$DU	= 000053	1102*	3545											
C\$EDIT	= 000003	1102*	1179											
C\$ERDF	= 000055	1102*	1644	1687	1734	1748	1824	1836	1865	1895	1928	1964	1995	2039
		2052	2068	2075	2301	2440	2765	3615	3666	3676	3700	3741	3751	3775
		3816	3826	3850	3891	3901	3925	3966	3976	4000	4041	4051	4075	4107
		4153	4239	4250	4260	4360	4398	4525	4542	4564	4574	4640	4690	4704
		4766	4777	4822	4924	5323	5709	6013	6110	6783				
C\$ERMR	= 000056	1102*												
C\$ERRO	= 000060	1102*												
C\$ERSF	= 000054	1102*												
C\$ERSO	= 000057	1102*												
C\$ESCA	= 000010	1102*	2256											
		4364	4380	4402	4447	4483	4517	4530	4546	4609	4620	4664	4674	4695
		4709	4739	4749	4757	4770	4805	4834	4844	4870	4903	4913	4959	4972
		4989	5001	5016	5048	5062	5077	5091	5101	5112	5122	5156	5172	5187
		5199	5221	5235	5248	5257	5279	5295	5310	5353	5364	5375	5387	5411
		5423	5437	5446	5459	5470	5479	5499	5510	5520	5550	5560	5568	5576

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CROSS REFERENCE TABLE -- USER SYMBOLS

		5581	5592	5605	5611	5616	5621	5627	5633	5658	5672	5685	5696	5722
		5735	5745	5758	5769	5780	5794	5807	5817	5845	5855	5863	5892	5903
		5913	5939	5953	5963	5973	5983	5993	6003	6036	6050	6060	6070	6080
		6090	6100	6135	6149	6163	6176	6190	6203	6216	6230	6243	6256	6269
		6309	6317	6336	6346	6357	6377	6389	6399	6410	6436	6447	6457	6467
		6478	6502	6513	6525	6564	6573	6613	6622	6654	6664	6699	6719	6732
		6745	6758	6771	6787	6895	6956	7019	7056	7088	7112	7122	7132	7144
		7153	7161	7169	7174	7183	7188	7202	7223	7237	7262	7267	7287	7292
		7303	7309	7321	7326									
C\$ESEG=	000005	1102#												
C\$ESUB=	000003	1102#	5399	5489	5531									
C\$ETST=	000001	1102#	3608	3706	3781	3856	3931	4006	4081	4128	4172	4285	4591	4648
		4718	4783	4852	4930	5029	5139	5206	5263	5329	5533	5644	5824	5874
		5920	6019	6116	6282	6320	6363	6416	6485	6531	6580	6629	6671	6835
		6900	6961	7024	7064	7096	7333							
C\$EXIT=	000032	1102#	4551	4826	6688	6794								
C\$GETB=	000026	1102#												
C\$GETW=	000027	1102#												
C\$GMAN=	000043	1102#												
C\$GPHR=	000042	1102#	3460											
C\$GPL0=	000030	1102#												
C\$GPRI=	000040	1102#												
C\$INIT=	000011	1102#	3498											
C\$INLP=	000020	1102#												
C\$MANI=	000050	1102#												
C\$MEM =	000031	1102#												
C\$MSG =	000023	1102#	2815	2829	2841	2853	2865	2877	2895	2910	2923	2941	2962	2980
		2993	3006	3020	3045	3057								
C\$OPEN=	000034	1102#												
C\$PNTB=	000014	1102#	2812	2825	2837	2849	2861	2873	2891	2906	2919	2929	2937	2947
		2953	2958	2976	2989	3002	3016	3032	3041	3053				
C\$PNTF=	000017	1102#	2583	2594	2601	3693	3768	3843	3918	3993	4068	4121	4166	
C\$PNTS=	000016	1102#												
C\$PNTX=	000015	1102#	2336	2345	2353	2359	3625							
C\$QIO =	000377	1102#												
C\$RDBU=	000007	1102#												
C\$REFG=	000047	1102#	3429	3433	3437	3441								
C\$RESE=	000033	1102#	3513	3525	3543									
C\$REVI=	000003	1102#	1178											
C\$RFLA=	000021	1102#												
C\$RPT =	000025	1102#	3400											
C\$SEFG=	000046	1102#												
C\$SPRI=	000041	1102#	4441	4476	4556	4563	4573	4583	6869	6929	6992			
C\$SVEC=	000037	1102#	3589	4425	4434	4465	4471							
C\$TPRI=	000013	1102#												
DATLST	033774	4505	5068	5118	5128	7538#								
DEVMAP	002350	1464#	3447*	3466*										
DEVPTR	002352	1465#	3452*	3463*	3466	3467*								
DFMT4	013624	3356#												
DFMT5	013637	3358#												
DFMT6	013667	3363#												
DFMT9	013722	3368#												
DFPTBL	002264 G	1291#												
DIAGMC=	000000	1102												
DISILO	002510	1526#												
DMPMOD	002000 G	1110#												

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CROSS REFERENCE TABLE -- USER SYMBOLS

1105#	4320											
6694	6823#											
3586	3612#											
1383#	3440											
1384#	3436											
1385#												
1382#	3432											
1381#	3428											
3093#	3617											
3442	3496#											
4269	4275#											
4742#												
4337	4342#											
4377	4382#											
4444	4449#											
4480	4485#											
4514	4519#											
2232	2236#											
2240	2244#											
2277	2281#											
1736	1750	1826	1867	1897	1997	2041	3159#	4706	4768	4779	5711	6785
1480#	1632#	1675#	1719#	1778#	1814#	1858#	1887#	1917#	1951#	1988#	2232#	2240#
2277#	2884	2969	3011	3027	4269#	4337#	4377#	4444#	4480#	4514#		
1455#	3416#											
1478#	1634	1648#	1677	1691#	1721	1738#	1752#	1781	1816	1828#	1840#	1869#
1899#	1932#	1968#	1999#	2026	2043#	2056#	2072#	2234	2242	2260#	2270	2279
2305#	2402	2411	2513	2613	2623	2634	2641	2645	2655	2664	2685	2719
2730	2734	2738	2744	2748	2752	2769#	2785	2789	2793	4099#	4145#	4272#
4316#	4324#	4339#	4379#	4446#	4482#	4516#	4608#	4619#	4663#	4673#	4716#	4738#
4748#	4756#	4804#	4833#	4843#	4869#	4887	4902#	4912#	4958#	4971#	4988#	5000#
5015#	5026#	5047#	5061#	5076#	5090#	5100#	5111#	5121#	5155#	5171#	5186#	5198#
5220#	5234#	5247#	5256#	5278#	5294#	5309#	5352#	5363#	5374#	5386#	5410#	5422#
5436#	5445#	5458#	5468#	5478#	5498#	5509#	5519#	5529#	5549#	5559#	5567#	5575#
5580#	5591#	5604#	5610#	5615#	5620#	5626#	5632#	5640#	5657#	5671#	5684#	5695#
5721#	5734#	5744#	5757#	5768#	5779#	5793#	5806#	5816#	5844#	5854#	5862#	5891#
5902#	5912#	5938#	5952#	5962#	5972#	5982#	5992#	6002#	6035#	6049#	6059#	6069#
6079#	6089#	6099#	6134#	6148#	6162#	6175#	6189#	6202#	6215#	6229#	6242#	6255#
6268#	6280#	6308#	6316#	6335#	6345#	6356#	6376#	6388#	6398#	6409#	6435#	6446#
6456#	6466#	6477#	6501#	6512#	6524#	6563#	6572#	6612#	6620#	6653#	6663#	6698#
6718#	6731#	6744#	6757#	6770#	6894#	6898#	6955#	6959#	7018#	7022#	7055#	7062#
7087#	7094#	7111#	7121#	7131#	7143#	7152#	7160#	7168#	7173#	7182#	7187#	7201#
7222#	7236#	7261#	7266#	7286#	7291#	7302#	73					

			4927	6016	6113										
ERR5	007472	G	2831#	4363	4401										
ERR6	007530	G	2843#	4545											
ERR9	007566	G	2857#	4643											
EVL	= 000004	G	1401#												
EXLOOP	002400		1477#	2264	3418*	6560*	6562*	6609*	6611*	7052*	7054*				
EXMOT	021176		4309	4588#											
EXMEM	003744		2025#												
EXMEMA	004122		2031	2061#											
EXMEMB	004036		2033	2038#											
EXMEMC	004062		2037	2045#											
EXMEMX	004226		2027	2044	2057	2067	2073	2081#							
E\$END =	002100		1102#												
E\$LOAD=	000035		1102#	1202											
FMT0	011036		3097#	3622											
FRSPAS	002354		1466#	3450*											
FRSTIM	002330		1456#	3419	3426*										
F\$AU =	000015		1102#	3559	3560										
F\$AUTO=	000020		1102#	3500	3514										
F\$BGN =	000040		1102#	1110	1220	2807	2820	2831	2843	2857	2869	2883	2899	2914	2925
			2943	2968	2982	2995	3010	3026	3049	3392	3397	3413	3500	3524	3541
			3559	3584	3607	3612	3641	3705	3716	3780	3791	3855	3866	3930	3941
			4005	4016	4080	4092	4100	4112	4127	4138	4146	4157	4171	4226	4243
			4256	4264	4273	4282	4284	4305	4317	4325	4340	4364	4380	4402	4447
			4483	4517	4530	4546	4551	4554	4561	4571	4581	4590	4605	4609	4620
			4647	4659	4664	4674	4695	4709	4717	4729	4739	4749	4757	4770	4782
			4799	4805	4826	4834	4844	4851	4864	4870	4903	4913	4929	4945	4959
			4972	4989	5001	5016	5028	5041	5048	5062	5077	5091	5101	5112	5122
			5138	5152	5156	5172	5187	5199	5205	5218	5221	5235	5248	5257	5262
			5275	5279	5295	5310	5328	5339	5341	5353	5364	5375	5387	5398	5400
			5411	5423	5437	5446	5459	5470	5479	5488	5490	5499	5510	5520	5530
			5532	5546	5550	5560	5568	5576	5581	5592	5605	5611	5616	5621	5627
			5633	5643	5653	5658	5672	5685	5696	5722	5735	5745	5758	5769	5780
			5794	5807	5817	5823	5839	5845	5855	5863	5873	5887	5892	5903	5913
			5919	5934	5939	5953	5963	5973	5983	5993	6003	6018	6031	6036	6050
			6060	6070	6080	6090	6100	6115	6130	6135	6149	6163	6176	6190	6203
			6216	6230	6243	6256	6269	6281	6298	6309	6317	6319	6331	6336	6346

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GICNTD= 000200

5101	5112	5122	5138	5140	5152	5156	5172	5187	5199	5205	5207	5218
5221	5235	5248	5257	5262	5264	5275	5279	5295	5310	5328	5330	5339
5341	5353	5364	5375	5387	5398	5400	5411	5423	5437	5446	5459	5470
5479	5488	5490	5499	5510	5520	5530	5532	5534	5546	5550	5560	5568
5576	5581	5592	5605	5611	5616	5621	5627	5633	5643	5645	5653	5658
5672	5685	5696	5722	5735	5745	5758	5769	5780	5794	5807	5817	5823
5825	5839	5845	5855	5863	5873	5875	5887	5892	5903	5913	5919	5921
5934	5939	5953	5963	5973	5983	5993	6003	6018	6020	6031	6036	6050
6060	6070	6080	6090	6100	6115	6117	6130	6135	6149	6163	6176	6190
6203	6216	6230	6243	6256	6269	6281	6283	6298	6309	6317	6319	6321
6331	6336	6346	6357	6362	6364	6374	6377	6389	6399	6410	6415	6417
6431	6436	6447	6457	6467	6478	6484	6486	6497	6502	6513	6525	6530
6532	6549	6564	6573	6579	6581	6596	6613	6622	6628	6630	6643	6654
6664	6670	6672	6684	6688	6699	6719	6732	6745	6758	6771	6787	6794
6834	6836	6856	6895	6899	6901	6916	6956	6960	6962	6978	7019	7023
7025	7040	7056	7063	7065	7077	7088	7095	7097	7107	7112	7122	7132
7144	7153	7161	7169	7174	7183	7188	7202	7223	7237	7262	7267	7287
7292	7303	7309	7321	7326	7332	7334	7393	7485				
1102#	7354	7391										
1102#	1289	1312										
1102#	3413	3497										
1102#	3395	4551	4826	6688	6794							
1102#	1110											
1102#	2807	2814	2820	2828	2831	2840	2843	2852	2857	2864	2869	2876
2883	2894	2899	2909	2914	2922	2925	2940	2943	2961	2968	2979	2982
2992	2995	3005	3010	3019	3026	3044	3049	3056				
1102#	1220	1224										
1102#												
1102#	3392	3399										
1102#												
1102#	7480	7483										
1102#	3612	3627	4554	4558	4561	4568	4571	4578	4581	4585		
1102#	5342	5398	5401	5488	5491	5530						
1102#	1325	1330										
1102#	3585	3607	3642	3705	3717	3780	3792	3855	3867	3930	3942	4005
4017	4080	4093	4127	4139	4171	4227	4284	4306	4590	4606	4647	4660
4717	4730	4782	4800	4851	4865	4929	4946	5028	5042	5138	5153	5205
5219	5262	5276	5328	5340	5532	5547	5643	5654	5823	5840	5873	5889
5919	5935	6018	6032	6115	6131	6281	6299	6319	6332	6362	6375	6415

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

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CROSS REFERENCE TABLE -- USER SYMBOLS

5510	5520	5530#	5532#	5546	5653	5839	5887	5934	6031	6130	6298	6331
6374	6431	6497	6549	6596	6643	6684	6856	6916	6978	7040	7077	7107
1102#	3584#	3607#	3609#	3641#	3705#	3707#	3716#	3780#	3782#	3791#	3855#	3857#
3866#	3930#	3932#	3941#	4005#	4007#	4016#	4080#	4082#	4092#	4100	4112	4127#
4129#	4138#	4146	4157	4171#	4173#	4226#	4243	4256	4264	4273	4282	4284#
4286#	4305#	4317	4325	4340	4364	4380	4402	4447	4483	4517	4530	4546
4551	4590#	4592#	4605#	4609	4620	4647#	4649#	4659#	4664	4674	4695	4709
4717#	4719#	4729#	4739	4749	4757	4770	4782#	4784#	4799#	4805	4826	4834
4844	4851#	4853#	4864#	4870	4903	4913	4929#	4931#	4945#	4959	4972	4989
5001	5016	5028#	5030#	5041#	5048	5062	5077	5091	5101	5112	5122	5138#
5140#	5152#	5156	5172	5187	5199	5205#	5207#	5218#	5221	5235	5248	5257
5262#	5264#	5275#	5279	5295	5310	5328#	5330#	5339#	5341	5400	5446	5490
5532#	5534#	5546#	5550	5560	5568	5576	5581	5592	5605	5611	5616	5621
5627	5633	5643#	5645#	5653#	5658	5672	5685	5696	5722	5735	5745	5758
5769	5780	5794	5807	5817	5823#	5825#	5839#	5845	5855	5863	5873#	5875#
5887#	5892	5903	5913	5919#	5921#	5934#	5939	5953	5963	5973	5983	5993
6003	6018#	6020#	6031#	6036	6050	6060	6070	6080	6090	6100	6115#	6117#
6130#	6135	6149	6163	6176	6190	6203	6216	6230	6243	6256	6269	6281#
6283#	6298#	6309	6317	6319#	6321#	6331#	6336	6346	6357	6362#	6364#	6374#
6377	6389	6399	6410	6415#	647#	6431#	6436	6447	6457	6467	6478	6484#
6486#	6497#	6502	6513	6525	6530#	6532#	6549#	6564	6573	6579#	6581#	6596#
6613	6622	6628#	6630#	6643#	6654	6664	6670#	6672#	6684#	6688	6699	6719
6732	6745	6758	6771	6787	6794	6834#	6836#	6856#	6895	6899#	6901#	6916#
6956	6960#	6962#	6978#	7019	7023#	7025#	7040#	7056	7063#	7065#	7077#	7088
7095#	7097#	7107#	7112	7122	7132	7144	7153	7161	7169	7174	7183	7188
7202	7223	7237	7262	7267	7287	7292	7303	7309	7321	7326	7332#	7334#

3591*	3600	3610*	3613	3619*
1102#	3395			
1516#	4421	4461		
1511#	4423	4463	4496	
1517#	4430	4467		
1513#	4432	4469	4498	
2297	2307*	2314#		
1413#				
1457#	2332	3449*	3456*	3457
4117	4162			3459
7375	7417#			3509
1402#				3689
1427#				3664
1209#				3839
1167#				3914
1194	3559#			3989
1193#				4064
1210	3500#			
1207#				
1208	3524#			
1163#				
1145#				
1200	1580#			
1199#				
1185#				
1170	1231#			
1215#				
1169#				
1165#				
1196	3541#			

CZDMTFO DMP/V-11 FCTNL TST #1 MACY11 30A(1052) 08-NOV-84 10:42 PAGE 181
 CZDMTF.P11 08-NOV-84 10:38 CROSS REFERENCE TABLE - USER SYMBOLS

L\$DUT	002072 G	1195#		
L\$DVTY	002564 G	1186	1574#	
L\$EF	002052 G	1180#		
L\$ENVI	002044 G	1173#		
L\$ETP	002102 G	1203#		
L\$EXP1	002046 G	1175#		
L\$EXP4	002064 G	1189#		
L\$EXP5	002066 G	1191#		
L\$HARD	032622 G	1152	7354	7355#
L\$HIME	002120 G	1217#		
L\$HPCP	002016 G	1151#		
L\$HPTP	002022 G	1155#		
L\$HW	002264 G	1156	1289	1290#
L\$ICP	002104 G	1205#		
L\$INIT	014036 G	1206	3413#	
L\$LADP	002026 G	1159#		
L\$LAST	037740 G	1160	7552#	
L\$LOAD	002100 G	1201#		
L\$LUN	002074 G	1197#		
L\$MREV	002050 G	1177#		
L\$NAME	002000 G	1134#		
L\$PRIO	002042 G	1171#		
L\$PROT	002122 G	1212	1220#	
L\$PRT	002112 G	1211#		
L\$REPP	002062 G	1187#		
L\$REV	002010 G	1143#		
L\$RPT	014030 G	3392#		
L\$SOFT	033526 G	7480	7481#	
L\$SPC	002056 G	1183#		
L\$SPCP	002020 G	1153#		
L\$SPTP	002024 G	1157#		
L\$STA	002030 G	1161#		
L\$SW	002316 G	1325	1326#	
L\$TEST	002114 G	1213#		
L\$TIML	002014 G	1149#		
L\$UNIT	002012 G	1147#	3457	
L10001	002314	1289	1312#	
L10002	002316	1325	1330#	
L10003	007436	2814#		
L10004	007470	2828#		
L10005	007526	2840#		
L10006	007564	2852#		
L10007	007612	2864#		
L10010	007640	2876#		
L10011	007706	2894#		
L10012	007746	2909#		
L10013	010000	2922#		
L10014	010062	2940#		
L10015	010154	2961#		
L10016	010222	2979#		
L10017	010264	2992#		
L10020	010326	3005#		
L10021	010364	3019#		
L10022	010462	3044#		
L10023	010510	3056#		
L10024	014034	3396	3399#	

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

MPIVEC	002462	1512#	3486*											
MPOVEC	002464	1514#	3487*	3488*										
MPRIOR	002470	1518#	3489*											
MRDI	011722	2858	3180#											
MRDO	011746	2870	3184#											
MRFT	011672	3176#	4642	4692	5325									
MR1	033534	2063	6301	6518	6555	6604	6645	6890	6951	7014	7046	7081	7502#	
MR1E	033540	7503#												
MR12	033540	7505#												
MR12E	033774	7536#												
MTFLG	007410	2707*	2725*	2776	2797#									
M12F	012011	1864	3191#											
M13F	012024	1744	2038	3193#	4776									
M18F	012042	1730	1994	3196#	4765									
M28F	012051	1823	3198#	4703										
M30F	012056	1894	3199#	5708	6782									
NEWPAT	022716	5045#	5131											
NEWSLT	022714	5043#	5135											
NEWST	014202	3438	3448#	3458										
OPTYP	002472	1519#	2097	2194	2227	2251	2262	2347	2527	2543	2558	2568	2607	3468*
		3642	3717	3792	3867	3942	4017	4093	4139	4307	4732	4947	6597	6686
		7139												
OPTYPM	032724	7357	7394#											
O\$APTS=	000000	1102#	1161											
O\$AU =	000001	1102#	1132#	1193										
O\$BGNR=	000000	1102#	1187											
O\$BGNS=	000000	1102#	1153											
O\$DU =	000001	1102#	1132#	1195										
O\$ERRT=	000000	1102#	1203											
O\$GNSW=	000000	1102#	1157											
O\$POIN=	000001	1102#	1132#	1219										
O\$SETU=	000000	1102#	1147	7550										
PATCH	033526	7495#												
PERR	002410	1481#	1741	1743	4839*	4899*	4995*	5022*	5194*	5253*	5442*	5741*	5813*	5859*
		5909*	5969*	5989*	6066*	6086*	6353*	6406*	6474*	6521*				
PNT =	001000 G	1408#												
PRI =	002000 G	1409#												
PRIRTY	033066	7370	7412#											
PRI00 =	000000 G	1397#												
PRI01 =	000040 G	1396#												
PRI02 =	000100 G	1395#												
PRI03 =	000140 G	1394#												
PRI04 =	000200 G	1393#												
PRI05 =	000240 G	1392#												
PRI06 =	000300 G	1391#												
PRI07 =	000340 G	1172	1390#	3585										
PSTACK	002322	1453#	3414*											
Q22BIT=	000010	1435#												
RDI =	000020	1437#	1639	4279	4637									
RDO =	000200	1438#	1636	2647	2741	2782	4687	4816	4829	4897	4908	4922	5007	5320
		5452	5586	5623	5635	5714	5750	5786	5868	5978	5998	6010	6075	6096
		6107	6222	7179	7195	7215	7228	7259	7282	7294	7317			
RDVEX	017520	4094	4103	4126#										
RDVEX2	017660	4140	4149	4170#										
RECBUI	034014	2406	2417	2419	2421	2424	5595	5618	6300	6351	6403	6471	6553	6602
		6647	7047	7083	7547#									

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CROSS REFERENCE TABLE USER SYMBOLS

[illegible]

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CROSS REFERENCE TABLE -- USE ? SYMBOLS

STEPMP= 000001
SUBRPC 002324
SVCGBL= 000000

SVCINS= 000000

14300													
14540	34150												
11020	1110	11170	1134	1135	1143	1144	1145	1146	1147	1148	1149	1150	
1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	
1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	
1177	1178	1180	1181	1183	1184	1185	1186	1187	1188	1189	1190	1191	
1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	
1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	
1218	1220	1221	1231	1232	1290	1291	1292	1326	1327	1328	1574	1575	
1580	1581	2807	2808	2820	2821	2831	2832	2843	2844	2857	2858	2869	
2870	2883	2884	2899	2900	2914	2915	2925	2926	2943	2944	2968	2969	
2982	2983	2995	2996	3010	3011	3026	3027	3049	3050	3392	3393	3413	
3414	3500	3501	3524	3525	3541	3542	3559	3560	3612	3613	4554	4555	
4561	4562	4571	4572	4581	4582	7355	7356	7481	7482	75520	7553		
11020	11140	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	
1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	
1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	
1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	
1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	
1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	
1211	1212	1213	1214	1215	1216	1217	1218	1219	1230	1231	1232	1233	
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1736	1737	1738	1740	1749	1750	1751	1752	1824	1825	1826	1827	1828	
1836	1837	1838	1839	1840	1865	1866	1867	1868	1869	1895	1896	1897	
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1996	1997	1998	1999	2039	2040	2041	2042	2043	2052	2053	2054	2055	
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2258	2259	2260	2301	2302	2303	2304	2305	2309	2310	2331	2332	2333	
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2989	2990	2991	2993	2994	2996	2997	2998	2999	3000	3001	3002	3003	
3004	3006	3007	3011	3012	3013	3014	3015	3016	3017	3018	3020	3021	
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3435	3436	3437	3438	3439	3440	3441	3442	3443	3459	3460	3461	3462	
3463	3498	3499	3509	3510	3511	3513	3514	3515	3516	3525	3526	3528	
3529	3543	3544	3545	3546	3561	3562	3585	3586	3587	3588	3589	3590	
3591	3602	3603	3604	3605	3606	3608	3609	3615	3616	3617	3618	3619	

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3621	3622	3623	3624	3625	3626	3627	3628	3629	3666	3667	3668	3669
3670	3676	3677	3678	3679	3680	3687	3688	3689	3690	3691	3692	3693
3694	3695	3700	3701	3702	3703	3704	3706	3707	3741	3742	3743	3744
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3919	3920	3925	3926	3927	3928	3929	3931	3932	3966	3967	3968	3969
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3994	3995	4000	4001	4002	4003	4004	4006	4007	4041	4042	4043	4044
4045	4051	4052	4053	4054	4055	4062	4063	4064	4065	4066	4067	4068
4069	4070	4075	4076	4077	4078	4079	4081	4082	4100	4101	4102	4107
4108	4109	4110	4111	4112	4113	4114	4115	4116	4117	4118	4119	4120
4121	4122	4123	4128	4129	4146	4147	4148	4153	4154	4155	4156	4157
4158	4159	4160	4161	4162	4163	4164	4165	4166	4167	4168	4172	4173
4239	4240	4241	4242	4243	4244	4245	4250	4251	4252	4253	4254	4256
4257	4258	4260	4261	4262	4263	4264	4265	4266	4273	4274	4275	4282
4283	4284	4285	4286	4317	4318	4319	4325	4326	4327	4340	4341	4342
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4401	4402	4403	4404	4421	4422	4423	4424	4425	4426	4427	4430	4431
4432	4433	4434	4435	4436	4440	4441	4442	4447	4448	4449	4461	4462
4463	4464	4465	4466	4467	4468	4469	4470	4471	4472	4473	4475	4476
4477	4483	4484	4485	4496	4497	4498	4499	4500	4517	4518	4519	4525
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4566	4567	4568	4569	4570	4572	4573	4574	4575	4576	4577	4578	4579
4580	4582	4583	4584	4586	4587	4591	4592	4609	4610	4611	4620	4621
4622	4640	4641	4642	4643	4644	4648	4649	4664	4665	4666	4674	4675
4676	4690	4691	4692	4693	4694	4695	4696	4697	4704	4705	4706	4707
4708	4709	4710	4711	4718	4719	4739	4740	4741	4749	4750	4751	4757
4758	4759	4766	4767	4768	4769	4770	4771	4772	4777	4778	4779	4780
4781	4783	4784	4805	4806	4807	4822	4823	4824	4825	4826	4827	4828
4834	4835	4836	4844	4845	4846	4852	4853	4870	4871	4872	4903	4904
4905	4913	4914	4915	4924	4925	4926	4927	4928	4930	4931	4959	4960
4961	4972	4973	4974	4989	4990	4991	5001	5002	5003	5016	5017	5018
5029	5030	5048	5049	5050	5062	5063	5064	5077	5078	5079	5091	5092
5093	5101	5102	5103	5112	5113	5114	5122	5123	5124	5139	5140	5156
5157	5158	5172	5173	5174	5187	5188	5189	5199	5200	5201	5206	5207
5221	5222	5223	5235	5236	5237	5248	5249	5250	5257	5258	5259	5263
5264	5279	5280	5281	5295	5296	5297	5310	5311	5312	5323	5324	5325
5326	5327	5329	5330	5342	5343	5353	5354	5355	5364	5365	5366	5375
5376	5377	5387	5388	5389	5399	5400	5401	5402	5411	5412	5413	5423
5424	5425	5437	5438	5439	5446	5447	5448	5459	5460	5461	5470	5471
5472	5479	5480	5481	5489	5490	5491	5492	5499	5500	5501	5510	5511
5512	5520	5521	5522	5531	5532	5533	5534	5550	5551	5552	5560	5561
5562	5568	5569	5570	5576	5577	5578	5581	5582	5583	5592	5593	5594
5605	5606	5607	5611	5612	5613	5616	5617	5618	5621	5622	5623	5627
5628	5629	5633	5634	5635	5644	5645	5658	5659	5660	5672	5673	5674
5685	5686	5687	5696	5697	5698	5709	5710	5711	5712	5713	5722	5723
5724	5735	5736	5737	5745	5746	5747	5758	5759	5760	5769	5770	5771
5780	5781	5782	5794	5795	5796	5807	5808	5809	5817	5818	5819	5824
5825	5845	5846	5847	5855	5856	5857	5863	5864	5865	5874	5875	5892
5893	5894	5903	5904	5905	5913	5914	5915	5920	5921	5939	5940	5941
5953	5954	5955	5963	5964	5965	5973	5974	5975	5983	5984	5985	5993
5994	5995	6003	6004	6005	6013	6014	6015	6016	6017	6019	6020	6036

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CROSS REFERENCE TABLE -- USER SYMBOLS

TABEN	006350
TABM	006324
TESTAB	010666

6037	6038	6050	6051	6052	6060	6061	6062	6070	6071	6072	6080	6081
6082	6090	6091	6092	6100	6101	6102	6110	6111	6112	6113	6114	6116
6117	6135	6136	6137	6149	6150	6131	6163	6164	6165	6176	6177	6178
6190	6191	6192	6203	6204	6205	6216	6217	6218	6230	6231	6232	6243
6244	6245	6256	6257	6258	6269	6270	6271	6282	6283	6309	6310	6311
6317	6318	6319	6320	6321	6336	6337	6338	6346	6347	6348	6357	6358
6359	6363	6364	6377	6378	6379	6389	6390	6391	6399	6400	6401	6410
6411	6412	6416	6417	6436	6437	6438	6447	6448	6449	6457	6458	6459
6467	6468	6469	6478	6479	6480	6485	6486	6502	6503	6504	6513	6514
6515	6525	6526	6527	6531	6532	6564	6565	6566	6573	6574	6575	6580
6581	6613	6614	6615	6622	6623	6624	6629	6630	6654	6655	6656	6664
6665	6666	6671	6672	6688	6689	6690	6699	6700	6701	6719	6720	6721
6732	6733	6734	6745	6746	6747	6758	6759	6760	6771	6772	6773	6783
6784	6785	6786	6787	6788	6789	6794	6795	6796	6835	6836	6868	6869
6870	6895	6896	6897	6900	6901	6928	6929	6930	6956	6957	6958	6961
6962	6991	6992	6993	7019	7020	7021	7024	7025	7056	7057	7058	7064
7065	7088	7089	7090	7096	7097	7112	7113	7114	7122	7123	7124	7132
7133	7134	7144	7145	7146	7153	7154	7155	7161	7162	7163	7169	7170
7171	7174	7175	7176	7183	7184	7185	7188	7189	7190	7202	7203	7204
7223	7224	7225	7237	7238	7239	7262	7263	7264	7267	7268	7269	7287
7288	7289	7292	7293	7294	7303	7304	7305	7309	7310	7311	7321	7322
7323	7326	7327	7328	7333	7334	7354	7355	7356	7357	7358	7359	7360
7361	7362	7363	7364	7365	7366	7367	7368	7369	7370	7371	7372	7373
7374	7375	7376	7377	7378	7379	7380	7381	7382	7383	7384	7385	7386
7387	7388	7389	7391	7392	7480	7481	7483	7484	7549	7550	7551	7552
1102#	1116#	5341	5342	5400	5401	5490	5491					
1102#	1118#	1312	1313	1330	1331	2814	2815	2828	2829	2840	2841	2852
2853	2864	2865	2876	2877	2894	2895	2909	2910	2922	2923	2940	2941
2961	2962	2979	2980	2992	2993	3005	3006	3019	3020	3044	3045	3056
3057	3399	3400	3497	3498	3514	3515	3527	3528	3544	3545	3560	3561
3607	3608	3627	3628	3705	3706	3780	3781	3855	3856	3930	3931	4005
4006	4080	4081	4127	4128	4171	4172	4284	4285	4558	4559	4568	4569
4578	4579	4585	4586	4590	4591	4647	4648	4717	4718	4782	4783	4851
4852	4929	4930	5028	5029	5138	5139	5205	5206	5262	5263	5328	5329

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CROSS REFERENCE TABLE - USER SYMBOLS

[illegible]

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 CZDMTF.P11 08-NOV-84 10:38 CROSS REFERENCE TABLE -- USER SYMBOLS

TXRX3 006410	2484	2620#	6315	6660	6893	6954	7017	7093						
TYEND 002420	1485#	5869												
TYLST 002414	1483#	5840												
T\$ARGC= 000004	1135#	1136#	1137#	1138#	1139#	1140#	2331#	2337	2338#	2346	2349#	2354	2356#	
	2360	2580#	2584	2591#	2595	2597#	2602	2808#	2813	2821#	2826	2832#	2838	
	2844#	2850	2858#	2862	2870#	2874	2884#	2892	2900#	2907	2915#	2920	2926#	
	2930	2931#	2938	2944#	2948	2949#	2954	2955#	2959	2969#	2977	2983#	2990	
	2996#	3003	3011#	3017	3027#	3033	3034#	3042	3050#	3054	3621#	3626	3687#	
	3694	3762#	3769	3837#	3844	3912#	3919	3987#	3994	4062#	4069	4115#	4122	
	4160#	4167												
T\$CODE= 013032	7356#	7361#	7365#	7369#	7374#	7379#	7384#							
T\$ERRN= 000055	1102#	1643#	1688#	1735#	1749#	1825#	1837#	1866#	1896#	1929#	1965#	1996#	2040#	
	2053#	2069#	2076#	2257#	2302#	2441#	2766#	3616#	3667#	3677#	3701#	3742#	3752#	
	3776#	3817#	3827#	3851#	3892#	3902#	3926#	3967#	3977#	4001#	4042#	4052#	4076#	
	4108#	4154#	4240#	4251#	4261#	4361#	4399#	4526#	4543#	4565#	4575#	4641#	4691#	
	4705#	4767#	4778#	4823#	4925#	5324#	5710#	6014#	6111#	6784#				
T\$EXCP= 000000	7356#	7361#	7365#	7369#	7374#	7379#	7384#	7389						
T\$FLAG= 000040	3395#	3397	4100#	4112#	4146#	4157#	4243#	4256#	4264#	4273#	4282#	4317#	4325#	
	4340#	4364#	4380#	4402#	4447#	4483#	4517#	4530#	4546#	4551#	4609#	4620#	4664#	
	4674#	4695#	4709#	4739#	4749#	4757#	4770#	4805#	4826#	4834#	4844#	4870#	4903#	
	4913#	4959#	4972#	4989#	5001#	5016#	5048#	5062#	5077#	5091#	5101#	5112#	5122#	
	5156#	5172#	5187#	5199#	5221#	5235#	5248#	5257#	5279#	5295#	5310#	5353#	5364#	
	5375#	5387#	5411#	5423#	5437#	5446#	5459#	5470#	5479#	5499#	5510#	5520#	5550#	
	5560#	5568#	5576#	5581#	5592#	5605#	5611#	5616#	5621#	5627#	5633#	5658#	5672#	
	5685#	5696#	5722#	5735#	5745#	5758#	5769#	5780#	5794#	5807#	5817#	5845#	5855#	
	5863#	5892#	5903#	5913#	5939#	5953#	5963#	5973#	5983#	5993#	6003#	6036#	6050#	
	6060#	6070#	6080#	6090#	6100#	6135#	6149#	6163#	6176#	6190#	6203#	6216#	6230#	
	6243#	6256#	6269#	6309#	6317#	6336#	6346#	6357#	6377#	6389#	6399#	6410#	6436#	
	6447#	6457#	6467#	6478#	6502#	6513#	6525#	6564#	6573#	6613#	6622#	6654#	6664#	
	6688#	6699#	6719#	6732#	6745#	6758#	6771#	6787#	6794#	6895#	6956#	7019#	7056#	
	7088#	7112#	7122#	7132#	7144#	7153#	7161#	7169#	7174#	7183#	7188#	7202#	7223#	
	7237#	7262#	7267#	7287#	7292#	7303#	7309#	7321#	7326#					
T\$GMAN= 000000	1102#													
T\$HILI= 000007	7356#	7360	7361#	7364	7365#	7368	7369#	7373	7374#	7378	7379#	7383	7384#	
	7388													
T\$LAST= 000001	1102#	7550#												
T\$LOLI= 000000	7356#	7359	7361#	7363	7365#	7367	7369#	7372	7374#	7377	7379#	7382	7384#	
	7387													
T\$LSYM= 010000	1102#	1313	1331	2815	2829	2841	2853	2865	2877	2895	2910	2923	2941	
	2962	2980	2993	3006	3020	3045	3057	3400	3498	3515	3528	3545	3561	
	3608	3628	3706	3781	3856	3931	4006	4081	4128	4172	4285	4559	4569	
	4579	4586	4591	4648	4718	4783	4852	4930	5029	5139	5206	5263	5329	
	5399	5489	5531	5533	5644	5824	5874	5920	6019	6116	6282	6320	6363	
	6416	6485	6531	6580	6629	6671	6835	6900	6961	7024	7064	7096	7333	
	7393	7485												
T\$LTNO= 000054	7553#													
T\$NEST= 000000	1102#	1110#	1220#	1224#	1289#	1312#	1325#	1330#	2807#	2814#	2820#	2828#	2831#	
	2840#	2843#	2852#	2857#	2864#	2869#	2876#	2883#	2894#	2899#	2909#	2914#	2922#	
	2925#	2940#	2943#	2961#	2968#	2979#	2982#	2992#	2995#	3005#	3010#	3019#	3026#	
	3044#	3049#	3056#	3392#	3399#	3413#	3497#	3500#	3514#	3524#	3527#	3541#	3544#	
	3559#	3567#	3585#	3607#	3612#	3627#	3642#	3705#	3717#	3780#	3792#	3855#	3867#	
	3930#	3942#	4005#	4017#	4080#	4093#	4127#	4139#	4171#	4227#	4284#	4306#	4554#	
	4558#	4561#	4568#	4571#	4578#	4581#	4585#	4590#	4606#	4647#	4660#	4717#	4730#	
	4782#	4800#	4851#	4865#	4929#	4946#	5028#	5042#	5138#	5153#	5205#	5219#	5262#	
	5276#	5328#	5340#	5342#	5398#	5401#	5488#	5491#	5530#	5532#	5547#	5643#	5654#	
	5823#	5840#	5873#	5888#	5919#	5935#	6018#	6032#	6115#	6131#	6281#	6299#	6319#	

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T\$NSO = 000000
T\$NS1 = 000005

T\$NS2 = 000002

T\$PTNU= 000000
T\$SAVL= 177777
T\$SEGL= 177777
T\$SUBN= 000000

T\$TAGL= 177777
T\$TAGN= 010120

T\$TEMP= 000005

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66700	66850	68340	68570	68990	69170	69600	69790	70230	70410	70630	70780	70950
71080	73320	73540	73910	74800	74830							
11100												
12200	1224	12890	1312	13250	1330	28070	2814	28200	2828	28310	2840	28430
2852	28570	2864	28690	2876	28830	2894	28990	2909	29140	2922	29250	2940
29430	2961	29680	2979	29820	2992	29950	3005	30100	3019	30260	3044	30490
3056	33920	3399	34130	3497	35000	3514	35240	3527	35410	3544	35590	3560
35850	3607	36120	3627	36420	3705	37170	3780	37920	3855	38670	3930	39420
4005	40170	4080	40930	4127	41390	4171	42270	4284	43060	4590	46060	4647
46600	4717	47300	4782	48000	4851	48650	4929	49460	5028	50420	5138	51530
5205	52190	5262	52760	5328	53400	5532	55470	5643	56540	5823	58400	5873
58880	5919	59350	6018	60320	6115	61310	6281	62990	6319	63320	6362	63750
6415	64320	6484	64980	6530	65500	6579	65970	6628	66440	6670	66850	6834
68570	6899	69170	6960	69790	7023	70410	7063	70780	7095	71080	7332	73540
7391	74800	7483										
45540	4558	45610	4568	45710	4578	45810	4585	53420	5398	54010	5488	54910
5530												
11020												
11020												
11020												
11020	35840	36410	37160	37910	38660	39410	40160	40920	41380	42260	43050	46050
46590	47290	47990	48640	49450	50410	51520	52180	52750	53390	53410	54000	54900
55460	56530	58390	58870	59340	60310	61300	62980	63310	63740	64310	64970	65490
65960	66430	66840	68560	69160	69780	70400	70770	71070				
11020												
11020	12200	12890	13250	28070	28200	28310	28430	28570	28690	28830	28990	29140
29250	29430	29680	29820	29950	30100	30260	30490	33920	34130	35000	35240	35410
35590	35850	36120	36420	37170	37920	38670	39420	40170	40930	41390	42270	43060
45540	45610	45710	45810	46060	46600	47300	48000	48650	49460	50420	51530	52190
52760	53400	53420	54010	54910	55470	56540	58400	58880	59350	60320	61310	62990
63320	63750	64320	64980	65500	65970	66440	66850	68570	69170	69790	70410	70780
71080	73540	74800										
12240	12320	12330	12340	12350	12360	12370	12380	12390	12400	12410	12420	12430
12440	12450	12460	12470	12480	12490	12500	12510	12520	12530	12540	12550	12560
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12700	12710	12720	12730	12740	12750	12760	13120	13300	28140	28280	28400	28520
28640	28760	28940	29090	29220	29400	29610	29790	29920	30050	30190	30440	30560
33950	3396	33990	34970	35140	35270	35440	35600	36070	36270	37050	37800	38550
39300	40050	40800	41000	4101	41120	4113	41270	41460	4147	41570	4158	41710
42430	4244	42560	4257	42640	4265	42730	4274	42820	4283	42840	43170	4318
43250	4326	43400	4341	43640	4365	43800	4381	44020	4403	44470	4448	44830
4484	45170	4518	45300	4531	45460	4547	45510	4552	45580	45680	45780	45850
45900	46090	4610	46200	4621	46470	46640	4665	46740	4675	46950	4696	47090
4710	47170	47390	4740	47490	4750	47570	4758	47700	4771	47820	48050	4806
48260	4827	48340	4835	48440	4845	48510	48700	4871	49030	4904	49130	4914
49290	49590	4960	49720	4973	49890	4990	50010	5002	50160	5017	50280	50480
5049	50620	5063	50770	5078	50910	5092	51010	5102	51120	5113	51220	5123
51380	51560	5157	51720	5173	51870	5188	51990	5200	52050	52210	5222	52350
5236	52480	5249	52570	5258	52620	52790	5280	52950	5296	53100	5311	53280
53530	5354	53640	5365	53750	5376	53870	5388	53980	54110	5412	54230	5424
54370	5438	54460	5447	54590	5460	54700	5471	54790	5480	54880	54990	5500
55100	5511	55200	5521	55300	55320	55500	5551	55600	5561	55680	5569	55760
5577	55810	5582	55920	5593	56050	5606	56110	5612	56160	5617	56210	5622
56270	5628	56330	5634	56430	56580	5659	56720	5673	56850	5686	56960	5697
57220	5723	57350	5736	57450	5746	57580	5759	57690	5770	57800	5781	57940

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T&TEST= 000054

T&TSTM= 177777

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5973#	5974	5983#	5984	5993#	5994	6003#	6004	6018#	6036#	6037	6050#	6051
6060#	6061	6070#	6071	6080#	6081	6090#	6091	6100#	6101	6115#	6135#	6136
6149#	6150	6163#	6164	6176#	6177	6190#	6191	6203#	6204	6216#	6217	6230#
6231	6243#	6244	6256#	6257	6269#	6270	6281#	6309#	6310	6317#	6318	6319#
6336#	6337	6346#	6347	6357#	6358	6362#	6377#	6378	6389#	6390	6399#	6400
6410#	6411	6415#	6436#	6437	6447#	6448	6457#	6458	6467#	6468	6478#	6479
6484#	6502#	6503	6513#	6514	6525#	6526	6530#	6564#	6565	6573#	6574	6579#
6613#	6614	6622#	6623	6628#	6654#	6655	6664#	6665	6670#	6688#	6689	6699#
6700	6719#	6720	6732#	6733	6745#	6746	6758#	6759	6771#	6772	6787#	6788
6794#	6795	6834#	6895#	6896	6899#	6956#	6957	6960#	7019#	7020	7023#	7056#
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7153#	7154	7161#	7162	7169#	7170	7174#	7175	7183#	7184	7188#	7189	7202#
7203	7223#	7224	7237#	7238	7262#	7263	7267#	7268	7287#	7288	7292#	7293
7303#	7304	7309#	7310	7321#	7322	7326#	7327	7332#	7356#	7361#	7365#	7369#
7374#	7379#	7384#	7391#	7483#								
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7066	7076	7077#	7097	7106	7107#	7553						
1102#	1644	1687	1734	1748	1824	1836	1865	1895	1928	1964	1995	2039
2052	2068	2075	2256	2301	2309	2336	2345	2353	2359	2440	2583	2594
2601	2765	2812	2815	2825	2829	2837	2841	2849	2853	2861	2865	2873
2877	2891	2895	2906	2910	2919	2923	2929	2937	2941	2947	2953	2958
2962	2976	2980	2989	2993	3002	3006	3016	3020	3032	3041	3045	3053
3057	3400	3429	3433	3437	3441	3460	3498	3510	3513	3515	3525	3528
3543	3545	3561	3589	3602	3605	3608	3615	3625	3666	3676	3693	3700
3706	3741	3751	3768	3775	3781	3816	3826	3843	3850	3856	3891	3901
3918	3925	3931	3966	3976	3993	4000	4006	4041	4051	4068	4075	4081
4100	4107	4112	4121	4128	4146	4153	4157	4166	4172	4239	4243	4250
4256	4260	4264	4273	4282	4285	4317	4325	4340	4360	4364	4380	4398
4402	4425	4434	4441	4447	4465	4471	4476	4483	4497	4499	4517	4525
4530	4542	4546	4551	4556	4563	4564	4573	4574	4583	4591	4609	4620
4640	4648	4664	4674	4690	4695	4704	4709	4718	4739	4749	4757	4766
4770	4777	4783	4805	4822	4826	4834	4844	4852	4870	4903	4913	4924
4930	4959	4972	4989	5001	5016	5029	5048	5062	5077	5091	5101	5112
5122	5139	5156	5172	5187	5199	5206	5221	5235	5248	5257	5263	5279
5295	5310	5323	5329	5342	5353	5364	5375	5387	5399	5401	5411	5423
5437	5446	5459	5470	5479	5489	5491	5499	5510	5520	5531	5533	5550
5560	5568	5576	5581	5592	5605	5611	5616	5621	5627	5633	5644	5658
5672	5685	5696	5709	5722	5735	5745	5758	5769	5780	5794	5807	5817
5824	5845	5855	5863	5874	5892	5903	5913	5920	5939	5953	5963	5973
5983	5993	6003	6013	6019	6036	6050	6060	6070	6080	6090	6100	6110
6116	6135	6149	6163	6176	6190	6203	6216	6230	6243	6256	6269	6282
6309	6317	6320	6336	6346	6357	6363	6377	6389	6399	6410	6416	6436
6447	6457	6467	6478	6485	6502	6513	6525	6531	6564	6573	6580	6613
6622	6629	6654	6664	6671	6688	6699	6719	6732	6745	6758	6771	6783
6787	6794	6835	6869	6895	6900	6929	6956	6961	6992	7019	7024	7056

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		7064	7088	7096	7112	7122	7132	7144	7153	7161	7169	7174	7183	7188
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		1102#	3585#	3642#	3717#	3792#	3867#	3942#	4017#	4093#	4139#	4227#	4306#	4606#
		4660#	4730#	4800#	4865#	4946#	5042#	5153#	5219#	5276#	5340#	5547#	5654#	5840#
		5888#	5935#	6032#	6131#	6299#	6332#	6375#	6432#	6498#	6550#	6597#	6644#	6685#
		6857#	6917#	6979#	7041#	7078#	7108#							
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T\$\$AUT= 010026		3500#	3514											
T\$\$CLE= 010027		3524#	3527											
T\$\$DU = 010030		3541#	3544											
T\$\$HAR= 010116		7354#	7392											
T\$\$HW = 010001		1289#	1312											
T\$\$INI= 010025		3413#	3497											
T\$\$MSG= 010023		2807#	2814	2820#	2828	2831#	2840	2843#	2852	2857#	2864	2869#	2876	2883#
		2894	2899#	2909	2914#	2922	2925#	2940	2943#	2961	2968#	2979	2982#	2992
		2955#	3005	3010#	3019	3026#	3044	3049#	3056					
T\$\$PRO= 010000		1220#												
T\$\$RPT= 010024		3392#	3395	3399										
T\$\$SOF= 010117		7480#	7484											
T\$\$SRV= 010051		3612#	3627	4554#	4558	4561#	4568	4571#	4578	4581#	4585			
T\$\$SUB= 010067		5342#	5353	5364	5375	5387	5398	5401#	5411	5423	5437	5459	5470	5479
		5488	5491#	5499	5510	5520	5530							
T\$\$SW = 010002		1325#	1330											
T\$\$TES= 010115		3585#	3607	3642#	3705	3717#	3780	3792#	3855	3867#	3930	3942#	4005	4017#
		4080	4093#	4100	4112	4127	4139#	4146	4157	4171	4227#	4243	4256	4264
		4273	4282	4284	4306#	4317	4325	4340	4364	4380	4402	4447	4483	4517
		4530	4546	4551	4590	4606#	4609	4620	4647	4660#	4664	4674	4695	4709
		4717	4730#	4739	4749	4757	4770	4782	4800#	4805	4826	4834	4844	4851
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		5048	5062	5077	5091	5101	5112	5122	5138	5153#	5156	5172	5187	5199
		5205	5219#	5221	5235	5248	5257	5262	5276#	5279	5295	5310	5328	5340#
		5446	5532	5547#	5550	5560	5568	5576	5581	5592	5605	5611	5616	5621
		5627	5633	5643	5654#	5658	5672	5685	5696	5722	5735	5745	5758	5769
		5780	5794	5807	5817	5823	5840#	5845	5855	5863	5873	5888#	5892	5903
		5913	5919	5935#	5939	5953	5963	5973	5983	5993	6003	6018	6032#	6036
		6050	6060	6070	6080	6090	6100	6115	6131#	6135	6149	6163	6176	6190
		6203	6216	6230	6243	6256	6269	6281	6299#	6309	6317	6319	6332#	6336
		6346	6357	6362	6373#	6377	6389	6399	6410	6415	6432#	6436	6447	6457
		6467	6478	6484	6498#	6502	6513	6525	6530	6550#	6564	6573	6579	6597#
		6613	6622	6628	6644#	6654	6664	6670	6685#	6688	6699	6719	6732	6745
		6758	6771	6787	6794	6834	6857#	6895	6899	6917#	6956	6960	6979#	7019
		7023	7041#	7056	7063	7078#	7088	7095	7108#	7112	7122	7132	7144	7153
		7161	7169	7174	7183	7188	7202	7223	7237	7262	7267	7287	7292	7303
		7309	7321	7326	7332									
T1	014546 G	1232	3584#											
T10	017662 G	1241	4226#											
T11	020046 G	1242	4305#											
T12	021200 G	1243	4605#											
T13	021312 G	1244	4659#											
T14	021522 G	1245	4729#											
T14A	021730	4764	4772#											
T14EX	021764	4762	4775	4781#										
T15	021766 G	1246	4799#											
T16	022176 G	1247	4864#											
T17	022454 G	1248	4945#											
T18	022706 G	1249	5041#											

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CROSS REFERENCE TABLE -- USER SYMBOLS

T19	023172 G	1250	5152#											
T2	014726 G	1233	3641#											
T20	023300 G	1251	5218#											
T21	023406 G	1252	5275#											
T22	023522 G	1253	5339#											
T22.1	023522	5341#												
T22.2	023664	5400#												
T22.3	024142	5490#												
T23	024250 G	1254	5546#											
T24	024676 G	1255	5653#											
T25	025324 G	1256	3839#											
T26	025440 G	1257	5887#											
T27	025524 G	1258	5934#											
T28	025752 G	1259	6031#											
T29	026200 G	1260	6130#											
T3	015260 G	1234	3716#											
T30	026526 G	1261	6298#											
T31	026622 G	1262	6331#											
T32	026742 G	1263	6374#											
T33	027110 G	1264	6431#											
T34	027276 G	1265	6497#											
T35	027414 G	1266	6549#											
T36	027536 G	1267	6596#											
T36END	027676	5598	6627#											
T37	027700 G	1268	6643#											
T38	027774 G	1269	6684#											
T39	030422 G	1270	6856#											
T4	015612 G	1235	3791#											
T40	030664 G	1271	6916#											
T41	031126 G	1272	6978#											
T42	031370 G	1273	7040#											
T422C	006224	2557	2568#											
T43	031506 G	1274	7077#											
T44	031604 G	1275	7107#											
T5	016144 G	1236	3866#											
T6	016476 G	1237	3941#											
T7	017030 G	1238	4016#											
T8	017362 G	1239	4092#											
T9	017522 G	1240	4138#											
T9BG	020062	4311#	4413											
UAM	- 000200 G	1406#												
VECTOR	033035	7366	7407#											
V35TC	006174	2500	2542	2556#										
WAIT50	004244	1638	1681	2095#	2198	2237	2518	3504	4231	4632	4633	4634	4635	4684
		4685	4810	4812	4867	4890	4893	4894	4921	5317	5318	5636	5637	6009
		6106	6696											
WFPE	003016	1719#	4841	4900	4998	5025	5196</							

WRDI1	002736	1676#	1683	1780										
WRDO	002646	1632#	2025	2267	2401	2410	2718	4755						
WRDOE	002730	1635	1637	1650#										
WRDO1	002652	1633#	1640	1720	1815									
WRIBYT	002504	1524#												
XX	022500	4948	4950#											
XYZTC	006134	2526	2541#											
X\$ALWA=	000000	1102#												
X\$FALS=	000040	1102#												
X\$OFFS=	000400	1102#												
X\$TRUE=	000020	1102#												
\$BDDAT	002340	1460#	1724*	1725*	1726	1740*	1741	1818*	1819*	1820	1832*	1833	1859*	1860*
		1861	1888*	1889	1918*	1921*	1922*	1923	1952*	1953	1957*	1959	1989*	1990*
		1991	2028*	2029*	2030	2032	2035*	2036	2064*	2066	2760*	2762	2832	2844
		2886	2900	2931	2971	3034	4354*	4355	4392*	4393*	4510	4538	4698*	4699*
		4701	4759*	4760*	4761	4763	4773*	4774	4819*	4820	5703*	5705	6777*	6778*
		6780												
\$GDDAT	002336	1459#	1729*	1743*	1820	1831*	1833	1861	1889	1923	1953	1958*	1959	1991
		2034*	2036	2063*	2066	2250*	2253*	2254	2639*	2643*	2728*	2732*	2736*	2742*
		2746*	2750*	2761*	2762	2783*	2787*	2791*	2833	2845	2887	2901	2932	2972
		3035	4351*	4355	4389*	4508*	4538	4700*	4701	4713*	4818*	4820	5096*	5107*
		5108*	5118*	5370*	5382*	5383*	5465*	5475*	5516*	5526*	5570*	5578*	5607*	5613*
		5618*	5624*	5629*	5691*	5704*	5705	5764*	5775*	6182*	6196*	6209*	6249*	6262*
		6275*	6751*	6764*	6776*	6779*	6780	7166*	7171*	7185*	7204*	7209*	7239*	7264*
		7275*	7284*	7289*	7300*	7305*	7323*	7328*						
\$LSTIN=	000001	1112#												
\$LSTTA=	000001	1113#												
\$TMPO	002542	1548#	2915	2933	2949	6860*	6920*	6982*						
.	= 037740	1101#	1578#	1587#	2383#	3396	4101	4113	4147	4158	4244	4257	4265	4274
		4283	4318	4326	4341	4365	4381	4403	4448	4484	4518	4531	4547	4552
		4610	4621	4665	4675	4696	4710	4740	4750	4758	4771	4806	4827	4835
		4845	4871	4904	4914	4960	4973	4990	5002	5017	5049	5063	5078	5092
		5102	5113	5123	5157	5173	5188	5200	5222	5236	5249	5258	5280	5296
		5311	5354	5365	5376	5388	5412	5424	5438	5447	5460	5471	5480	5500
		5511	5521	5551	5561	5569	5577	5582	5593	5606	5612	5617	5622	5628
		5634	5659	5673	5686	5697	5723	5736	5746	5759	5770	5781	5795	5808
		5818	5846	5856	5864	5893	5904	5914</						

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BADHEA	1103#	3570	3583	3632	3639	3707	3714	3782	3789	3857	3864	3932	3939	4007	4014
	4082	4091	4129	4137	4174	4225	4288	4302	4594	4604	4650	4658	4719	4728	4786
	4798	4854	4863	4932	4943	5031	5040	5141	5150	5208	5217	5265	5273	5330	5338
	5536	5545	5646	5652	5828	5838	5877	5886	5923	5933	6021	6030	6118	6129	6286
	6296	6322	6330	6365	6373	6421	6430	6487	6496	6536	6548	6584	6595	6631	6642
	6673	6683	6841	6855	6901	6915	6963	6977	7026	7039	7066	7076	7097	7106	
B#COMPL	1#	1102#	3430	3434	3438	3442	3462								
B#ERROR	1#	1102#													
B#NAU	1#	1102#	3559												
B#NAUT	1#	1102#	3500												
B#NCLN	1#	1102#	3524												
B#NDU	1#	1102#	3541												
B#NHRD	1#	1102#	7354												
B#NHM	1#	1102#	1289												
B#NINI	1#	1102#	3413												
B#NMOD	1#	1102#	1110												
B#NMSG	1#	1102#	2807	2820	2831	2843	2857	2869	2883	2899	2914	2925	2943	2968	2982
	2995	3010	3026	3049											
B#NPRO	1#	1102#	1220												
B#NPTA	1#	1102#													
B#NRPT	1#	1102#	3392												
B#NSEG	1#	1102#													
B#NSET	1#	1102#													
B#NSFT	1#	1102#	7480												
B#NSRV	1#	1102#	3612	4554	4561	4571	4581								
B#NSUB	1#	1102#	5341	5400	5490										
B#NSW	1#	1102#	1325												
B#NTST	1#	1102#	3584	3641	3716	3791	3866	3941	4016	4092	4138	4226	4305	4605	4659
	4729	4799	4864	4945	5041	5152	5218	5275	5339	5546	5653	5839	5887	5934	6031
	6130	6298	6331	6374	6431	6497	6549	6596	6643	6684	6856	6916	6978	7040	7077
	7107														
B#NCOMP	1#	1102#													
B#NERRO	1#	1102#													
B#BREAK	1#	1102#	2308												
B#RESET	1#	1102#	3512	3525	3543										
B#CKLOOP	1#	1102#													
B#CLOCK	1#	1102#													
B#CLOSE	1#	1102#													
B#CLRVEC	1#	1102#	3603	4496	4498										
B#COMEN	1#	1102#													
B#CROMT	3631#	3632	3707	3782	3857	3932	4007								
B#DELAY	1#	1102#													
B#DESCRI	1#	1102#	1580												
B#DEVTYP	1#	1102#	1574												
B#DISPAT	1#	1102#	1230												
B#DISPLA	1#	1102#													
B#DOCLN	1#	1102#	3602												
B#DODU	1#	1102#	3509												
B#DORPT	1#	1102#													
ED#CAL	1103#	3570	3583	3632	3639	3707	3714	3782	3789	3857	3864	3932	3939	4007	4014
	4082	4091	4129	4137	4174	4225	4288	4302	4594	4604	4650	4658	4719	4728	4786
	4798	4854	4863	4932	4943	5031	5040	5141	5150	5208	5217	5265	5273	5330	5338
	5536	5545	5646	5652	5828	5838	5877	5886	5923	5933	6021	6030	6118	6129	6286
	6296	6322	6330	6365	6373	6421	6430	6487	6496	6536	6548	6584	6595	6631	6642
	6673	6683	6841	6855	6901	6915	6963	6977	7026	7039	7066	7076	7097	7106	
ENDAU	1#	1102#	3560												

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CROSS REFERENCE TABLE -- MACRO NAMES

ENDAUT	1#	1102#	3514												
ENDCLN	1#	1102#	3527												
ENDCOM	1#	1102#													
ENDDU	1#	1102#	3544												
ENDHRD	1#	1102#	7391												
ENDHW	1#	1102#	1312												
ENDINI	1#	1102#	3497												
ENDMOD	1#	1102#													
ENDMSG	1#	1102#	2814	2828	2840	2852	2864	2876	2894	2909	2922	2940	2961	2979	2992
	3005	3019	3044	3056											
ENDPRO	1#	1102#	1224												
ENDPTA	1#	1102#													
ENDRPT	1#	1102#	3399												
ENDSEG	1#	1102#													
ENDSET	1#	1102#													
ENDSFT	1#	1102#	7483												
ENDSRV	1#	1102#	3627	4558	4568	4578	4585								
ENDSUB	1#	1102#	5398	5488	5530										
ENDSW	1#	1102#	1330												
ENDTST	1#	1102#	3607	3705	3780	3855	3930	4005	4080	4126	4170	4284	4590	4647	4717
	4782	4851	4928	5028	5138	5205	5262	5328	5532	5643	5823	5873	5919	6017	6114
	6281	6319	6362	6415	6484	6530	6579	6628	6670	6834	6899	6960	7023	7063	7095
	7332														
EQUALS	1#	1102#	1347												
ERRDF	1#	1102#	1644	1687	1734	1748	1824	1836	1865	1895	1928	1963	1995	2039	2052
	2068	2075	2301	2440	2765	3615	3666	3676	3700	3741	3751	3775	3916	3826	3850
	3891	3901	3925	3966	3976	4000	4041	4051	4075	4107	4153	4239	4250	4260	4360
	4398	4525	4542	4564	4574	4640	4690	4704	4766	4777	4822	4924	5323	5709	6013
	6110	6783													
ERRHRD	1#	1102#													
ERROR	1#	1102#													
ERRSF	1#	1102#													
ERRSOF	1#	1102#	2256												
ERRTBL	1#	1102#													
ESCAPE	1#	1102#	4100	4112	4146	4157	4243	4256	4264	4273	4281	4317	4325	4340	4364
	4380	4402	4447	4483	4517	4530	4546	4609	4620	4664	4674	4695	4709	4739	4749
	4757	4770	4805	4834	4844	4870	4903	4913	4959	4972	4989	5001	5016	5048	5062
	5077	5091	5101	5112	5122	5156	5172	5187	5199	5221	5235	5248	5257	5279	5295
	5310	5353	5364	5375	5387	5411	5423	5437	5446	5459	5470	5479	5499	5510	5520
	5550	5560	5568	5576	5581	5592	5605	5611	5616	5621	5627	5633	5658	5672	5685
	5696	5722	5735	5745	5758	5769	5780	5794	5807	5817	5845	5855	5863	5892	5903
	5913	5939	5953	5963	5973	5983	5993	6003	6036	6050	6060	6070	6080	6090	6100
	6135	6149	6163	6176	6190	6203	6216	6230	6243	6256	6269	6309	6317	6336	6346
	6357	6377	6389	6399	6410	6436	6447	6457	6467	6478	6502	6513	6525	6564	6577
	6613	6622	6654	6664	6699	6719	6732	6745	6758	6771	6787	6895	6956	7019	7056
	7088	7112	7122	7132	7144	7153	7161	7169	7174	7183	7188	7202	7223	7237	7262
	7267	7287	7292	7303	7309	7321	7326								
EXIT	1#	1102#	3395	4551	4826	6688	6793								
FEQUAL	1#	1102#													
GETBYT	1#	1102#													
GETPRI	1#	1102#													
GETWOR	1#	1102#													
GMANIA	1#	1102#													
GMANID	1#	1102#													
GMANIL	1#	1102#													
GPHARD	1#	1102#	3459												

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GPRMA	10	11020	7361	7365											
GPRMD	10	11020	7356	7369	7374	7379	7384								
GPRML	10	11020													
HEADER	10	11020	1134												
INLOOP	10	11020													
IOSETU	10	11020													
IOSTAR	10	11020													
KT11	10	11020													
LASTAD	10	11020	7549												
MANUAL	10	11020													
MEMORY	10	11020													
M%BYTE	10	11020	11340	1140	1141	1142									
M%CHEC	10	11020	33950	45510	48260	66880	67940								
M%CNTO	10	11020	73560	73610	73650	73690	73740	73790	73840						
M%OUN	10	11020	23310	23380	23490	23560	25800	25910	25970	28080	28210	28320	28440	28580	28700
	28840	29000	29150	29260	29310	29440	29490	29550	29690	29830	29960	30110	30270	30340	30500
	36210	36870	37620	38370	39120	39870	40620	41150	41600						
M%DATA	10	11020	11340	1143	1145	1147	1149	1151	1153	1155	1157	1159	1161	1163	1165
	1167	1169	1171	11730	1175	1177	1180	1183	1185	1187	1189	1191	1193	1195	1197
	1199	1201	1203	1205	1207	1209	1211	1213	1215	1217	15740	15800			
M%DECR	10	11020	12240	13120	13300	28140	28280	28400	28520	28640	28760	28940	29090	29220	29400
	29610	29790	29920	30050	30190	30440	30560	33990	34970	35140	35270	35440	35600	36070	36270
	37050	37800	38530	39300	40050	40800	41270	41710	42840	45580	45680	45780	45850	45900	46470
	47170	47820	48510	49290	50280	51380	52050	52620	53280	53980	54880	55300	55320	56430	58230
	58730	59190	60180	61150	62810	63190	63620	64150	64840	65300	65790	66280	66700	68340	68990
	69600	70230	70630	70950	73320	73910	74830								
M%DEFA	10	11020	73560	73610	73650	73690	73740	73790	73840						
M%ENDE	10	11020	13120	13300	28140	28280	28400	28520	28640	28760	28940	29090	29220	29400	29610
	29790	29920	30050	30190	30440	30560	33990	34970	35140	35270	35440	35600	36070	36270	37050
	37800	38530	39300	40050	40800	41270	41710	42840	45580	45680	45780	45850	45900	46470	47170
	47820	48510	49290	50280	51380	52050	52620	53280	53980	54880	55300	55320	56430	58230	58730
	59190	60180	61150	62810	63190	63620	64150	64840	65300	65790	66280	66700	68340	68990	69600
	70230	70630	70950	73320	73910	74830									
M%ERRI	10	11020	16440	16870	17340	17480	18240	18360	18650	18950	19280	19640	19950	20390	20520
	20680	20750	22560	23010	24400	27650	36150	36660	36760	37000	37410	37510	37750	38160	38260
	38500	38910	39010	39250	39660	39760	40000	40410	40510	40750	41070	41530	42390	42500	42600
	43600	43980	45250	45420	45640	45740	46400	46900	47040	47660	47770	48220	49240	53230	57090
	60130	61100	67830												
M%ESCA	10	11020	41000	4101	41120	4113	41460	4147	41570	4158	42430	4244	42560	4257	42640
	4265	42730	4274	42820	4283	43170	4318	43250	4326	43400	4341	43640	4365	43800	4381
	44020	4403	44470	4448	44830	4484	45170	4518	45300	4531	45460	4547	46090	4610	46200
	4621	46640	4665	46740	4675	46950	4696	47090	4710	47390	4740	47490	4750	47570	4758
	47700	4771	48050	4806	48340	4835	48440	4845	48700	4871	49030	4904	49130	4914	49590
	4960	49720	4973	49890	4990	50010	5002	50160	5017	50480	5049	50620	5063	50770	5078
	50910	5092	51010	5102	51120	5113	51220	5123	51560	5157	51720	5173	51870	5188	51990
	5200	52210	5222	52350	5236	52480	5249	52570	5258	52790	5280	52950	5296	53100	5311
	53530	5354	53640	5365	53750	5376	53870	5388	54110	5412	54230	5424	54370	5438	54460
	5447	54590	5460	54700	5471	54790	5480	54990	5500	55100	5511	55200	5521	55500	5551
	55600	5561	55680	5569	55760	5577	55810	5582	55920	5593	56050	5606	56110	5612	56160
	5617	56210	5622	56270	5628	56330	5634	56580	5659	56720	5673	56850	5686	56960	5697
	57220	5723	57350	5736	57450	5746	57580	5759	57690	5770	57800	5781	57940	5795	58070
	5808	58170	5818	58450	5846	58550	5856	58630	5864	58920	5893	59030	5904	59130	5914
	59390	5940	59530	5954	59630	5964	59730	5974	59830	5984	59930	5994	60030	6004	60360
	6037	60500	6051	60600	6061	60700	6071	60800	6081	60900	6091	61000	6101	61350	6136
	61490	6150	61630	6164	61760	6177	61900	6191	62030	6204	62160	6217	62300	6231	62430
	6244	62560	6257	62690	6270	63090	6310	63170	6318	63360	6337	6346	6347	63570	6358

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	63770	6378	63890	6390	63990	6400	64100	6411	64360	6437	64470	6448	64570	6458	64670
	6468	64780	6479	65020	6503	65130	6514	65250	6526	65640	6565	65730	6574	66130	6614
	66220	6623	66540	6655	66640	6665	66990	6700	67190	6720	67320	6733	67450	6746	67580
	6759	67710	6772	67870	6788	68950	6896	69560	6957	70190	7020	70560	7057	70880	7089
	71120	7113	71220	7123	71320	7133	71440	7145	71530	7154	71610	7162	71690	7170	71740
	7175	71830	7184	71880	7189	72020	7203	72230	7224	72370	7238	72620	7263	72670	7268
	72870	7288	72920	7293	73030	7304	73090	7310	73210	7322	73260	7327			
M\$ESCS	10	11020	41000	41120	41460	41570	42430	42560	42640	42730	42820	43170	43250	43400	43640
	43800	44020	44470	44830	45170	45300	45460	46090	46200	46640	46740	46950	47090	47390	47490
	47570	47700	48050	48340	48440	48700	49030	49130	49590	49720	49890	50010	50160	50480	50620
	50770	50910	51010	51120	51220	51560	51720	51870	51990	52210	52350	52480	52570	52790	52950
	53100	53530	53640	53750	53870	54110	54230	54370	54460	54590	54700	54790	54990	55100	55200
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	67940	68950	59560	70190	70560	70880	71120	71220	71320	71440	71530	71610	71690	71740	71830
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M1STL

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	1996	1997	1998	2039#	2040	2041	2042	2052#	2053	2054	2055	2068#	2069	2070	2071
	2075#	2076	2077	2078	2256#	2257	2258	2259	2301#	2302	2303	2304	2440#	2441	2442
	2443	2765#	2766	2767	2768	3395#	3615#	3616	3617	3618	3666#	3667	3668	3669	3676#
	3677	3678	3679	3700#	3701	3702	3703	3741#	3742	3743	3744	3751#	3752	3753	3754
	3775#	3776	3777	3778	3816#	3817	3818	3819	3826#	3827	3828	3829	3850#	3851	3852
	3853	3891#	3892	3893	3894	3901#	3902	3903	3904	3925#	3926	3927	3928	3966#	3967
	3968	3969	3976#	3977	3978	3979	4000#	4001	4002	4003	4041#	4042	4043	4044	4051#
	4052	4053	4054	4075#	4076	4077	4078	4107#	4108	4109	4110	4153#	4154	4155	4156
	4239#	4240	4241	4242	4250#	4251	4252	4253	4260#	4261	4262	4263	4360#	4361	4362
	4363	4398#	4399	4400	4401	4525#	4526	4527	4528	4542#	4543	4544	4545	4551#	4564#
	4565	4566	4567	4574#	4575	4576	4577	4640#	4641	4642	4643	4690#	4691	4692	4693
	4704#	4705	4706	4707	4766#	4767	4768	4769	4777#	4778	4779	4780	4822#	4823	4824
	4825	4826#	4924#	4925	4926	4927	5323#	5324	5325	5326	5709#	5710	5711	5712	6013#
	6014	6015	6016	6110#	6111	6112	6113	6688#	6783#	6784	6785	6786	6794#	7356#	7361#
	7365#	7369#	7374#	7379#	7384#	7550	7551								
M\$XFER	1#	1102#													
NEWTST	1103#	3570	3632	3707	3782	3857	3932	4007	4082	4129	4174	4288	4594	4650	4719
	4786	4854	4932	5031	5141	5208	5265	5330	5536	5646	5828	5877	5923	6021	6118
	6286	6322	6365	6421	6487	6536	6584	6631	6673	6841	6901	6963	7026	7066	7097
OPEN	1#	1102#													
POINTE	1#	1102#	1132												
PRINTB	1#	1102#	2808	2821	2832	2844	2858	2870	2884	2900	2915	2926	2931	2944	2949
	2955	2969	2983	2996	3011	3027	3034	3050							
PRINTF	1#	1102#	2580	2591	2596	3687	3762	3837	3912	3987	4062	4115	4160		
PRINTS	1#	1102#													
PRINTX	1#	1102#	2330	2338	2349	2355	3620								
READBU	1#	1102#													
READEF	1#	1102#	3428	3432	3436	3440									
RFLAGS	1#	1102#													
SETPRI	1#	1102#	4440	4475	4555	4562	4572	4582	6868	6928	6991				
SETVEC	1#	1102#	3585	4421	4430	4461	4467								
SLASH	1#	1102#													

CZDMTFO DMP/V-11 FCTNL TST #1 MACY11 30A(1052) 08-NOV-84 10:42 PAGE 207
CZDMTF.P11 08-NOV-84 10:38 CROSS REFERENCE TABLE -- MACRO NAMES

ZZ	3570#	3572	3632#	3634	3707#	3709	3782#	3784	3857#	3859	3932#	3934	4007#	4009	4082#
	4084	4129#	4131	4174#	4176	4288#	4290	4594#	4596	4650#	4652	4719#	4721	4786#	4788
	4854#	4856	4932#	4934	5031#	5033	5141#	5143	5208#	5210	5264#	5267	5330#	5332	5536#
	5538	5646#	5648	5828#	5830	5877#	5879	5923#	5925	6021#	6023	6118#	6120	6285#	6288
	6322#	6324	6365#	6367	6421#	6423	6487#	6489	6535#	6538	6583#	6586	6631#	6633	6673#
	6675	6841#	6843	6901#	6903	6963#	6965	7026#	7028	7066#	7068	7097#	7099		

. ABS. 037740 000

ERRORS DETECTED: 0

CZDMTF,CZDMTF/SOL/CRF=SVC34R.MLB,CZDMTF.P11

RUN-TIME: 33 41 5 SECONDS

RUN-TIME RATIO: 108/80=1 3

CORE USED: 21K (41 PAGES)