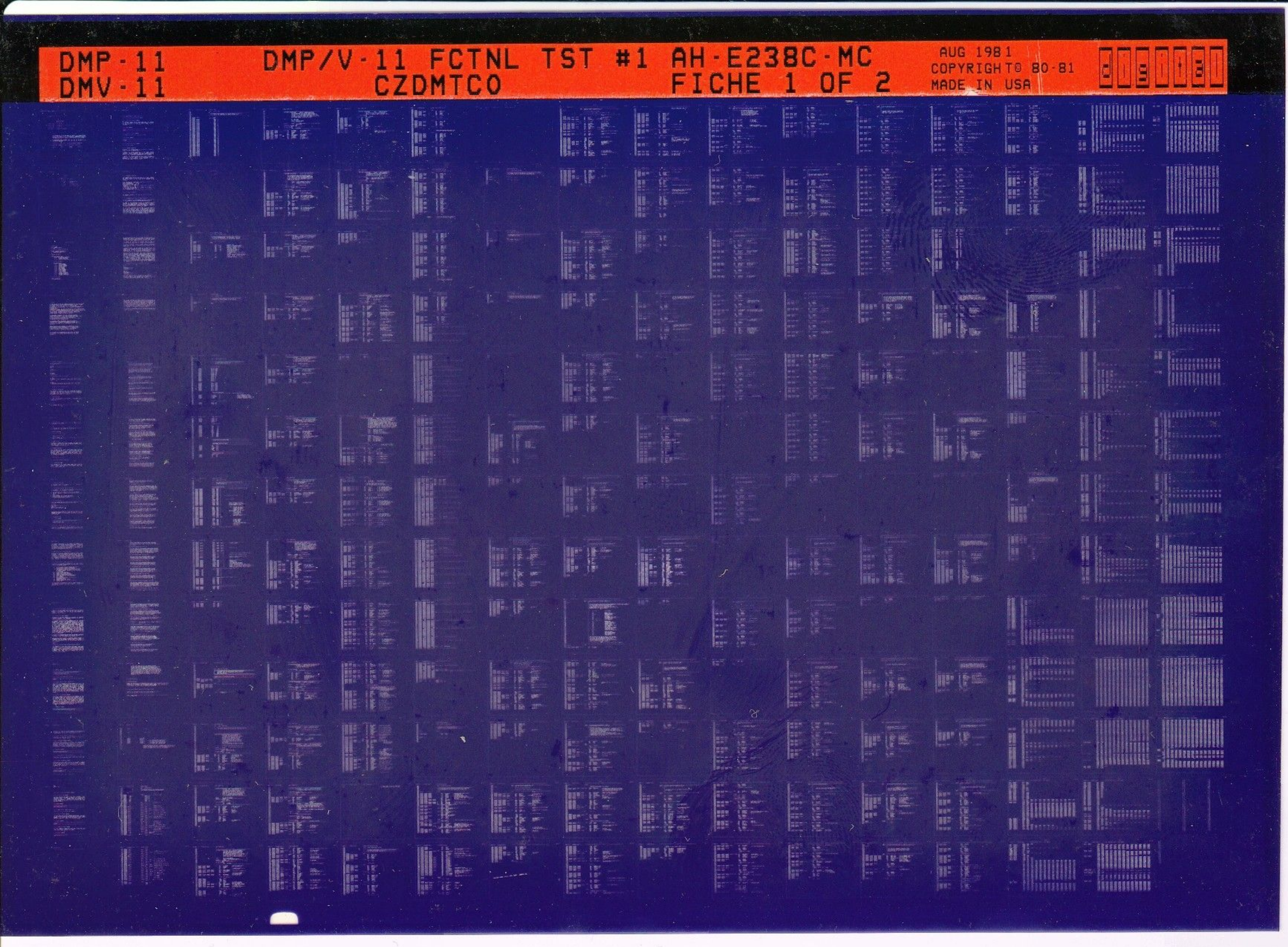
DMP-11
DMV-11

DMP/V-11 FCTNL TST #1 AH-E238C-MC
CZDMTC0
FICHE 1 OF 2



DMP-11
DMV-11

DMP/V-11 FCTNL TST #1 AH-E238C-MC
CZDMTCO FICHE 2 OF 2

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.TITLE CZDMTC0 DMP/V-11 FCTNL TST #1
.REM &
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IDENTIFICATION

PRODUCT CODE: AC-E237C-MC

PRODUCT NAME: CZDMTC0 DMP/V-11 FUNCTIONAL TEST #1

PRODUCT DATE: AUGUST 1981

MAINTAINER: DIAGNOSTICS MERRIMACK CC: 38P

CZDMTC.P11 25-MAR-81 08:24

HISTORY

REV	DATE	REASON
A	18-AUG-80	INITIAL RELEASE DMP ONLY
B	14-JAN-81	DMP11 BUGS FIXED
C	1-APR-81	DMV11 SUPPORT ADDED

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1.0 INTROD'' N

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.

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-11/03,23,23B
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.

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-RD) 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.

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-C-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.

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.

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.

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>)

<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>
****

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 (/UNITS:<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.

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=H3254H3255,1=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 "# 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:

```
# UNITS (D) ? 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.

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).

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 RQI,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)

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

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 REQEST 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:

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 BOUNDRY TO A REC BUFFER STARTING ON AN EVEN BYTE BOUNDRY. 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

ON AN EVEN BYTE BOUNDRY TO A REC BUFFER STARTING ON AN EVEN BOUNDRY. 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 LOOP BACK 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 CORRECT NESS. THE TEST IS DONE WITH INTERNAL LOOPBACK.

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

THIS TEST WRITES THF 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 BOUNDRY TO A RECEIVE BUFFER STARTING ON AN ODD BYTE BOUNDRY IN DDCMP MODE,POINT TO POINT. IF THERE IS EXTERNAL LOOP BACK THEN THE TEST WILL BE DONE OVER THAT LOOPBACK;ELSE THE LOOPBACK WILL BE SET TO INTERNAL(TTL).

7.33 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:

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.

&

```
1092                            ;
1093    002000                          .=2000
1094
1095
1096
1097    000200                          DRUN==  200
1098
1099
1100
1101
1102
1103
1104    000001                  $LSTIN= 1
1105    000001                  $LSTTAG= 1
1106    000000                  SVCINS= 0       ; LIST INSTRUCTIONS, SHIFTED RIGHT
1107    000000                  SVCTST= 0       ; LIST TEST TAGS, SHIFTED RIGHT
1108    000000                  SVCSUB= 0       ; LIST SUBTEST TAGS, SHIFTED RIGHT
1109    000000                  SVCGBL= 0       ; LIST GLOBAL TAGS, SHIFTED RIGHT
1110    000000                  SVCTAG= 0       ; LIST OTHER TAGS, SHIFTED RIGHT
1111
1112                            ;       CHANGE THE VALUES OF THE SVC... SYMBOLS TO BE ZERO IF YOU WISH
1113                            ;       TO ALIGN THE MACRO CALLS AND THEIR EXPANSIONS.  CHANGE THE
1114                            ;       SYMBOLS TO BE MINUS-ONE TO NOT LIST THE EXPANSIONS.  YOU MAY
1115                            ;       CHANGE THE SYMBOLS AT ANY POINT IN YOUR PROGRAM.
1116
1117
```

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```
1118
1119
1120
1121
1122
1123
1124
1125
1126  002000
1127  002000      103
1128  002001      132
1129  002002      104
1130  002003      115
1131  002004      124
1132  002005      000
1133  002006      000
1134  002007      000
1135  002010
1136  002010      103
1137  002011
1138  002011      060
1139  002012
1140  002012  000000
1141  002014
1142  002014  003410
1143  002016
1144  002016  032534
1145  002020
1146  002020  000000
1147  002022
1148  002022  002264
1149  002024
1150  002024  000000
1151  002026
1152  002026  037660
1153  002030
1154  002030  000000
1155  002032
1156  002032  000000
1157  002034
1158  002034  000000
1159  002036
1160  002036  000000
1161  002040
1162  002040  002132
1163  002042
1164  002042  000340
1165  002044
1166  002044  000000
1167  002046
1168  002046  000000
1169  002050
1170  002050      003
1171  002051      003
1172  002052
1173  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  /C/
L$DEPO::                        ;0
        .ASCII  /0/
L$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   #PRIO7
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
```

```
1174  002054  000000
1175  002056
1176  002056  000000
1177  002060
1178  002060  002564
1179  002062
1180  002062  000000
1181  002064
1182  002064  000000
1183  002066
1184  002066  000000
1185  002070
1186  002070  014502
1187  002072
1188  002072  014476
1189  002074
1190  002074  000000
1191  002076
1192  002076  002606
1193  002100
1194  002100  104035
1195  002102
1196  002102  000000
1197  002104
1198  002104  013774
1199  002106
1200  002106  014472
1201  002110
1202  002110  014430
1203  002112
1204  002112  002122
1205  002114
1206  002114  000000
1207  002116
1208  002116  000000
1209  002120
1210  002120  000000
1211
1212  002122
1213  002122  177777
1214  002124  177777
1215  002126  177777
1216
```

PROGRAM HEADER

```
L$SPC::     .WORD   0
L$DEVP::    .WORD   0
L$REPP::    .WORD   L$DVTYP     ; POINTER TO DEVICE TYPE LIST
L$EXP4::    .WORD   0           ;PTR. TO REPORT CODE
L$EXP5::    .WORD   0
L$AUT::     .WORD   0
L$DUT::     .WORD   L$AU        ;PTR. TO ADD UNIT CODE
L$LUN::     .WORD   L$DU        ;PTR. TO DROP UNIT CODE
L$DESP::    .WORD   0           ;LUN FOR EXERCISERS TO FILL
L$LOAD::    .WORD   L$DESC      ;POINTER TO DIAG. DESCRIPTION
L$ETP::     EMT     E$LOAD      ;GENERATE SPECIAL AUTOLOAD EMT
L$ICP::     .WORD   0           ;POINTER TO ERRTBL
L$CCP::     .WORD   L$INIT      ;PTR. TO INIT CODE
L$ACP::     .WORD   L$CLEAN     ;PTR. TO CLEAN-UP CODE
L$PRT::     .WORD   L$AUTO      ;PTR. TO AUTO CODE
L$TEST::    .WORD   L$PROT      ;PTR. TO PROTECT TABLE
L$DLY::     .WORD   0           ;TEST NUMBER
L$HIME::    .WORD   0           ;DELAY COUNT
            .WORD   0           ;PTR. TO HIGH MEM

L$PROT::
            .WORD   -1
            .WORD   -1
            .WORD   -1
```

CZDMTC.P11 25-MAR-81 08:24 DISPATCH TABLE

```
1217
1218
1219
1220
1221
1222
1223
1224  002130  000054                .SBTTL  DISPATCH TABLE
1225  002132
1226  002132  014504
1227  002134  014664
1228  002136  015216
1229  002140  015550
1230  002142  016102
1231  002144  016434
1232  002146  016766
1233  002150  017320
1234  002152  017460
1235  002154  017620
1236  002156  020004
1237  002160  021136
1238  002162  021250
1239  002164  021460
1240  002166  021724
1241  002170  022134
1242  002172  022366
1243  002174  022620
1244  002176  023104
1245  002200  023212
1246  002202  023320
1247  002204  023434
1248  002206  024162
1249  002210  024610
1250  002212  025236
1251  002214  025352
1252  002216  025436
1253  002220  025664
1254  002222  026112
1255  002224  026440
1256  002226  026534
1257  002230  026654
1258  002232  027022
1259  002234  027210
1260  002236  027326
1261  002240  027450
1262  002242  027612
1263  002244  027706
1264  002246  030334
1265  002250  030576
1266  002252  031040
1267  002254  031302
1268  002256  031420
1269  002260  031516
1270
1271
1272
```

```
;////////////////////////////////////////////////////////////////////////////
;/ 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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```
1273
1274
1275
```

CZDMTC.P11 25-MAR-81 08:24 DEFAULT HARDWARE P-TABLE

```
1276                                    .SBTTL  DEFAULT HARDWARE P-TABLE
1277
1278                                    ;////////////////////////////////////////////////////////////////////////////
1279                                    ;/ THE DEFAULT HARDWARE P-TABLE CONTAINS DEFAULT VALUES OF
1280                                    ;/ THE TEST-DEVICE PARAMETERS.  THE STRUCTURE OF THIS TABLE
1281                                    ;/ IS IDENTICAL TO THE STRUCTURE OF THE RUN-TIME P-TABLE.
1282                                    ;////////////////////////////////////////////////////////////////////////////
1283
1284  002262  000014                            .WORD   L10001-L$HW/2
1285  002264                          L$HW::
1286  002264                          DFPTBL::
1287
1288  002264  000000                            .WORD   0               ;HARDWARE TYPE
1289  002266  160170                            .WORD   160170          ;M8200,4,7 CSR UNIBUS ADDRESS
1290  002270  000300                            .WORD     300           ;M8200,4,7 INTERRUPT VECTOR
1291  002272  005000                            .WORD    5000           ;M8200,4,7 INTERRUPT PRIORITY LEVEL = 5
1292  002274  000003                            .WORD       3           ;LINE UNIT = M8203
1293  002276  000056                            .WORD     056           ;SWITCH PACK #1 (REG 11)
1294  002300  000000                            .WORD     000           ;SWITCH PACK #2 (REG 15)
1295  002302  000000                            .WORD     000           ;SWITCH PACK #3 (REG 16)
1296  002304  000004                            .WORD       4           ;H3251&H3252 USED
1297                                                                    ;0= LOOPBACK CABLE,2= TEST CONNECTOR
1298                                                                    ;4= NONE
1299  002306  000004                            .WORD       4           ;CONTAINS BAUD RATE 4=56K BAUD DEFAULT
1300                                                                    ;0=2.4K , 1=4.8K , 2=9.6K , 3=19.2K , 4=56K
1301                                                                    ;5=250K , 6=500K , 7=1 MEG BAUD
1302  002310  000000                            .WORD       0           ;DUMMY WORD FOR RUN
1303  002312  000002                            .WORD       2           ;1=INTEGRAL ;2=EIA;3=V.35;4=422
1304
1305  002314                          L10001:
1306
1307
1308
1309
1310
```

```
CZDMTC.P11    25-MAR-81 08:24          SOFTWARE P-TABLE

                                       .SBTTL  SOFTWARE P-TABLE

                                       ;////////////////////////////////////////////////////////////////////////////
                                       ;/ THE SOFTWARE P-TABLE CONTAINS THE VALUES OF THE PROGRAM
                                       ;/ PARAMETERS THAT CAN BE CHANGED BY THE OPERATOR.
                                       ;////////////////////////////////////////////////////////////////////////////

1318  002314  000000                           .WORD   L10002-L$SW/2
1319  002316                           L$SW::
1320  002316                           SFPTBL::

1323  002316                           L10002:
```

```
1330
1331
1332                            .SBTTL  GLOBAL EQUATES SECTION
1333
1334
1335                            ;////////////////////////////////////////////////////////////////////////////////
1336                            ;/      THE GLOBAL EQUATES SECTION CONTAINS PROGRAM EQUATES THAT
1337                            ;/      ARE USED IN MORE THAN ONE TEST.
1338                            ;////////////////////////////////////////////////////////////////////////////////
1339
1340                            ;
1341                            ; BIT DIFINITIONS
1342                            ;
1343        100000              BIT15== 100000
1344        040000              BIT14== 40000
1345        020000              BIT13== 20000
1346        010000              BIT12== 10000
1347        004000              BIT11== 4000
1348        002000              BIT10== 2000
1349        001000              BIT09== 1000
1350        000400              BIT08== 400
1351        000200              BIT07== 200
1352        000100              BIT06== 100
1353        000040              BIT05== 40
1354        000020              BIT04== 20
1355        000010              BIT03== 10
1356        000004              BIT02== 4
1357        000002              BIT01== 2
1358        000001              BIT00== 1
1359                            ;
1360        001000              BIT9==  BIT09
1361        000400              BIT8==  BIT08
1362        000200              BIT7==  BIT07
1363        000100              BIT6==  BIT06
1364        000040              BIT5==  BIT05
1365        000020              BIT4==  BIT04
1366        000010              BIT3==  BIT03
1367        000004              BIT2==  BIT02
1368        000002              BIT1==  BIT01
1369        000001              BIT0==  BIT00
1370                            ;
1371                            ; EVENT FLAG DEFINITIONS
1372                            ;   EF32:EF17 RESERVED FOR SUPERVISOR TO PROGRAM COMMUNICATION
1373                            ;
1374        000040              EF.START==      32.                     ; START COMMAND WAS ISSUED
1375        000037              EF.RESTART==    31.                     ; RESTART COMMAND WAS ISSUED
1376        000036              EF.CONTINUE==   30.                     ; CONTINUE COMMAND WAS ISSUED
1377        000035              EF.NEW==        29.                     ; A NEW PASS HAS BEEN STARTED
1378        000034              EF.PWR==        28.                     ; A POWER-FAIL/POWER-UP OCCURRED
1379                            ;
1380                            ;
1381                            ; PRIORITY LEVEL DEFINITIONS
1382                            ;
1383        000340              PRI07== 340
1384        000300              PRI06== 300
1385        000240              PRI05== 240
```

```
CZDMTC.P11    25-MAR-81 08:24          GLOBAL EQUATES SECTION

1386            000200                 PRI04== 200
1387            000140                 PRI03== 140
1388            000100                 PRI02== 100
1389            000040                 PRI01== 40
1390            000000                 PRI00== 0
1391                                   ;
1392                                   ;OPERATOR FLAG BITS
1393                                   ;
1394            000004                 EVL==         4
1395            000010                 LOT==        10
1396            000020                 ADR==        20
1397            000040                 IDU==        40
1398            000100                 ISR==       100
1399            000200                 UAM==       200
1400            000400                 BOE==       400
1401            001000                 PNT==      1000
1402            002000                 PRI==      2000
1403            004000                 IXE==      4000
1404            010000                 IBE==     10000
1405            020000                 IER==     20000
1406            040000                 LOE==     40000
1407            100000                 HOE==    100000
1408
1409
1410                                   ;;*****************************************************************************
1411                                   ;* PROGRAM EVENT FLAG DEFINITIONS
1412                                   ;;*****************************************************************************
1413
1414                                   ;;*************************************************************************************
1415                                   ;* MAINTENANCE REGISTER - BSEL1
1416                                   ;;*************************************************************************************
1417     000200                        RUN      = BIT7
1418     000100                        MCLR     = BIT6
1419     000020                        STEPLU   = BIT4
1420     000010                        LULOOP   = BIT3
1421     000004                        ROMO     = BIT2
1422     000002                        ROMI     = BIT1
1423     000001                        STEPMP   = BIT0
1424
1425                                   ;*******************************************************
1426                                   ; OTHER BIT DEFINITIONS
1427                                   ;*******************************************************
1428     000010                        Q22BIT   =BIT3
1429     000200                        RQI      =200
1430     000020                        RDI      =020
1431     000200                        RDO      =200
1432
1433
```

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```
1434
1435
1436
1437
1438
1439
1440
1441
1442
1443
1444   002316  000000
1445   002320  000000
1446   002322  000000
1447   002324  000000
1448   002326  000000
1449   002330  000000
1450   002332  000000
1451   002334  000000
1452   002336  000000
1453   002340  000000
1454   002342  000000
1455   002344  000000
1456   002346  000000
1457   002350  000000
1458   002352  000000
1459   002354  000000
1460   002356  000000
1461   002360  000000
1462   002362  000040
1463   002364  000000
1464
1465   002366  000000
1466   002370  000000
1467   002372  000000
1468   002374  177777
1469   002376  000000
1470   002400  000000
1471   002402  000000
1472   002404  000000
1473   002406  000000
1474   002410  000000
1475   002412  000000
1476   002414  003406
1477   002416  002403
1478   002420
1479   002420  000000
1480   002422  000000
1481   002424  000000
1482   002426  000000
1483   002430  000000
1484   002432  000000
1485   002434  000000
1486   002436  000000
1487
1488
1489   002440

.SBTTL  GLOBAL DATA SECTION

;////////////////////////////////////////////////////////////////////////////////
;/      THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
;/      IN MORE THAN ONE TEST.
;////////////////////////////////////////////////////////////////////////////////

;*****************************************************************************
;* MISCELLANEOUS STORAGE
;*****************************************************************************
SAVE4:   .WORD   0                ;SAVE LOC 4 HERE (ERROR TRAP VECTOR)
SAVE6:   .WORD   0
PSTACK:  .WORD   0
SUBRPC:  .WORD   0
ERROR1:  .WORD   0
FRSTIM:  .WORD   0
LOGDEV:  .WORD   0
IFLAG:   .WORD   0
$GDDAT:  .WORD   0        ;GOOD AND BAD DATA STORAGE
$BDDAT:  .WORD   0
COUNT:   .WORD   0
REG:     .WORD   0
STARES:  .WORD   0        ;INDICATES PASSES
DEVMAP:  .WORD   0
DEVPTR:  .WORD   0
FRSPAS:  .WORD   0
MODINT:  .WORD   0                ;MODEM INTERFACE SELECTION
TRIBN:   .WORD   0                ;POINTS TO CURRENT TRIP NUMBER.
TRIBMX:  .WORD   32.              ;MAXIMUM NUMBER OF TRIBS
TRIBH:   .WORD   0                ;VALUE OF HIGHEST TRIB USED

ROMN:    .WORD   0                ;CURRENT ROM AND USED FOR TEST #
ROMN1:   .WORD   0                        ;CURRENT ROM NUMBER
WORDT:   .WORD   0                        ;CURRENT ROM CONTENTS.
CWORD:   .WORD   -1                       ;CURRENT CRC CAL.
MODQ22:  .WORD   0                ;DMV Q22 FORMAT FLAG (Q22 MODE)
EXLOOP:  .WORD   0                ;DMV EXTERNAL LOOP FLAG
ERRWRD:  .WORD   0                        ;ERROR OCCURRED.
CADDR:   .WORD   0                        ;CURRENT ROM ADDR.
ERRADD:  .WORD   0                        ;PC OF ERROR
PERR:    .WORD   0                        ;PROCEDURE ERROR CHECKED
TSSADD:  .WORD   0                        ;WORD FOR TSS ADD
TYLST:   .WORD   3406
         .WORD   2403
TYEND:
TXADD:   .WORD   0                        ;TX BUFF ADDRESS
RXADD:   .WORD   0                        ;RX BUFF ADDRESS
RXCC:    .WORD   0                        ;RX CHAR COUNT
TXCC:    .WORD   0                        ;TX CHAR COUNT
CODEW:   .WORD   0                        ;LOCATION FOR ERROR CODES
GENWRD:  .WORD   0                        ;USED FOR MAINT STATE AND EX MEM
CRCCAL:  .WORD   0                        ;TEMP FOR CRC
ROMADD:  .WORD   0                        ;ROM ADDRESS

;;*********  CURRENT DEVICE PARAMETERS  **************
BSEL0:
```

```
1490  002440
1491  002440  160170  SEL0:
                      MPCSR:  .WORD   160170          ;POINTER TO M8200,4,7 CSR'S
1492  002442  160171  BSEL1:  .WORD   160171          ;POINTER TO BSEL1
1493  002444          SEL2:
1494  002444  160172  BSEL2:  .WORD   160172
1495  002446  160173  BSEL3:  .WORD   160173
1496  002450          BSEL4:
1497  002450  160174  SEL4:   .WORD   160174          ;POINTER TO SEL4
1498  002452  160175  BSEL5:  .WORD   160175
1499  002454          BSEL6:
1500  002454  160176  SEL6:   .WORD   160176
1501  002456  160177  BSEL7:  .WORD   160177
1502  002460          BSEL10:
1503  002460  160200  SEL10:  .WORD   160200          ;POINTER TO SEL10 (REQ'D FOR DMV Q22 MODE)
1504  002462          KMRVEC:
1505  002462  000300  MPIVEC: .WORD      300          ;M8200,4,7 INPUT INTERRUPT VECTOR
1506  002464          KMTVEC:
1507  002464  000304  MPOVEC: .WORD      304          ;M8200,4,7 OUTPUT INTERRUPT VECTOR
1508  002466  000000  SPEEDM: .WORD        0          ;SPEED OF LINE UNIT
1509  002470          KMRLVL:
1510  002470          KMTLVL:
1511  002470  000240  MPRIOR: .WORD      240          ;M8200,4,7 DEVICE PRIORITY
1512  002472  000000  OPTYP:  .WORD   0              ;OPTION TYPE
1513  002474  000000  IFTYP:  .WORD   0              ;INTERFACE TYPE
1514  002476  000000  TSTCON: .WORD        0         ;TEST CONNECTOR INDICATOR
1515  002500  000000  RETADR: .WORD        0         ;SUBR ERROR RETURN ADDRESS
1516  002502  000000  REDBYT: .WORD        0         ;LO BYTE CONTAINS BYTE READ FROM LU REG
1517  002504  000000  WRIBYT: .WORD        0         ;LO BYTE CONTAINS BYTE TO LOAD INTO LU REG
1518  002506  000000  AXNUM:  .WORD        0         ;NUMBER (0-7) OF EXTENDED REG BYTE BEING TESTED
1519  002510  000000  DISILO: .WORD        0         ;CONTAINS CURRENT STATE OF DISSI IN BIT5
1520
1521                  ;***** STORAGE FOR DATA READ IN ADDRESS TESTS *****
1522  002512     000  REDDAT: .BYTE   0
1523  002513     000          .BYTE   0
1524  002514     000          .BYTE   0
1525  002515     000          .BYTE   0
1526  002516     000          .BYTE   0
1527  002517     000          .BYTE   0
1528  002520     000          .BYTE   0
1529  002521     000          .BYTE   0
1530
1531                  ;;*****  GENERAL PURPOSE SCRATCH STORAGE  *****
1532  002522  000000  REG0:   .WORD   0
1533  002524  000000  REG1:   .WORD   0
1534  002526  000000  REG2:   .WORD   0
1535  002530  000000  REG3:   .WORD   0
1536  002532  000000  REG4:   .WORD   0
1537  002534  000000  REG5:   .WORD   0
1538  002536  000000  REG6:   .WORD   0
1539  002540  000000  REG7:   .WORD   0
1540
1541                  ;;*****  SCRATCH STORAGE FOR MESSAGE REPORTING   *****
1542  002542  000000  $TMP0:  .WORD   0
1543  002544  000000  TMP0:   .WORD   0
1544  002546  000000  TMP1:   .WORD   0
1545  002550  000000  TMP2:   .WORD   0
```

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```
 1546  002552  000000
 1547  002554  000000
 1548  002556  000000
 1549  002560  000000
 1550  002562  000000
 1551
```

GLOBAL DATA SECTION

```
TMP3:   .WORD   0
TMP4:   .WORD   0
TMP5:   .WORD   0
TMP6:   .WORD   0
TMP7:   .WORD   0
```

```
                                        .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
                                        ;;*************************************************************************
002564                                  L$DVTYP::
002564  046504  026520  030461                  .ASCIZ  /DMP-11 OR DMV-11/
002572  047440  020122  046504
002600  026526  030461     000
        002606                                  .EVEN

002606                                  L$DESC::
002606  046504  020120  051117                  .ASCIZ  /DMP OR DMV-11 FUNCTIONAL DIAG./
002614  042040  053115  030455
002622  020061  052506  041516
002630  044524  047117  046101
002636  042040  040511  027107
002644     000
        002646                                  .EVEN

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

```
1592                                    .SBTTL  GLOBAL SUBROUTINES
1593
1594                                    ;////////////////////////////////////////////////////////////////////////////////
1595                                    ;/      THE GLOBAL SUBROUTINES ARE CALLED BY MORE THAN ONE TEST
1596                                    ;////////////////////////////////////////////////////////////////////////////////
1597
1598
1599                                    ;
1600
1601                                    ;+*****************************************************************************
1602                                    ; FUNCTIONAL DESCRIPTION: WRDO.. WAITS FOR READY OUT
1603                                    ;                 FIRST SAVE THE CALLING ADDRESS
1604                                    ;                 IN ERRADD. THEN SEE IF TIME OUT OCCURED
1605                                    ;                 IF TIME OUT EXIT ROUTINE..ELSE SEE IF
1606                                    ;                 READY OUT SET IF READY OUT SET EXIT
1607                                    ;                 ROUTINE. IF NOT THEN WAIT A WHILE
1608                                    ;                 THEN SEE IF READY IN SET. IF READY IN
1609                                    ;                 IS SET REPORT ERROR AND EXIT ROUTINE.
1610                                    ;                 IF NOT READY IN THEN GO BACK AND CHECK
1611                                    ;                 FOR TIME OUT.
1612                                    ;                 NOTE: CAN BE ENTERED AT WRDO1 IF CALLING
1613                                    ;                 ADDRESS FROM R5 DOES NOT NEED TO BE SAVED.
1614                                    ;
1615                                    ; INPUTS:         R5=ADDRESS FROM WHERE ROUTINE WAS CALLED
1616                                    ;
1617                                    ; OUTPUTS:        ERRWRD= -1 IF ERROR OCCURED IN ROUTINE.
1618                                    ;
1619                                    ; SUBORDINATE ROUTINES USED:
1620                                    ;                 TOUT - TIME OUT ROUTINE
1621                                    ;                WAIT50 - SHORT DELAY ROUTINE
1622                                    ; CALLING SEQUENCE:
1623                                    ;                 JSR     R5,WRDO
1624                                    ;--*****************************************************************************
1625
1626  002646  010537  002406        WRDO:   MOV     R5,ERRADD       ;STORE ERROR ADD. AWAY
1627  002652  004537  005070        WRDO1:  JSR     R5,TOUT         ; GO TO TIME OUT ROUTINE
1628  002656  005737  002402                TST     ERRWRD          ;CHECK IF ERROR
1629  002662  100422                        BMI     WRDOE           ;EXIT NOW
1630  002664  032777  000200  177552        BIT     #RDO,@BSEL2     ;RDO SET?
1631  002672  001016                        BNE     WRDOE           ;EXIT IF RDO IS SET
1632  002674  004737  004244                JSR     PC,WAIT50       ;ELSE DELAY A LITTLE
1633  002700  032777  000020  177536        BIT     #RDI,@BSEL2     ;THEN SEE IF RDI IS SET
1634  002706  001761                        BEQ     WRDO1           ;IF NOT THEN GO BACK TO START
1635
1636                                        ; ERROR -UNEXPECTED RDI SET
1637
1638  002710  104455                        TRAP    C$ERDF
1639  002712  000001                        .WORD   1
1640  002714  012021                        .WORD   MEF14
1641  002716  010266                        .WORD   ERR26
1642  002720  005337  002402                DEC     ERRWRD
1643  002724  105077  177514                CLRB @BSEL2             ;CLEAR RDO
1644  002730  000205                WRDOE:  RTS     R5              ;EXIT
1645
1646
```

```
1647
1648                            ;++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1649                            ; FUNCTIONAL DESCRIPTION:  WRDI - WAIT FOR READY IN
1650                            ;                          THIS ROUTINE FIRST SAVES THE CALLING ADDRESS
1651                            ;                          IN ERRADD,UNLESS ENTERED AT WRDI1.
1652                            ;                          THEN CHECK FOR TIME OUT IF TIME OUT REPORT
1653                            ;                          ERROR AND EXIT. IF NOT TIME OUT CHECK FOR
1654                            ;                          READY IN. IF READY IN EXIT IF NOT READY IN
1655                            ;                          DELAY A LITTLE AND CHECK FOR READY OUT. IF
1656                            ;                          READY OUT REPORT ERROR AND EXIT ROUTINE.
1657                            ;                          IF NOT READY OUT GO BACK AND CHECK FOR TIME OUT.
1658                            ;
1659                            ; INPUTS:                  R5= CALLING ADDRESS
1660                            ; OUTPUTS:                 ERRWRD= -1 IF ERROR OCCURED IN ROUTINE
1661                            ; SUBORDINATE ROUTINES USED:
1662                            ;                          TOUT- TIME OUT
1663                            ;                         WAIT50- DELAY A LITTLE
1664                            ; CALLING SEQUENCE:
1665                            ;                          JSR     R5,WRDI    ;OR
1666                            ;                          JSR     R5,WRDI1
1667                            ;--++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1668
1669  002732  010537  002406    WRDI:   MOV     R5,ERRADD       ;STORE AWAY ERROR ADD.
1670  002736  004537  005070    WRDI1:  JSR     R5,TOUT         ;GO TO TIME OUT
1671  002742  005737  002402            TST     ERRWRD          ;IF ERROR EXIT
1672  002746  100422                    BMI     WRDIE           ;
1673  002750  032777  000020  177466 1$:       BIT     #20,@BSEL2      ;RDI SET?
1674  002756  001016                    BNE     WRDIE           ;YES-EXIT
1675  002760  004737  004244            JSR     PC,WAIT50       ;SHORT DELAY
1676  002764  032777  000200  177452        BIT     #200,@BSEL2     ;RDYO SET?
1677  002772  001761                    BEQ     WRDI1           ;NO-LOOP.
1678
1679                                    ;RDO INSTEAD OF RDI
1680
1681  002774  104455                    TRAP    C$ERDF
1682  002776  000002                    .WORD   2
1683  003000  012066                    .WORD   MEF15
1684  003002  010266                    .WORD   ERR26
1685  003004  005337  002402            DEC     ERRWRD          ;SET ERROR OCCURRED
1686  003010  105077  177430            CLRB    @BSEL2          ;CLEAR RDYO
1687  003014  000205            WRDIE:  RTS     R5              ;EXIT.
1688
1689
1690
1691
1692
```

```
                                            ;+*****************************************************************
                                            ; FUNCTIONAL DESCRIPTION:  WFPE - WAIT FOR PROCEDURE ERROR
                                            ;                       FIRST SAVE CALLING ADDRESS IN ERRADD.
                                            ;                       THEN WAIT FOR READY OUT,IF ERROR FROM
                                            ;                       WRDO ROUTINE EXIT THIS ROUTINE. ELSE
                                            ;                       GET CONTROL KEY FROM BSEL2 IF NOT CONTROL
                                            ;                       OUT REPORT ERROR AND EXIT. ELSE CHECK THAT
                                            ;                       CONTROL OUT CODE IS SAME AS IN PERR. IF
                                            ;                       EQUAL THEN EXIT ELSE REPORT ERROR AND EXIT.
                                            ;
                                            ; INPUTS:               R5= CALLING ADDRESS
                                            ;                       PERR = PROCEDURE ERROR EXPECTED.
                                            ; OUTPUTS:              ERRWRD= -1 IF ERROR OCCURED IN ROUTINE
                                            ; SUBORDINATE ROUTINES USED:
                                            ;                     WRDO1 - WAIT FOR READY OUT
                                            ; CALLING SEQUENCE:
                                            ;                       JSR     R5,WFPE
                                            ;--*****************************************************************

003016  010537  002406                  WFPE:   MOV     R5,ERRADD               ;STORE OFF ERROR ADDRESS
003022  004537  002652                          JSR     R5,WRDO1                ;WAIT FOR READY OUT
003026  005737  002402                          TST     ERRWRD
003032  100452                                  BMI     20$                     ;IF ERROR OCCURRED IN SR
                                                                                ; EXIT THIS SR.
003034  117737  177404  002340                  MOVB    @BSEL2,$BDDAT           ;
003042  042737  177770  002340                  BIC     #^C<7>,$BDDAT           ; STRIP DATA TO CONTROL KEY
003050  122737  000001  002340                  CMPB    #01,$BDDAT
003056  001415                                  BEQ     10$                     ; GO TO 10 IF CONTROL OUT
                                                                                ; ELSE REPORT ERROR
003060  012737  000001  002336                  MOV     #01,$GDDAT              ;SET GOOD DATA TO 01
003066  012737  012000  002430                  MOV     #M18F,CODEW             ;SET UP CODE WORD

                                                ;ERROR  NOT CONTROL OUT

003074  104455                                  TRAP    C$ERDF
003076  000003                                  .WORD   3
003100  011506                                  .WORD   EROIC
003102  010324                                  .WORD   ERR27
003104  005337  002402                          DEC     ERRWRD                  ;SET ERROR OCCURRED
003110  000423                                  BR      20$                     ;AND EXIT SUBROUTINE
003112  117737  177336  002340          10$:    MOVB    @BSEL6,$BDDAT           ;MOVE ERROR CODE TO BDDAT
003120  123737  002410  002340                  CMPB    PERR,$BDDAT             ;IS IT WHAT IT SHOULD BE
003126  001414                                  BEQ     20$                     ; IF SO GO TO 20
003130  013737  002410  002336                  MOV     PERR,$GDDAT             ;PUT EXPECTED IN GOOD DATA
003136  012737  011762  002430                  MOV     #M13F,CODEW             ;SET UP ERROR WORD

                                                ;ERROR BAD ERROR CODE RETURNED

003144  104455                                  TRAP    C$ERDF
003146  000004                                  .WORD   4
003150  011506                                  .WORD   EROIC
003152  010324                                  .WORD   ERR27
003154  005337  002402                          DEC     ERRWRD                  ;SET ERROR INDICATOR
003160                                  20$:
003160  000205                                  RTS     R5                      ;RETURN TO CALLER
```

```
1749
1750                    ;++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1751                    ; FUNCTIONAL DESCRIPTION:       CONTIN - CONTROL IN ROUTINE
1752                    ;               THIS ROUTINE SAVES THE CALLING ADDRESS IN R5.
1753                    ;               THEN SETS RQI AND WAITS FOR RDI TO BE RETURNED BY
1754                    ;               THE DMP/V-11. IF WRDI REPORTS ERROR EXIT TEST. ELSE
1755                    ;               LOAD BSEL 3 WITH TRIB NUMBER FROM TRIBN,CLEAR THE RQI
1756                    ;               BIT,MOV DATA FROM R4 TO SEL4,DATA FROM R3 TO SEL6, AND
1757                    ;               THEN ISSURE CONTROL IN AND EXIT ROUTINE.
1758                    ;
1759                    ; INPUTS:       R4 = SEL4 DATA
1760                    ;               R3 = SEL6 DATA
1761                    ;               TIRBN = TRIBUTARY NUMBER.
1762                    ;               R5 = CALLING ADDRESS
1763                    ;
1764                    ; OUTPUTS:      ERRWRD = -1 IF ERROR REPORTED IN THIS OR ANY SUBODINATE
1765                    ;                       SUB ROUTINE.
1766                    ; SUBORDINATE ROUTINES USED:
1767                    ;               WRDI1 - WAIT FOR READY IN.
1768                    ; CALLING SEQUENCE:
1769                    ;               JSR     R5,CONTIN
1770                    ;--++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1771
1772  003162  010537  002406          CONTIN: MOV     R5,ERRADD       ;SET UP ERROR ADDRESS
1773  003166  052777  000200  177244          BIS     #RQI,@BSEL0     ;SET REQUEST
1774  003174  004537  002736                  JSR     R5,WRDI1        ;GO WAIT FOR RDI
1775  003200  005737  002402                  TST     ERRWRD
1776  003204  100415                          BMI     43$             ;EXIT IF ERROR OCCURRED
1777  003206  113777  002360  177232          MOVB    TRIBN,@BSEL3    ;SET TRIBN
1778  003214  042777  000200  177216          BIC     #RQI,@BSEL0     ;CLEAR REQUEST
1779  003222  010477  177222                  MOV     R4,@BSEL4       ;SET DATA
1780  003226  010377  177222                  MOV     R3,@BSEL6       ;SET REQUEST TYPE
1781  003232  112777  000001  177204          MOVB    #01,@BSEL2      ;DO CONTROL IN
1782  003240  000205                  43$:    RTS     R5              ;RETURN TO CALLER
1783
```

```
1784
1785                    ;+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1786                    ; FUNCTIONAL DESCRIPTION:       GETOUT - GET OUTPUT CODE
1787                    ;
1788                    ;       THIS SUB-ROUTINE WAITS FOR RDO(REPORTS ERROR IF
1789                    ;       RDI OR TIME OUT);CHECKS THAT OUTPUT COMMAND TYPE
1790                    ;       IS THE SAME AS THE VALUE IN $GDDAT(REPORTS ERROR
1791                    ;       IF NOT);THEN CHECKS THAT TRIB NUMBER IN BSEL3 IS
1792                    ;       EQUAL TO  THE VALUE IN TRIBN(REPORTS ERROR IF NOT
1793                    ;       THEN RETURNS TO CALLER.
1794                    ;
1795                    ; INPUTS:       $GDDAT = OUTPUT COMMAND TYPE EXPECTED
1796                    ;               TRIBN  = TRIBUTARY ADDRESS EXPECTED
1797                    ;               R5     = ADDRESS OF CALLING ROUTINE
1798                    ;
1799                    ; OUTPUTS:      ERRWRD = -1 IF ERROR OCCURED
1800                    ;
1801                    ; SUBORDINATE ROUTINES USED:
1802                    ;               WRDO1 - WAIT FOR READY OUT
1803                    ;
1804                    ; CALLING SEQUENCE:
1805                    ;               JSR     R5,GETOUT
1806                    ;--++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1807
1808  003242  010537  002406        GETOUT: MOV     R5,ERRADD       ;STORE OFF ERROR ADD.
1809  003246  004537  002652                JSR     R5,WRDO1        ; GO WAIT FOR READY OUT
1810  003252  005737  002402                TST     ERRWRD
1811  003256  100444                 BMI     20$             ;EXIT IF ERROR OCCURRED
1812  003260  117737  177160  002340        MOVB    @BSEL2,$BDDAT   ;GET COMMAND TYPE TO BDDAT
1813  003266  042737  177770  002340        BIC     #^C<7>,$BDDAT   ;STRIP IT TO JUST COMMAND TYPE
1814  003274  023737  002340  002336        CMP     $BDDAT,$GDDAT   ;IS IT THE RIGHT VALUE??
1815  003302  001412                 BEQ     10$             ;IF YES GO TO 10
1816                                                          ;ELSE REPORT ERROR
1817  003304  012737  012007  002430        MOV     #M28F,CODEW
1818  003312  104455                 TRAP    C$ERDF
1819  003314  000005                 .WORD   5
1820  003316  011506                 .WORD   EROIC
1821  003320  010324                 .WORD   ERR27
1822  003322  005337  002402                DEC     ERRWRD
1823  003326  000420                 BR      20$             ;AND EXIT ON ERROR
1824
1825  003330  013737  002360  002336  10$:   MOV     TRIBN,$GDDAT    ;SET UP GDDAT FOR GOOD TRIBN
1826  003336  117737  177104  002340        MOVB    @BSEL3,$BDDAT   ;GET TRIB NUMBER RETURNED
1827  003344  023737  002340  002336        CMP     $BDDAT,$GDDAT   ;ARE THEY THE SAME???
1828  003352  001406                 BEQ     20$             ;IF YES GO TO 20
1829                                                          ;ELSE REPORT ERROR
1830  003354  104455                 TRAP    C$ERDF
1831  003356  000006                 .WORD   6
1832  003360  012242                 .WORD   MEF18A
1833  003362  007600                 .WORD   ERR18
1834  003364  005337  002402                DEC     ERRWRD
1835  003370  000205          20$:   RTS     R5              ;RETURN TO CALLER
1836
```

```
1837
1838                            ;+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1839                            ; FUNCTIONAL DESCRIPTION:       GETRKY - GET RETURN KEY VALUE
1840                            ;                       THIS ROUTINE GETS THE VALUE OF THE RETURN KEY
1841                            ;                       FROM BSEL6 ADN COMPARES IT TO THE VALUE IN
1842                            ;                       $GDDAT. IF EQUAL EXIT IF NOT EQUAL REPORT
1843                            ;                       ERROR AND EXIT.
1844                            ;
1845                            ; INPUTS:               R5      = ADDRESS OF CALLER
1846                            ;                       $GDDAT  = VALUE OF EXPECTED RETURN KEY
1847                            ;
1848                            ; OUTPUTS:              ERRWRD  = -1 IF ERROR OCCURS
1849                            ; CALLING SEQUENCE:
1850                            ;                       JSR     R5,GETRKY
1851                            ;--+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1852  003372  010537  002406   GETRKY: MOV     R5,ERRADD       ; STORE OFF ERROR ADDRESS
1853  003376  017737  177052  002340         MOV     @BSEL6,$BDDAT   ; GET RETURN KEY FROM BSEL6
1854  003404  042737  177600  002340         BIC     #^C<177>,$BDDAT ; STRIP TO VALID BITS
1855  003412  023737  002340  002336         CMP     $BDDAT,$GDDAT   ;ARE THE VALUES EQUAL
1856  003420  001411                         BEQ     10$             ;IF YES GO TO 10
1857                                                                 ;ELSE ERROR.....
1858  003422  012737  011747  002430         MOV     #M12F,CODEW     ;SET UP CODE WORD
1859  003430  104455                         TRAP    C$ERDF
1860  003432  000007                         .WORD   7
1861  003434  011506                         .WORD   EROIC
1862  003436  010324                         .WORD   ERR27
1863  003440  005337  002402                 DEC     ERRWRD          ;SET ERROR OCCURRED
1864  003444  000205             10$:        RTS     R5              ;RETURN TO CALLER
1865
```

```
1866
1867                            ;++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1868                            ; FUNCTIONAL DESCRIPTION:       GETDAT - GET DATA CODE
1869                            ;                       THIS ROUTINE GETS THE DATA CODE FROM BSEL4
1870                            ;                       AND COMPARES IIT TO THE VALUE IN $GDDAT
1871                            ;                       IF EQUAL EXIT ELSE REPORT ERROR AND EXIT
1872                            ;
1873                            ; INPUTS:               R5      = ADDRESS OF CALLER
1874                            ;                       $GDDAT  = VALUE OF EXPECTED DATA
1875                            ;
1876                            ; OUTPUTS:              ERRWRD  = -1 IF ERROR OCCURED
1877                            ; CALLING SEQUENCE:
1878                            ;                       JSR     R5,GETDAT
1879                            ;--++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1880
1881  003446  010537  002406       GETDAT: MOV     R5,ERRADD       ;STORE OFF ERROR ADDRESS
1882  003452  017737  176772  002340       MOV     @BSEL4,$BDDAT   ;GET DATA
1883  003460  023737  002340  002336       CMP     $BDDAT,$GDDAT   ;COMPARE GOOD AND BAD
1884  003466  001411                       BEQ     10$             ;IF OK GO TO 10
1885                                                               ;ELSE ERROR
1886                                        ;ERROR BAD DATA CODE
1887
1888  003470  012737  012014  002430       MOV     #M30F,CODEW
1889  003476  104455                       TRAP    C$ERDF
1890  003500  000010                       .WORD   8
1891  003502  011506                       .WORD   EROIC
1892  003504  010324                       .WORD   ERR27
1893  003506  005337  002402              DEC     ERRWRD          ;SET ERROR OCCURRED
1894  003512  000205              10$:     RTS     R5              ;RETURN TO CALLER
1895
```

```
                                   ;+*******************************************************************
                                   ; FUNCTIONAL DESCRIPTION:      GETCC - GET CHARACTER COUNT
                                   ;               THIS ROUTINE GETS THE CHAR. COUNT FROM EITHER:
                                   ;               (1) CSR6 IF DMP OR DMV IN Q18 MODE
                                   ;               (2) CSR10 IF DMV IN Q22 MODE
                                   ;               AND THEN COMPARES IT TO THE VALUE IN $GDDAT.
                                   ;               IF EQUAL EXIT, ELSE REPORT ERROR AND EXIT
                                   ;
                                   ; INPUTS:       R5     = ADDRESS OF CALLER
                                   ;               $GDDAT = VALUE OF EXPECTED DATA
                                   ;
                                   ; OUTPUTS:      ERRWRD = -1 IF ERROR OCCURED
                                   ; CALLING SEQUENCE:
                                   ;               JSR    R5,GETCC
                                   ;--*******************************************************************
003514  010537  002406             GETCC:  MOV     R5,ERRADD       ;STORE OFF RETURN ADDRESS
003520  017737  176730  002340             MOV     @SEL6,$BDDAT    ;GET CSR6 TO BDDAT
003526  005737  002376                     TST     MODQ22          ;IS THIS DMV W/Q22 ?
003532  001403                             BEQ     1$
003534  017737  176720  002340             MOV     @SEL10,$BDDAT   ;IF YES: GET CSR10 INSTEAD
003542  042737  140000  002340     1$:     BIC     #140000,$BDDAT  ;STRIP TO CHAR COUNT
003550  023737  002340  002336             CMP     $BDDAT,$GDDAT   ;COMPARE
003556  001406                             BEQ     10$             ;IF OK GO TO 10

                                           ;ELSE REPORT ERROR : BAD CHAR COUNT

003560  104455                             TRAP    C$ERDF
003562  000011                             .WORD   9
003564  012133                             .WORD   MEF16A
003566  010114                             .WORD   ERR23
003570  005337  002402                     DEC     ERRWRD          ;SET ERROR OCCURRED
003574  000205                     10$:    RTS     R5              ;RETURN TO CALLER
```

```
1930
1931                    ;++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1932                    ; FUNCTIONAL DESCRIPTION:       GETBA - GET BUFFER ADDRESS
1933                    ;                       THIS ROUTINE GETS THE BUFFER ADDRESS FROM SEL4
1934                    ;                       AND THEN COMPARES IT TO THE VALUE IN $GDDAT
1935                    ;                       IF EQUAL EXIT ELSE REPORT ERROR AND EXIT
1936                    ;                       (IF DMV IN Q22 MODE: SEL6 IS CHECKED FOR 0).
1937                    ;
1938                    ; INPUTS:               R5      = ADDRESS OF CALLER
1939                    ;                       $GDDAT  = VALUE OF EXPECTED BUFFER ADDRESS
1940                    ;
1941                    ; OUTPUTS:              ERRWRD  = -1 IF ERROR OCCURED
1942                    ; CALLING SEQUENCE:
1943                    ;                       JSR     R5,GETBA
1944                    ;--++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1945  003576  010537  002406          GETBA:  MOV     R5,ERRADD       ;STORE OFF ERROR ADDRESS
1946  003602  017737  176642  002340          MOV     @SEL4,$BDDAT    ;GET ADDRESS OUTPUT
1947  003610  023737  002340  002336          CMP     $BDDAT,$GDDAT   ;ARE THEY EQUAL ?
1948  003616  001015                          BNE     1$              ;IF NOT: REPORT IN
1949  003620  005737  002376                  TST     MODQ22          ;* IS THIS Q22 MODE ?
1950  003624  001420                          BEQ     10$             ;* IF NOT: EXIT
1951  003626  012737  000000  002340          MOV     #0,$BDDAT       ;* GET EXPECTED EXTENDED ADDRESS
1952  003634  017737  176614  002336          MOV     @SEL6,$GDDAT    ;* GET ACTUAL EXTENDED ADDRESS
1953  003642  023737  002340  002336          CMP     $BDDAT,$GDDAT   ;* ARE THEY EQUAL ?
1954  003650  001406                          BEQ     10$             ;IF YES: EXIT
1955
1956                                                                  ;ELSE ERROR
1957  003652                          1$:
1958  003652  104455                          TRAP    C$ERDF
1959  003654  000012                          .WORD   10
1960  003656  012176                          .WORD   MEF17A
1961  003660  010114                          .WORD   ERR23
1962  003662  005337  002402                  DEC     ERRWRD          ;SET ERROR OCCURRED
1963  003666  000205                  10$:    RTS     R5              ;RETURN TO CALLER
1964
1965
1966
```

```
                                          ;+*********************************************************************
                                          ; FUNCTIONAL DESCRIPTION:       GETOC - GET OUTPUT CODE
                                          ;               THIS ROUTINE GETS THE OUTPUT CODE FROM
                                          ;               BSEL6 AND THEN COMPARES IT TO
                                          ;               THE VALUE IN $GDDAT
                                          ;               IF EQUAL EXIT ELSE REPORT ERROR AND EXIT
                                          ;
                                          ; INPUTS:       R5      = ADDRESS OF CALLER
                                          ;               $GDDAT  = VALUE OF EXPECTED OUTPUT CODE
                                          ;
                                          ; OUTPUTS:      ERRWRD  = -1 IF ERROR OCCURED
                                          ; CALLING SEQUENCE:
                                          ;               JSR     R5,GETOC
                                          ;--*********************************************************************

003670  010537  002406                    GETOC:  MOV     R5,ERRADD               ;STORE OFF ERROR ADDRESS
003674  017737  176554  002340                    MOV     @BSEL6,$BDDAT           ;GET OUTPUT FROM BSEL6
003702  042737  177400  002340                    BIC     #^C<377>,$BDDAT         ;STRIP TO VALID BITS
003710  023737  002340  002336                    CMP     $BDDAT,$GDDAT           ;ARE THEY EQUAL
003716  001411                                    BEQ     10$                     ;IF SO GO TO 10
                                                                                  ;ELSE ERROR
003720  012737  012000  002430                    MOV     #M18F,CODEW
003726  104455                                    TRAP    C$ERDF
003730  000013                                    .WORD   11
003732  011506                                    .WORD   EROIC
003734  010324                                    .WORD   ERR27
003736  005337  002402                            DEC     ERRWRD                  ;SET ERROR OCCURRED
003742  000205                            10$:    RTS     R5                      ;RETURN TO CALLER
```

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2018  003744
2019  003744  004537  002646
2020  003750  005737  002402
2021  003754  100524
2022  003756  117737  176462  002340
2023  003764  042737  177770  002340
2024  003772  122737  000000  002340
2025  004000  001450
2026  004002  122737  000001  002340
2027  004010  001012
2028  004012  012737  000302  002336
2029  004020  117737  176430  002340
2030  004026  123737  002336  002340
2031  004034  001412
2032  004036  012737  011762  002430
2033  004044  104455
2034  004046  000014
2035  004050  011506
2036  004052  010324
2037  004054  005337  002402
2038  004060  000462
2039  004062
2040
2041
2042  004062  005237  177572
2043  004066  012737  004216  000004
2044  004074  005737  120000
2045  004100  005037  177572
2046  004104  104455
2047  004106  000015
2048  004110  000000
2049  004112  007706
2050  004114  005337  002402
2051  004120  000442
```

```
;++*****************************************************************
; FUNCTIONAL DESCRIPTION:  MEMEX - MEMORY EXTENSTION CODE
;                THIS ROUTINE IS USED WITH THE
;                MEMORY EXTENTION TESTS. THE ROUTINE FIRST
;                CHECKS FOR A CONTROL OUT.. IF THE CONTROL
;                OUT IS A REC COMPLETE IT COMPARES THE FIRST
;                DATA WORD ON THE EXTENTIONS PAGE IF GOOD
;                THEN EXIT IF BAD REPORT ERROR AND EXIT.
;                IF CONTROL OUT IS NON EXISTENT MEMORY THEN
;                CHECK TO BE SURE MEMORY IS NON-EXISITENT
;                IF MEMORY EXIST THEN PRINT ERROR AND
;                EXIT ROUTINE.
;
; INPUTS:        R5      = CALLING ADDRESS
;
; OUTPUTS:       ERRWRD  = -1 IF ERROR OCCURED
; SUBORDINATE ROUTINES USED:
;                WRDO    = WAIT FOR READY OUT
; CALLING SEQUENCE:
;                JSR     R4,MEMEX
;--*****************************************************************

MEMEX:
EXMEM:  JSR     R5,WRDO         ;WAIT FOR READY OUT
        TST     ERRWRD
        BMI     EXMEMX
        MOVB    @BSEL2,$BDDAT   ;
        BIC     #^C<7>,$BDDAT   ;STRIP TO TYPE CODE
        CMPB    #0,$BDDAT       ;IS IT REC COMP
        BEQ     EXMEMA          ; IF YES THEN GO TO A
        CMPB    #1,$BDDAT       ;IF NOT IS IT CONTROL OUT
        BNE     EXMEMB          ;IF NOT GO TO B
        MOV     #302,$GDDAT
        MOVB    @BSEL6,$BDDAT
        CMPB    $GDDAT,$BDDAT   ;IS IT NON EXISTENT MEM?
        BEQ     EXMEMC          ;IF YES GO TO C
EXMEMB: MOV     #M13F,CODEW
        TRAP    C$ERDF
        .WORD   12
        .WORD   EROIC
        .WORD   ERR27
        DEC     ERRWRD          ;SET ERROR FLAG
        BR      EXMEMX          ;PRINT ERROR AND EXIT
EXMEMC:
;IF ERROR IS NON EXISTENT

        INC     177572          ;INCREMENT MM
        MOV     #METB,4         ;SET UP TRAP
        TST     @#120000                ;TEST THE NON EXISTENT
        CLR     177572          ;CLEAR MM
        TRAP    C$ERDF
        .WORD   13
        .WORD   0
        .WORD   ERR20
        DEC     ERRWRD
        BR      EXMEMX          ;PRINT ERROR AND EXIT TEST
```

```
2052
2053                                        ; GET HERE IF BUFFER RETURNED OK
2054
2055  004122  005237  177572        EXMEMA: INC     177572          ;ENABLE MM
2056  004126  012737  004202  000004        MOV     #METC,4         ;SET UP TRAP
2057  004134  013737  033456  002336        MOV     MR1+2,$GDDAT    ;GET FIRST WORD FROM NEW PAGE
2058  004142  013737  120000  002340        MOV     120000,$BDDAT   ;AND FIRST RX WORD
2059  004150  005037  177572                CLR     177572          ;DISABLE MM
2060  004154  023737  002336  002340        CMP     $GDDAT,$BDDAT   ;COMPARE DATA
2061  004162  001421                        BEQ     EXMEMX          ;EXIT IF GOOD
2062  004164  104455                        TRAP    C$ERDF
2063  004166  000016                        .WORD   14
2064  004170  000000                        .WORD   0
2065  004172  007740                        .WORD   ERR21
2066  004174  005337  002402                DEC     ERRWRD
2067  004200  000412                        BR      EXMEMX          ;AND EXIT
2068  004202  005037  177572        METC:   CLR     177572          ;DISABLE MM
2069  004206  104455                        TRAP    C$ERDF
2070  004210  000017                        .WORD   15
2071  004212  000000                        .WORD   0
2072  004214  010022                        .WORD   ERR22
2073  004216  005037  177572        METB:   CLR     177572          ;DISABLE MM
2074  004222  062716  000004        META:   ADD     #4,(SP)
2075  004226  013737  002316  000004 EXMEMX: MOV     SAVE4,4
2076  004234  013737  002320  000006        MOV     SAVE6,6         ;RESTORE TRAPS
2077  004242  000205                        RTS     R5
2078
```

```
                                   ;+*****************************************************************
                                   ; FUNCTIONAL DESCRIPTION:        WAIT50 - WAIT 50 MICRO SECONDS
                                   ;                THIS ROUTINE COUNTS DOWN R1 FROM 200 TO 0
                                   ;                IF DMP AND FROM 600 TO 0 IF DMV. THIS
                                   ;                IS USED AS A DELAY ROUTINE
                                   ;
                                   ; CALLING SEQUENCE:
                                   ;                JSR     PC,WAIT50
                                   ;--*****************************************************************

004244  010146                     WAIT50: MOV     R1,-(SP)        ;SAVE R1
004246  012701  000310                     MOV     #200.,R1        ;INIT COUNTER
004252  005737  002472                     TST     OPTYP
004256  001402                             BEQ     3$              ;IF DMP GO TO 3
004260  062701  000620                     ADD     #400.,R1        ;ELSE TRIPLE UP TIMER FOR DMV
004264  005301                     3$:     DEC     R1              ;DECREMENT COUNTER
004266  001376                             BNE     3$              ;BR IF NOT DONE YET
004270  012601                             MOV     (SP)+,R1        ;RESTORE R1
004272  000207                             RTS     PC              ;RETURN

                                   ;+*****************************************************************
                                   ; FUNCTIONAL DESCRIPTION:        GWORD   - GET WORD
                                   ;                THIS ROUTINE READS A WORD FROM THE M8207 ROM.
                                   ;
                                   ; INPUTS:        CADDR   = ADDRESS TO BE READ
                                   ;
                                   ; OUTPUTS:       SEL6    = DATA READ
                                   ; SUBORDINATE ROUTINES USED:
                                   ;                ROMCLK  - ROUTINE TO ISSUE CLOCKS TO ROM CIRCUT
                                   ; CALLING SEQUENCE:
                                   ;                JSR     PC,GWORD
                                   ;--*****************************************************************

004274  005077  176140             GWORD:  CLR     @SEL0           ;INIT
004300  113777  002405  176136             MOVB    CADDR+1,@SEL2   ;NOW HIGH BYTE OF ADDRESS
004306  004537  004346                     JSR     R5,ROMCLK
004312  121053                             .WORD   121053          ;MOV IBUS* 2 TO OBUS* 13
004314  042737  000377  004334             BIC     #377,1$         ;STRIP ADDR FLIED.
004322  153737  002404  004334             BISB    CADDR,1$                ;ADD IN IMM ADDR.
004330  004537  004346                     JSR     R5,ROMCLK       ;GO DO BRANCH.
004334  100000                     1$:     .WORD   100000          ;BRANCH EXT PUTS ADDR. IN PCREG.
004336  052777  002000  176074             BIS     #2000,@SEL0     ;SET READ ENABLE.
004344  000207                             RTS PC                  ;EXIT.
```

```

                                                 ;++*****************************************************************
                                                 ; FUNCTIONAL DESCRIPTION:       ROMCLK  - ROM CLOCK ROUTINE
                                                 ;               THIS ROUTINE ISSUES A SINGE STEP TO THE
                                                 ;               M8207.
                                                 ; INPUTS:       R5      - POINTS TO INSTRUCTION TO BE STEPPED
                                                 ;
                                                 ; RETURN:       RETURN IS TO WORD FOLLWOING INSTRUCTION
                                                 ;
                                                 ; CALLING SEQUENCE:
                                                 ;               JSR     R5,ROMCLK
                                                 ;               .WORD   INSTR           ;INSTURCITON TO EXECUTE
                                                 ;--*****************************************************************

 004346                                          ROMCLK:
 004346  152777  000002  176066                          BISB    #2,@BSEL1               ;SET ROMI
 004354  012577  176074                                  MOV     (R5)+,@BSEL6    ;SET INSTRUCTION.
 004360  152777  000003  176054                          BISB    #3,@BSEL1       ;CLOCK INSTR.
 004366  142777  000007  176046                          BICB    #7,@BSEL1       ;CLEAR.
 004374  000205                                          RTS     R5

                                                 ;++*****************************************************************
                                                 ; FUNCTIONAL DESCRIPTION:       CRCR    - CRC CALCULATE ROUTINE
                                                 ;               THIS ROUTINE TAKES 16 BITS OF DATA FROM WORDT
                                                 ;               AND CONVERTS THEM INTO PART OF THE SERIAL STREAM
                                                 ;               THAT IS BEING USED TO CALCULATE A CRC-CCITT WORD.
                                                 ;
                                                 ; INPUTS:       WORDT   - WORD TO CALCULATE ON
                                                 ;
                                                 ; IMPLICIT INPUTS:
                                                 ;               CWORD   - MUST BE A -1 FIRST TIME CALLED
                                                 ;
                                                 ; OUTPUTS:      CWORD   - 16 BIT CALCULATED WORD
                                                 ; CALLING SEQUENCE:
                                                 ;               JSR     PC,CRCR
                                                 ;--*****************************************************************
 004376  010146                                  CRCR:   MOV     R1,-(SP)
 004400  010246                                          MOV     R2,-(SP)
 004402  012702  000020                                  MOV     #16.,R2
 004406  000241                                  10$:    CLC
 004410  006037  002374                                  ROR     CWORD
 004414  006037  002372                                  ROR     WORDT
 004420  102011                                          BVC     20$
 004422  012701  102010                                  MOV     #102010,R1
 004426  043701  002374                                  BIC     CWORD,R1
 004432  042737  102010  002374                          BIC     #102010,CWORD
 004440  050137  002374                                  BIS     R1,CWORD
 004444  005302                                  20$:    DEC     R2
 004446  003357                                          BGT     10$
 004450  012602                                          MOV     (SP)+,R2
 004452  012601                                          MOV     (SP)+,R1
 004454  000207                                          RTS PC

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2175
2176                            ;+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
2177                            ; FUNCTIONAL DESCRIPTION:       MINITR  - MASTER CLEAR ROUTINE
2178                            ;               THIS ROUTINE ISSUES A MASTER CLEAR TO THE DEVICE
2179                            ;               IF OPTION IS AN 8206 IT ALSO SETS THE RUN BIT.
2180                            ;
2181                            ; SUBORDINATE ROUTINES USED:
2182                            ;               WAIT50  - SHORT DELAY ROUTINE
2183                            ; CALLING SEQUENCE:
2184                            ;               JSR     PC,MINITR
2185                            ;--------------------------------------------------------------------------------
2186
2187  004456  112777  000100  175756  MINITR: MOVB    #100,@BSEL1             ;SET MASTER CLEAR.
2188  004464  022737  000004  002472           CMP     #04,OPTYP               ;IS THIS 8206
2189  004472  001003                   BNE     MIN1R                   ;BRANCH IF NOT
2190  004474  112777  000200  175740           MOVB    #200,@BSEL1             ;SET RUN
2191  004502  000240                   MIN1R:  NOP
2192  004504  004737  004244           1$:     JSR     PC,WAIT50               ;SHORT DELAY.
2193  004510  000207                           RTS     PC                      ;RETURN.
2194                            ;+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
2195                            ; FUNCTIONAL DESCRIPTION:       MINITS  - MASTER CLEAR AND INIT
2196                            ;               THIS ROUTINE ISSUES A MASTER CLEAR, WAITS FOR THE
2197                            ;               RUN BIT TO SET, CHECKS FOR GOOD COMPLETION OF MICRO
2198                            ;               DIAGNOSTICS AND ISSUES THE MODE DEFINITION.
2199                            ;               IF ENTERED AT MINIT1 - SET MODE TO FULL DUPLEX POINT
2200                            ;               TO POINT
2201                            ;               IF ENTERED AT MINITS - SET MODE TO FULL DUPLEX CONTROL
2202                            ;               IF ENTERED AT MINTR  - SET MODE TO VALUE IN AXNUM
2203                            ;
2204                            ; OUTPUTS:      ERRWRD  = -1 IF ERROR OCCURS.
2205                            ;
2206                            ; IMPLICIT OUTPUTS:
2207                            ;               DMP EXITS WITH MODE DEFINED
2208                            ;
2209                            ; SUBORDINATE ROUTINES USED:
2210                            ;               TOUT    - TIME OUT ROUTINE
2211                            ;               WAIT50  - SHORT DELAY ROUTINE
2212                            ;               WRDO    - WAIT FOR READY OUT
2213                            ;
2214                            ; CALLING SEQUENCE:
2215                            ;               JSR     PC,MINITS       ;OR MINIT1 OR MINTR
2216                            ;--------------------------------------------------------------------------------
2217  004512  012737  000003  002506  MINIT1: MOV     #03,AXNUM
2218  004520  000403                   BR      MINTR
2219  004522  012737  000005  002506  MINITS: MOV     #05,AXNUM
2220  004530  112777  000100  175704  MINTR:  MOVB    #100,@BSEL1             ;SET MASTER CLEAR.
2221  004536  022737  000004  002472           CMP     #4,OPTYP                ;IS THIS 8206
2222  004544  001003                   BNE     MIN2R                   ;SKIP IF NOT
2223  004546  112777  000200  175666           MOVB    #200,@BSEL1             ;SET RUN BIT
2224  004554  000240                   MIN2R:  NOP
2225  004556  000240                           NOP
2226  004560  012737  004600  002406           MOV     #ERLB7,ERRADD   ;SET ERROR ADDRESS
2227  004566  004537  005070           TLB7:   JSR     R5,TOUT
2228  004572  005737  002402                   TST     ERRWRD
2229  004576  100533                           BMI     MINTE                   ;EXIT IF ERROR
2230  004600                           ERLB7:
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2231  004600  004737  004244          4$:   JSR   PC,WAIT50
2232  004604  005777  175630                TST   @BSEL0          ;NOW WAIT FOR RUN TO ACTUALLY SET.
2233  004610  100366                        BPL   TLB7
2234  004612  012737  004632  002406        MOV   #ERLB8,ERRADD   ;SET ERROR ADDRESS
2235  004620  004537  005070          TLB8: JSR   R5,TOUT         ;CHECK TIME OUT
2236  004624  005737  002402                TST   ERRWRD
2237  004630  100516                        BMI   MINTE           ;EXIT IF ERROR
2238  004632                        ERLB8:
2239  004632  122777  000305  175614  5$:   CMPB  #305,@BSEL6     ;GOOD END TO MICRO DIAG?
2240  004640  001404                        BEQ   2$
2241  004642  122777  000264  175604        CMPB  #264,@BSEL6     ;LINE UNIT FAILURE.?
2242  004650  001363                        BNE   TLB8            ;NO-STAY IN LOOP.
2243                                                              ;YES,CATCH THE PROBLEM LATER.
2244  004652  012737  000077  002336  2$:   MOV   #77,$GDDAT
2245  004660  032737  000003  002472        BIT   #3,OPTYP        ;IS THIS DMV
2246  004666  001403                        BEQ   3$              ;IF NOT GO TO 3
2247  004670  012737  000033  002336        MOV   #33,$GDDAT
2248  004676  023777  002336  175544  3$:   CMP   $GDDAT,@BSEL4
2249  004704  001407                        BEQ   4$              ;IF CORRECT OPTYP CONTINUE
2250  004706  104457                        TRAP  C$ERSOFT
2251  004710  000025                        .WORD 21
2252  004712  012566                        .WORD MEF32
2253  004714  010422                        .WORD ERR32
2254  004716  005337  002402                DEC   ERRWRD
2255  004722  000461                        BR    MINTE           ;EXIT TEST
2256  004724  032737  000003  002472  4$:   BIT   #3,OPTYP        ;IS THIS DMV
2257  004732  001423                        BEQ   6$              ;IF NOT GO TO 6
2258  004734  005737  002400                TST   EXLOOP          ;DMV EXTERNAL LOOP FLAG SET?
2259  004740  001020                        BNE   6$              ;IF YES: THEN GO TO 6
2260  004742  112777  000301  175472        MOVB  #301,@BSEL1
2261  004750  004537  002646                JSR   R5,WRDO         ;WAIT FOR READY OUT
2262  004754  012777  000006  175462        MOV   #06,@BSEL2      ;DO MAINT LOOP FOR TTL LOOPBACK
2263  004762  004537  005070          60$:  JSR   R5,TOUT
2264  004766  005737  002402                TST   ERRWRD
2265  004772  100435                        BMI   MINTE
2266  004774  005777  175440                TST   @SEL0
2267  005000  100370                        BPL   60$
2268  005002  152777  000010  175432  6$:   BISB  #BIT3,@BSEL1     ;SET LINE UNIT LOOP.-
2269                                                              ;THIS ALLOWS US TO SET THE MODE.
2270  005010  052777  000200  175422        BIS   #RQI,@BSEL0
2271  005016  012737  005036  002406        MOV   #ERLB9,ERRADD   ;SET ERROR ADDRESS
2272  005024  004537  005070          TLB9: JSR   R5,TOUT
2273  005030  005737  002402                TST   ERRWRD
2274  005034  100414                        BMI   MINTE           ;EXIT IF ERROR
2275  005036  032777  000020  175400  ERLB9: BIT  #20,@BSEL2      ;WAIT FOR RDI.
2276  005044  001767                        BEQ   TLB9
2277  005046  013777  002506  175400        MOV   AXNUM,@BSEL6    ;;SET UP FOR F/D CONTROL STATION
2278  005054  105077  175360                CLRB  @BSEL0          ;NO MORE REQUESTS.
2279  005060  012777  000002  175356        MOV   #2,@BSEL2       ;START.
2280  005066  000207                  MINTE: RTS   PC
2281
```

```
2282
2283                    ;++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
2284                    ; FUNCTIONAL DESCRIPTION:       TOUT    - TIME OUT ROUTINE
2285                    ;                       THIS ROUTINE INC COUNTT LOCATION EVERY
2286                    ;                       TIME IT IS CALLED IF COUNTT OVERFLOWS THEN
2287                    ;                       TIME OUT IS REPORTED AND THE ROUTINE IS EXITED.
2288                    ;
2289                    ; CALLING SEQUENCE:
2290                    ;                       JSR     R5,TOUT
2291 005070 020537 005136 TOUT:   CMP     R5,LASTR5
2292 005074 001011             BNE     TOUTE
2293 005076 005237 005134      INC     COUNTT
2294 005102 001012             BNE     TOUTEX
2295 005104 104455             TRAP    C$ERDF
2296 005106 000020             .WORD   16
2297 005110 011414             .WORD   MEF7
2298 005112 010266             .WORD   ERR26
2299 005114 005337 002402      DEC     ERRWRD
2300 005120 005037 005134 TOUTE:  CLR     COUNTT
2301 005124 010537 005136      MOV     R5,LASTR5       ;SAVE CURRENT PC.
2302 005130                    TOUTEX:
2303 005130 104422             TRAP    C$BRK
2304 005132 000205             RTS     R5              ;EXIT
2305
2306 005134 000000             COUNTT: 0               ;NUMBERS OF TIMES IN THIS ROUTINE FROM
2307                                                    ;SAME CALLING LOCATION.
2308 005136 000000             LASTR5: 0               ;LAST CALLING LOCATION.
2309
```

```
                                        ;+*********************************************************************
                                        ; FUNCTIONAL DESCRIPTION:        STAND    - PRINT STANDARD REGS
                                        ;               THIS ROUTINE PRINTS THE  UNIT NUMBER AND
                                        ;               CSR ADDRESS OF THE FAILING UNIT AS WELL AS THE
                                        ;               CONTENTS OF ALL THE CSR REGS.
                                        ;               THE ERROR MESG ROUTINES USE THIS SUBROUTNE
                                        ; IMPLICIT INPUTS:
                                        ;               CSRS'    - THE CSR ARE EXPECTED TO CONTAIN USEFUL DATA
                                        ;               LOGDEV   - THE LOGIGAL DEVICE NUMBER
                                        ;               SEL0     - ADDRESS OF THIS UNIT
                                        ; CALLING SEQUENCE:
                                        ;               JSR     PC,STAND
                                        ;--*********************************************************************

 005140                                 STAND:
 005140  013746  002440                         MOV     SEL0,-(SP)
 005144  013746  002332                         MOV     LOGDEV,-(SP)
 005150  012746  005306                         MOV     #CFM1,-(SP)
 005154  012746  000003                         MOV     #3,-(SP)
 005160  010600                                 MOV     SP,R0
 005162  104415                                 TRAP    C$PNTX
 005164  062706  000010                         ADD     #10,SP
 005170  017746  175260                         MOV     @SEL6,-(SP)
 005174  017746  175250                         MOV     @SEL4,-(SP)
 005200  017746  175240                         MOV     @SEL2,-(SP)
 005204  017746  175230                         MOV     @SEL0,-(SP)
 005210  012746  005373                         MOV     #CFM2,-(SP)
 005214  012746  000005                         MOV     #5,-(SP)
 005220  010600                                 MOV     SP,R0
 005222  104415                                 TRAP    C$PNTX
 005224  062706  000014                         ADD     #14,SP
 005230  032737  000003  002472                 BIT     #3,OPTYP                ;IS THIS A DMV-11 ?
 005236  001412                                 BEQ     1$                      ;IF NOT: SKIP SEL10 PRINTOUT
 005240  017746  175214                         MOV     @SEL10,-(SP)
 005244  012746  005451                         MOV     #CFM3,-(SP)
 005250  012746  000002                         MOV     #2,-(SP)
 005254  010600                                 MOV     SP,R0
 005256  104415                                 TRAP    C$PNTX
 005260  062706  000006                         ADD     #6,SP
 005264                                 1$:
 005264  012746  005466                         MOV     #CFM4,-(SP)
 005270  012746  000001                         MOV     #1,-(SP)
 005274  010600                                 MOV     SP,R0
 005276  104415                                 TRAP    C$PNTX
 005300  062706  000004                         ADD     #4,SP
 005304  000207                                 RTS     PC
 005306  047045  040445  040506         CFM1:   .ASCIZ  '%N%AFAILING MCPU IS UNIT #%O2%A WHOSE ADDRESS IS %O6'
 005314  046111  047111  020107
 005322  041515  052520  044440
 005330  020123  047125  052111
 005336  021440  047445  022462
 005344  020101  044127  051517
 005352  020105  042101  051104
 005360  051505  020123  051511
 005366  022440  033117     000
 005373     045  022516  051501         CFM2:   .ASCIZ  '%N%ASEL0=%O6%A SEL2=%O6%A SEL4=%O6%A SEL6=%O6'
```

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```
2366  005400  046105  036460  047445
2367  005406  022466  020101  042523
2368  005414  031114  022475  033117
2369  005422  040445  051440  046105
2370  005430  036464  047445  022466
2371  005436  020101  042523  033114
2372  005444  022475  033117     000
2373  005451     045  020101  042523  CFM3:   .ASCIZ  '%A SEL10=%06'
2374  005456  030514  036460  047445
2375  005464  000066
2376  005466  047045     000          CFM4:   .ASCIZ  '%N'
2377          005472                  .EVEN
2378
2379
```

```
                                                ;++********************************************************************
                                                ; FUNCTIONAL DESCRIPTION:      RMVRT - VERIFY ROM CONTENTS
                                                ;               THIS ROUTINE READS DMV ROMS USING 256 BYTE READS
                                                ;               AND CALCULATES/CHECKS THE CRC.
                                                ; SUBORDINATE ROUTINES:
                                                ;               WRDO    -    WAIT FOR READY OUT (MRDY)
                                                ;               CRCR    -    CALCULATE CRC
                                                ; IMPLICIT INPUTS:
                                                ;               ROMADD  -    STARTING ADDRESS OF PARTICULAR ROM
                                                ; CALLING SEQUENCE:
                                                ;               JSR     R5,RMVRT
                                                ;--********************************************************************

005472  012737  177777  002374  RMVRT:  MOV     #-1,CWORD               ;INIT CRC WORD
005500  112777  000301  174734          MOVB    #301,@BSEL1             ;*ENTER MAINTENANCE LOOP
005506  004537  002646                  JSR     R5,WRDO                 ;*
005512  005737  002402                  TST     ERRWRD                  ;*
005516  100477                          BMI     RMVEX                   ;*EXIT IF ERROR
005520  005003                          CLR     R3                      ;CLEAR BLOCK_NUMBER

00552.  012777  033734  174724  RMVXX:  MOV     #RECBU1,@SEL6           ;READ 256 BYTES USING M-LOOP
005530  105077  174724                  CLRB    @BSEL10                 ;RCV BUFFER ADDR => BSR10:CSR6
005534  013777  002436  174706          MOV     ROMADD,@SEL4            ;ROM ADDRESS => CSR4
005542  112777  000003  174674          MOVB    #03,@BSEL2              ;*DO BLOCK READ OF 256 BYTES
005550  004537  002646                  JSR     R5,WRDO                 ;*WAIT FOR MRDY BIT (RDO)
005554  005737  002402                  TST     ERRWRD                  ;*
005560  100456                          BMI     RMVEX                   ;*EXIT IF ERROR

005562  005002                          CLR     R2                      ;CLEAR WORD INDEX
005564  005703                          TST     R3                      ;IS THIS THE 1ST BLOCK?
005566  001014                          BNE     RMVYY                   ;
005570  013737  033734  002434          MOV     RECBU1,CRCCAL           ;YES: SAVE 1ST WORD OF 1ST BLOCK
005576  005722                          TST     (R2)+                   ;       (CRC CHARACTER)
005600  116237  033734  013762          MOVB    RECBU1(R2),ROMNO        ;SAVE ROM #
005606  005202                          INC     R2                      ;
005610  116237  033734  013764          MOVB    RECBU1(R2),REVNO        ;SAVE REVISION #
005616  005302                          DEC     R2                      ;ADJUST INDEX FOR ROM#

005620  016237  033734  002372  RMVYY:  MOV     RECBU1(R2),WORDT        ;GET INDEXED WORD FROM BUFFER
005626  004737  004376                  JSR     PC,CRCR                 ;CALCULATE CRC WORD
005632  062702  000002                  ADD     #2,R2                   ;(BUMP INDEX)
005636  022702  000400                  CMP     #256.,R2                ;IS THIS THE LAST WORD ?
005642  001366                          BNE     RMVYY                   ;IF NOT: GET NEXT WORD.

005644  020327  000037          RMVAA:  CMP     R3,#31.                 ;IS THIS THE LAST 256 WORD BLOCK?
005650  001405                          BEQ     RMVBB
005652  062737  000400  002436          ADD     #256.,ROMADD            ;NO: ADD 256 TO ADDRESS
005660  005203                          INC     R3                      ;    AND BUMP BLOCK NUMBER
005662  000717                          BR      RMVXX                   ;    AND GO GET SOME MORE

005664  000240                  RMVBB:  NOP                             ;(COM CWORD=5137 2374)
005666  000240                          NOP                             ;YES:
005670  013737  002434  002372          MOV     CRCCAL,WORDT            ;
005676  023737  002374  002372          CMP     CWORD,WORDT             ;    COMPARE CRC WORDS...
005704  001404                          BEQ     RMVEX                   ; AND REPORT ERROR IF NO MATCH.
005706  104455                          TRAP    C$ERDF
```

```
2436  005710  000021                  .WORD   17
2437  005712  000000                  .WORD   0
2438  005714  010162                  .WORD   ERR24
2439
2440  005716  000205          RMVEX:  RTS     R5              ;RETURN TO CALLER
2441
```

```
                                      ;+***********************************************************************
                                      ; FUNCTIONAL DESCRIPTION:        TXRXSR  - TRANSMIT RECEIVE SUBROUTINE
                                      ;                THIS ROUTINE IS USED BY ALL TESTS THAT TRANSMIT
                                      ;                AND RECIEVE DATA. THE FIRST PART OF THE ROUTINE VERIFIES
                                      ;                THE OPERATOR INPUTS AND MAKES SURE THAT INTERFACE
                                      ;                SELECTION CORRESPOND TO SELECTED BAUD RATES.
                                      ;                THE SECOND PART OF THE ROUTINE FORMS "TXRX3" AND DOES THE
                                      ;                FOLLOWING. ESTABLISH TRIBUTARY. THEN EITHER DO ISTRT OR
                                      ;                MAINT STATE DEPENDING ON FLAG. IF ISTRT THEN CHECK FOR
                                      ;                RUN STATE IF MAINT STATE THEN GO TO NEXT STEP. NEXT QUE
                                      ;                REC AND TRANSMIT BUFFERS THEN WAIT FOR OUTPUT. IF MEMORY
                                      ;                MANAGEMENT EXIT TEST. IF ISTRT LOOK FOR REC COMPLETED
                                      ;                FOLLOWED BY TX COMPLETED. IF MAINT LOOK FOR TRANSMIT FIRST.
                                      ;
                                      ; INPUTS:        TXADD   - ADDRESS OF TRANSMIT BUFFER
                                      ;                TXCC    - CHAR COUNT OF TX
                                      ;                RXADD   - ADDRESS OF REC BUFFER
                                      ;                RXCC    - CHAR COUNT OF REC BUFFER
                                      ;                GENWRD  - FLAG WORD IF BIT 15 SET-MAINT MODE
                                      ;                          IF BIT 14 SET THEN MEMORY MGT.
                                      ;
                                      ; SUBORDINATE ROUTINES USED:
                                      ;                WAIT50  - SHORT DELAY
                                      ;                CONTIN  - CONTROL IN ROUTINE
                                      ;                GETOUT  - GET CONTROL OUT CODE
                                      ;                GETOC   - GET OUTPUT CODE
                                      ;                WRDI    - WAIT FOR READY IN
                                      ;                GETCC   - GET CHAR COUNT
                                      ;                GETBA   - GET BUFFER ADDRESS
                                      ;
                                      ; CALLING SEQUENCE:
                                      ;                JSR     R5,TXRXSR       ;IF NOT INTERFACE CHECK
                                      ;                                        ;CALL AT JSR    R5,TXRX3
                                      ;--**********************************************************************

005720  022737  000004  002476  TXRXSR: CMP     #4,TSTCON
005726  001002                          BNE     10$             ;IF INTERNAL LOOP
005730  000137  006346                  JMP     TXRX3           ;GO TO 3

                                        ;JUMP TO TXRX 3 IF INTERNAL LOOP

005734  013737  002360  002506  10$:    MOV     TRIBN,AXNUM     ;SAVE TRIBN.
005742  005037  002360                  CLR     TRIBN           ;MAKE TRIBN 0
                                                                ;DMV-11 WILL IGNORE THE FOLLOWING...

005746  032737  000002  002476  TXRX1:  BIT     #BIT1,TSTCON    ;IS IT MODEM LOOP BACK?
005754  001571                          BEQ     TXRX2           ;IF NOT THEN GO TO 2
005756  012704  000110                  MOV     #110,R4
005762  032737  000001  002476          BIT     #BIT0,TSTCON    ;IS IT REMOTE MODEM
005770  001402                          BEQ     TXRX1A          ;IF NOT THEN GO TO 1A
005772  012704  000104                  MOV     #104,R4         ;
005776  012703  000021          TXRX1A: MOV     #21,R3
006002  004537  003162                  JSR     R5,CONTIN       ; WRITE MODEM WITH CORRECT
                                                                ; TYPE OF LOOP CODE
006006  005737  002402                  TST     ERRWRD
006012  100002                          BPL     15$
```

```
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2498  006014  000137  006476                JMP     TXRXA
2499                                        ;                                ...
2500  006020  004737  004244          15$:  JSR     PC,WAIT50       ;WAIT FOR A WHILE
2501  006024  142777  000010  174410        BICB    #BIT3,@BSEL1    ;CLEAR LU LOOP IF NOT INTERNAL
2502
2503                                        ; IF INTEGRAL MODEM  MAKE SURE OPTION
2504                                        ; IS NOT 8053 AND SPEED IS 56K OR HIGHER
2505                                        ; IF NOT INTEGRAL MODEM GO TO NEXT CHECK IF EIA
2506
2507  006032  022737  000001  002474        CMP     #1,IFTYP        ;IS THIS INTEGRAL MODEM
2508  006040  001014                       BNE     XYZTC           ;IF NOT THEN GO CHECK FOR EIA
2509  006042  022737  000001  002472        CMP     #1,OPTYP        ;IS THIS 8053 (DMV NO INTEGRAL)
2510  006050  001453                       BEQ     BADIF           ;IF SO PRINT BAD INTERFACE MESG.
2511  006052  023727  002466  000004        CMP     SPEEDM,#4       ;IS THIS 56 K OR HIGHER
2512  006060  103464                       BLO     BADBR           ;IF NOT PRINT BAD BAUD RATE
2513
2514                                        ; GET HERE IF EVERYTHING OK FOR INTEGRAL
2515
2516  006062  012704  000323                MOV     #323,R4         ;LOAD R4 WITH INTERFACE TYPE
2517  006066  000137  006312                JMP     SETIF           ; AND GO SET IT
2518
2519                                        ;IF THIS IS EIA THEN CHECK THAT OPTION IS NOT
2520                                        ; M8054 AND THAT SPEED IS 56K OR LOWER
2521                                        ;IF NOT EIA CHECK IF V.35
2522
2523  006072  022737  000002  002474  XYZTC: CMP     #2,IFTYP        ;IS THIS EIA INTERFACE
2524  006100  001014                       BNE     V35TC           ;IF NOT GO CHECK FOR V.35 TYPE
2525  006102  022737  000002  002472        CMP     #2,OPTYP        ;IS THIS 8054 (DMV INTEGRAL MODEM)
2526  006110  001433                       BEQ     BADIF           ;IF SO PRINT BAD INTERFACE
2527  006112  023727  002466  000004        CMP     SPEEDM,#4       ;IS THIS HIGHER THAN 56K
2528  006120  101044                       BHI     BADBR           ;IF SO PRINT BAD BAUD RATE
2529
2530                                        ; GET HERE IF EVERYTHING OK FOR EIA
2531
2532  006122  012704  000233                MOV     #233,R4         ;LOAD R4 WITH INTERFACE TYPE
2533  006126  000137  006312                JMP     SETIF           ;AND GO SET IT.
2534
2535                                        ;IF V.35 CHECK THAT OPTION IS NOT 8064
2536                                        ;IF NOT V.35 MUST BE 422
2537
2538  006132  022737  000003  002474  V35TC: CMP     #3,IFTYP        ;IS THIS V.35 INTERFACE
2539  006140  001010                       BNE     T422C           ;IF NOT IT MUST BE 422
2540  006142  022737  000002  002472        CMP     #2,OPTYP        ;IS THIS 8064 (DMV INTEGRAL)
2541  006150  001413                       BEQ     BADIF           ;IF SO PRINT BAD INTERFACE
2542
2543                                        ; GET HERE IF EVERYTHING OK FOR V.35
2544
2545  006152  012704  000313                MOV     #313,R4         ;LOAD R4 WITH INTERFACE TYPE AND
2546  006156  000137  006312                JMP     SETIF                   ;GO SET IT
2547
2548                                        ;IF OPTION TYPE IS DMV THEN ERROR ELSE OK FOR 422
2549
2550  006162  032737  000003  002472  T422C: BIT     #3,OPTYP        ;IS THIS DMV
2551  006170  001003                       BNE     BADIF           ;IF SO PRINT BAD INTERFACE
2552
2553                                        ; GET HERE IF EVERYTHING OK FOR 422
```

```
2554
2555  006172  012704  000133                    MOV     #133,R4
2556  006176  000445                            BR      SETIF           ;LOAD UP INTERFACE AND SET IT
2557
2558                                            ;PRINTS BAD INTERFACE AND EXITS
2559
2560  006200  022737  000001  002346  BADIF:   CMP     #1,STARES
2561  006206  001037                            BNE     TABEN
2562  006210  012746  010466                    MOV     #BADIFM,-(SP)
2563  006214  012746  000001                    MOV     #1,-(SP)
2564  006220  010600                            MOV     SP,R0
2565  006222  104417                            TRAP    C$PNTF
2566  006224  062706  000004                    ADD     #4,SP
2567  006230  000414                            BR      TABM            ;PRINT 1ST PART OF MESSAGE
2568
2569                                            ;PRINTS BAD BAUD RATE AND EXITS
2570
2571  006232  022737  000001  002346  BADBR:   CMP     #1,STARES
2572  006240  001022                            BNE     TABEN
2573  006242  012746  010544                    MOV     #BADBRM,-(SP)
2574  006246  012746  000001                    MOV     #1,-(SP)
2575  006252  010600                            MOV     SP,R0
2576  006254  104417                            TRAP    C$PNTF
2577  006256  062706  000004                    ADD     #4,SP
2578  006262                            TABM:
2579  006262  013746  002370                    MOV     ROMN1,-(SP)
2580  006266  012746  010624                    MOV     #TESTAB,-(SP)
2581  006272  012746  000002                    MOV     #2,-(SP)
2582  006276  010600                            MOV     SP,R0
2583  006300  104417                            TRAP    C$PNTF
2584  006302  062706  000006                    ADD     #6,SP
2585  006306  000137  007344            TABEN:  JMP     TXRXEN          ;AND THEN EXIT SR.
2586
2587                                            ; GET HERE TO SET INTERFACE
2588
2589  006312  032737  000003  002472  SETIF:   BIT     #03,OPTYP       ;IS THIS A DMV11 ?
2590  006320  001007                            BNE     TXRX2           ; YES: SKIP THIS SETUP STUFF !!!
2591  006322  012703  000023                    MOV     #23,R3          ; NO: SET INTERFACE
2592  006326  004537  003162                    JSR     R5,CONTIN
2593  006332  005737  002402                    TST     ERRWRD
2594  006336  100457                            BMI     TXRXA
2595
2596  006340  013737  002506  002360  TXRX2:   MOV     AXNUM,TRIBN     ;GET TRIB NUMBER BACK
2597
2598                                            ;ESTABLISH TRIB
2599
2600  006346  012703  000001            TXRX3:  MOV     #01,R3
2601  006352  004537  003162                    JSR     R5,CONTIN       ;ESTABLISH TRIB
2602
2603  006356  005737  002402                    TST     ERRWRD          ;TIME OUT OR REAY ERORS PRINT PC
2604  006362  100445                            BMI     TXRXA           ;EXIT IF ERROR OCCURRED
2605
2606  006364  032737  100000  002432            BIT     #BIT15,GENWRD   ;TEST THE MAINT STATE BIT
2607  006372  001033                            BNE     TXRXB           ;IF SET GO TO 10
2608
2609                                            ;ISTRT TRIB IF NOT MAINT STATE
```

```
2610
2611  006374  012703  000003              MOV     #03,R3          ;ELSE;
2612  006400  004537  003162              JSR     R5,CONTIN       ;ISTRT THE TRIB
2613                                                              ; TIME OUT OR READY ERRORS REPORT THIS PC
2614  006404  005737  002402              TST     ERRWRD          ;
2615  006410  100432                      BMI     TXRXA           ;EXIT IF ERROR OCCURRED
2616
2617                                      ;CHECK FOR RUN STATE
2618
2619  006412  012737  000001  002336      MOV     #01,$GDDAT      ;CHECK FOR CONTROL OUT
2620  006420  004537  003242              JSR     R5,GETOUT       ; AND CORRECT TRIBN
2621  006424  005737  002402              TST     ERRWRD          ;
2622  006430  100422                      BMI     TXRXA           ;EXIT IF ERROR OCCURRED
2623  006432  012737  000024  002336      MOV     #24,$GDDAT      ;CHECK FOR RUN STATE
2624  006440  004537  003670              JSR     R5,GETOC        ; IN OUTPUT CODE
2625  006444  005737  002402              TST     ERRWRD          ;
2626  006450  100412                      BMI     TXRXA           ;EXIT IF ERROR OCCURRED
2627  006452  042777  000200  173764      BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
2628  006460  000411                      BR      TXRXC           ;AND GO TO 20
2629
2630                                      ; PUT TRIB IN MAINT STATE
2631
2632  006462  012703  000004  TXRXB:     MOV     #04,R3          ;PUT TRIB IN MAINT STATE
2633  006466  004537  003162              JSR     R5,CONTIN       ;
2634                                                              ; TIME OUT OR READY ERRORS REPORT THIS PC
2635  006472  005737  002402              TST     ERRWRD          ;
2636  006476  100002          TXRXA:      BPL     TXRXC           ;
2637  006500  000137  007344              JMP     TXRXEN          ;EXIT IF ERROR OCCURRED
2638
2639                                      ;QUEUE RECEIVE BUFFER
2640
2641  006504  052777  000200  173726  TXRXC:  BIS     #RQI,@BSEL0     ;SET REQUEST
2642  006512  004537  002732              JSR     R5,WRDI
2643                                                              ; TIME OUT OR READY ERROR REPORT THIS PC
2644  006516  005737  002402              TST     ERRWRD          ;
2645  006522  100002                      BPL     5$              ;
2646  006524  000137  007344              JMP     TXRXEN          ;EXIT IF ERROR OCCURRED
2647  006530  013777  002422  173712  5$: MOV     RXADD,@BSEL4    ;SET ADDRESS
2648  006536  113777  002360  173702      MOVB    TRIBN,@BSEL3    ;SET TRIBN
2649
2650  006544  005737  002376              TST     MODQ22          ;*IS THIS "Q22 MODE" ?
2651  006550  001411                      BEQ     1$              ;*
2652
2653  006552  013777  002424  173700      MOV     RXCC,@BSEL10    ;*YES: SET CHARACTER COUNT
2654  006560  005077  173670              CLR     @BSEL6          ;*       CLEAR EXTENDED ADDR BITS
2655  006564  112777  000010  173652      MOVB    #10,@BSEL2      ;*       SET RX BUFFER IN (+Q22 BIT)
2656  006572  000406                      BR      2$              ;*       AND CONTINUE...
2657
2658  006574  013777  002424  173652  1$: MOV     RXCC, @BSEL6    ;*NO: SET CHAR COUNT [+BA16/17]
2659  006602  112777  000000  173634      MOVB    #0,   @BSEL2    ;       SET RX BUFFER IN
2660
2661                                      ;QUEUE TX BUFFER
2662
2663  006610  004537  002732          2$: JSR     R5,WRDI         ;WAIT FOR READY
2664                                                              ; TIME OUT OR READY ERROR REPORT THIS PC
2665  006614  005737  002402              TST     ERRWRD          ;
```

```
2666  006620  100002                        BPL     35$             ;*
2667  006622  000137  007344                JMP     TXRXEN          ;*EXIT IF ERROR OCCURRED
2668  006626  013777  002420  173614  35$:  MOV     TXADD,@BSEL4    ;SET TX ADD
2669  006634  113777  002360  173604        MOVB    TRIBN,@BSEL3    ;SET TRIBN
2670
2671  006642  005737  002376                TST     MODQ22          ;*IS THIS ''Q22 MODE'' ?
2672  006646  001414                        BEQ     3$              ;*
2673
2674  006650  013777  002426  173602        MOV     TXCC,@BSEL10    ;*YES: SET CHARACTER COUNT
2675  006656  005077  173572                CLR     @BSEL6          ;*      CLEAR EXTENDED ADDR BITS
2676  006662  042777  000200  173550        BIC     #RQI,@BSEL0     ;*      CLEAR REQUEST
2677  006670  112777  000014  173546        MOVB    #14,@BSEL2      ;*      SET UP TX BUFFER (+Q22 BIT)
2678  006676  000411                        BR      4$              ;*      AND CONTINUE...
2679
2680  006700  013777  002426  173546  3$:   MOV     TXCC, @BSEL6    ;*NO: SET CHAR COUNT [+BA16/17]
2681  006706  042777  000200  173524        BIC     #RQI,@BSEL0     ;       CLEAR REQUEST
2682  006714  112777  000004  173522        MOVB    #04,  @BSEL2    ;       SET UP TX BUFFER
2683
2684  006722  032737  040000  002432  4$:   BIT     #BIT14,GENWRD
2685  006730  001402                        BEQ     20$
2686  006732  000137  007344                JMP     TXRXEN          ;IF  MM GO TO RETURN
2687  006736  005037  007346          20$:  CLR     MTFLG           ;* CLEAR LOCAL_MAINT_FLAG
2688  006742  005737  002432                TST     GENWRD
2689  006746  100052                        BPL     TXRXG           ;GO AHEAD IF NOT MAINT STATE
2690
2691                                        ;CHECK FOR RX COMPLETED
2692
2693                                        ; NOTE: IF MAINT STATE THEN CHECK FOR RX AND TX BUFFERS
2694                                        ;       RETURNED (ORDER NOT IMPORTANT).
2695                                        ;  BUT: IF NOT MAINT STATE THEN RX BUFFER MUST BE RETURNED
2696                                        ;       FIRST AND TX BUFFER SECOND (OR ERROR REPORTED).
2697                                                                ;* IF WE ARE IN MAINT STATE ....
2698  006750  004537  002646                JSR     R5,WRDO         ;* WAIT FOR READY_OUT
2699  006754  005737  002402                TST     ERRWRD          ;*
2700  006760  100571                        BMI     TXRXEN          ;* EXIT IF ERROR
2701  006762  117704  173456                MOVB    @BSEL2,R4       ;* GET COMMAND TYPE
2702  006766  042704  177770                BIC     #177770,R4      ;* STRIP EXCESS BITS
2703  006772  022704  000004                CMP     #4,R4           ;* CHECK FOR TX BUFFER RETURNED
2704  006776  001403                        BEQ     40$             ;* IF YES: GO CHECK IT
2705  007000  005337  007346                DEC     MTFLG           ;* NO: MTFLG=(-1) TO INDICATE TXBUF
2706  007004  000433                        BR      TXRXG           ;*     RETURNED FIRST
2707
2708  007006  012737  000004  002336  40$:  MOV     #04,$GDDAT
2709  007014  004537  003242                JSR     R5,GETOUT       ;GET OUTPUT CODE
2710  007020  005737  002402                TST     ERRWRD
2711  007024  100547                        BMI     TXRXEN          ;EXIT IF ERROR
2712  007026  013737  002426  002336        MOV     TXCC,$GDDAT     ;*
2713  007034  004537  003514                JSR     R5,GETCC        ;*ELSE CHECK TX CHAR COUNT
2714  007040  005737  002402                TST     ERRWRD          ;*
2715  007044  100537                        BMI     TXRXEN          ;*EXIT IF ERROR
2716  007046  013737  002420  002336        MOV     TXADD,$GDDAT
2717  007054  004537  003576                JSR     R5,GETBA        ;IS THE TX BUFFER ADDR RIGHT ?
2718  007060  005737  002402                TST     ERRWRD          ;
2719  007064  100527                        BMI     TXRXEN          ;EXIT IF ERROR OCCURED
2720
2721  007066  042777  000200  173350        BIC     #RDO,@BSEL2     ;CLEAR READY OUT
```

```
2722  007074  012737  000000  002336  TXRXG:  MOV     #0,  $GDDAT     ;
2723  007102  004537  003242                  JSR     R5,GETOUT       ;CHECK FOR RX RETURNED
2724  007106  005737  002402                  TST     ERRWRD          ;
2725  007112  100514                    BMI     TXRXEN          ;EXIT IF ERROR OCCURRED
2726  007114  013737  002426  002336          MOV     TXCC,$GDDAT     ;
2727  007122  004537  003514                  JSR     R5,GETCC        ;IS THE CHAR COUNT CORRECT
2728  007126  005737  002402                  TST     ERRWRD          ;
2729  007132  100504                    BMI     TXRXEN          ;EXIT IF ERROR OCCURRED
2730  007134  013737  002422  002336          MOV     RXADD,$GDDATT
2731  007142  004537  003576                  JSR     R5,GETBA        ;IS THE BUFFER ADD RIGHT
2732  007146  005737  002402                  TST     ERRWRD          ;
2733  007152  100474                    BMI     TXRXEN          ;EXIT IF ERROR OCCURRED
2734                              ;*****************************************************
2735                                                      ;DATA CHECK....
2736  007154  013703  002422                  MOV     RXADD,R3
2737  007160  013701  002420                  MOV     TXADD,R1        ;SET UP ADDRESS
2738  007164  005004                    CLR     R4              ;CLEAR R4
2739  007166                      25$:
2740  007166  112337  002340      26$:        MOVB    (R3)+,$BDDAT    ;GET BYTE OF RX
2741  007172  112137  002336      28$:        MOVB    (R1)+,$GDDAT    ;GET BYTE OF TX
2742  007176  123737  002340  002336          CMPB    $BDDAT,$GDDAT           ;ARE THEY THE SAME
2743  007204  001411                    BEQ     30$             ;IF SO GO TO 30
2744  007206  005204                    INC     R4              ;MAKE COUNT RIGHT
2745  007210  104455                    TRAP    C$ERDF
2746  007212  000022                    .WORD   18
2747  007214  012337                    .WORD   MEF19A
2748  007216  007646                    .WORD   ERR19
2749  007220  005337  002402            DEC     ERRWRD
2750  007224  005304                    DEC     R4                      ;MAKE COUNT RIGHT
2751  007226  000446                    BR      TXRXEN          ;EXIT IF ERROR
2752  007230  005204              30$:  INC     R4                      ;BUMP TO NEXT BYTE
2753  007232  020437  002426            CMP     R4,TXCC         ;ARE WE DONE?
2754  007236  103753                    BLO     25$             ;IF NOT GO BACK
2755                              ;*****************************************************
2756  007240  005737  007346            TST     MTFLG           ;* CHECK LOCAL_MAINT_FLAG
2757  007244  001401                    BEQ     31$             ;* IF CLEARED: GOTO 31$
2758  007246  000403                    BR      32$             ;* SET: CHECK EXPECTED TXBUFF RETURN
2759
2760  007250  005737  002432      31$:  TST     GENWRD          ;TEST FOR MAINT STATE
2761  007254  100433                    BMI     TXRXEN          ;RETURN TO CALLER IF MAINT STATE
2762  007256  042777  000200  173160  32$:  BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
2763  007264  012737  000004  002336        MOV     #4,$GDDAT
2764  007272  004537  003242                  JSR     R5,GETOUT       ;CHECK FOR TX BUFF COMP
2765  007276  005737  002402                  TST     ERRWRD          ;*
2766  007302  100420                    BMI     TXRXEN          ;*IF ERROR: THEN EXIT
2767  007304  013737  002426  002336          MOV     TXCC,$GDDAT     ;*
2768  007312  004537  003514                  JSR     R5,GETCC        ;*ELSE CHECK TX CHAR COUNT
2769  007316  005737  002402                  TST     ERRWRD          ;*
2770  007322  100410                    BMI     TXRXEN          ;*EXIT IF ERROR
2771  007324  013737  002420  002336          MOV     TXADD,$GDDAT
2772  007332  004537  003576                  JSR     R5,GETBA        ;IS THE TX BUFFER ADDR RIGHT ?
2773  007336  005737  002402                  TST     ERRWRD          ;
2774  007342  100400                    BMI     TXRXEN          ;EXIT IF ERROR OCCURED
2775  007344  000205              TXRXEN: RTS     R5
2776
2777  007346  000000              MTFLG:  0                       ;* LOCAL_MAINT_FLAG
```

```
2778                    ;* (IF MAINT MODE + MTFLG SET THEN TXBUF
2779                    ;*  RETURN EXPECTED AFTER RXBUF RETURN)
```

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```
2780
2781
2782                            .SBTTL  GLOBAL ERROR REPORT SECTION
2783
2784                            ;//////////////////////////////////////////////////////////////////////
2785                            ;/      THE GLOBAL ERROR REPORT SECTION CONTAINS ERROR MESSAGES
2786                            ;/      THAT ARE USED IN MORE THAN ONE TEST.
2787                            ;//////////////////////////////////////////////////////////////////////
2788
2789 007350                     ERR1::
2790 007350  013746  002440              MOV     SEL0,-(SP)
2791 007354  012746  010675              MOV     #MEF1,-(SP)
2792 007360  012746  000002              MOV     #2,-(SP)
2793 007364  010600                      MOV     SP,R0
2794 007366  104414                      TRAP    C$PNTB
2795 007370  062706  000006              ADD     #6,SP
2796 007374                     L10003:
2797 007374  104423                      TRAP    C$MSG
2798
2799
2800                            ;FAILING CODE
2801
2802 007376                     ERR3::
2803 007376  017746  173052              MOV     @BSEL6,-(SP)
2804 007402  012746  011105              MOV     #MEF3,-(SP)
2805 007406  012746  000002              MOV     #2,-(SP)
2806 007412  010600                      MOV     SP,R0
2807 007414  104414                      TRAP    C$PNTB
2808 007416  062706  000006              ADD     #6,SP
2809 007422  004737  005140              JSR     PC,STAND
2810 007426                     L10004:
2811 007426  104423                      TRAP    C$MSG
2812
2813 007430                     ERR5::
2814 007430  013746  002340              MOV     $BDDAT,-(SP)
2815 007434  013746  002336              MOV     $GDDAT,-(SP)
2816 007440  012746  011243              MOV     #MEF5,-(SP)
2817 007444  012746  000003              MOV     #3,-(SP)
2818 007450  010600                      MOV     SP,R0
2819 007452  104414                      TRAP    C$PNTB
2820 007454  062706  000010              ADD     #10,SP
2821 007460  004737  005140              JSR     PC,STAND
2822 007464                     L10005:
2823 007464  104423                      TRAP    C$MSG
2824
2825 007466                     ERR6::
2826 007466  013746  002340              MOV     $BDDAT,-(SP)
2827 007472  013746  002336              MOV     $GDDAT,-(SP)
2828 007476  012746  011336              MOV     #MEF6,-(SP)
2829 007502  012746  000003              MOV     #3,-(SP)
2830 007506  010600                      MOV     SP,R0
2831 007510  104414                      TRAP    C$PNTB
2832 007512  062706  000010              ADD     #10,SP
2833 007516  004737  005140              JSR     PC,STAND
2834 007522                     L10006:
2835 007522  104423                      TRAP    C$MSG

                                ;PRINT FAILED TO SET RDI
```

```
2836
2837  007524
2838  007524  012746  011660          ERR9::
2839  007530  012746  000001                  MOV     #MRDI,-(SP)
2840  007534  010600                          MOV     #1,-(SP)
2841  007536  104414                          MOV     SP,R0
2842  007540  062706  000004                  TRAP    C$PNTB
2843  007544  004737  005140                  ADD     #4,SP
2844  007550                                  JSR     PC,STAND
2845  007550  104423                  L10007:
2846                                          TRAP    C$MSG
2847
2848                                          ;PRINT FAILED TO SET RDO
2849  007552
2850  007552  012746  011704          ERR10::
2851  007556  012746  000001                  MOV     #MRDO,-(SP)
2852  007562  010600                          MOV     #1,-(SP)
2853  007564  104414                          MOV     SP,R0
2854  007566  062706  000004                  TRAP    C$PNTB
2855  007572  004737  005140                  ADD     #4,SP
2856  007576                                  JSR     PC,STAND
2857  007576  104423                  L10010:
2858                                          TRAP    C$MSG
2859
2860                                          ;PRINTS GOOD AND BAD DATA (BYTES) AND
2861                                          ;FAILING PC ADDRS AND STANDARD REGS
2862
2863  007600                          ERR18::
2864  007600  013746  002406                  MOV     ERRADD,-(SP)
2865  007604  012746  011611                  MOV     #MFPC,-(SP)
2866  007610  013746  002340                  MOV     $BDDAT,-(SP)
2867  007614  013746  002336                  MOV     $GDDAT,-(SP)
2868  007620  012746  012301                  MOV     #MEF18,-(SP)
2869  007624  012746  000005                  MOV     #5,-(SP)
2870  007630  010600                          MOV     SP,R0
2871  007632  104414                          TRAP    C$PNTB
2872  007634  062706  000014                  ADD     #14,SP
2873  007640  004737  005140                  JSR     PC,STAND
2874  007644                          L10011:
2875  007644  104423                          TRAP    C$MSG
2876
2877                                          ;DATA COMPARE ERROR
2878
2879  007646                          ERR19::
2880  007646  013746  002340                  MOV     $BDDAT,-(SP)
2881  007652  013746  002336                  MOV     $GDDAT,-(SP)
2882  007656  010446                          MOV     R4,-(SP)
2883  007660  012746  012372                  MOV     #MEF19,-(SP)
2884  007664  012746  000004                  MOV     #4,-(SP)
2885  007670  010600                          MOV     SP,R0
2886  007672  104414                          TRAP    C$PNTB
2887  007674  062706  000012                  ADD     #12,SP
2888  007700  004737  005140                  JSR     PC,STAND
2889  007704                          L10012:
2890  007704  104423                          TRAP    C$MSG
2891
```

```
2892
2893
2894  007706
2895  007706  013746  002542
2896  007712  012746  012633
2897  007716  012746  000002
2898  007722  010600
2899  007724  104414
2900  007726  062706  000006
2901  007732  004737  005140
2902  007736
2903  007736  104423
2904
2905  007740
2906  007740  012746  012756
2907  007744  012746  000001
2908  007750  010600
2909  007752  104414
2910  007754  062706  000004
2911  007760  013746  002340
2912  007764  013746  002336
2913  007770  013746  002542
2914  007774  012746  013045
2915  010000  012746  000004
2916  010004  010600
2917  010006  104414
2918  010010  062706  000012
2919  010014  004737  005140
2920  010020
2921  010020  104423
2922
2923  010022
2924  010022  012746  013126
2925  010026  012746  000001
2926  010032  010600
2927  010034  104414
2928  010036  062706  000004
2929  010042  013746  002542
2930  010046  012746  013214
2931  010052  012746  000002
2932  010056  010600
2933  010060  104414
2934  010062  062706  000006
2935  010066  012746  013303
2936  010072  012746  000001
2937  010076  010600
2938  010100  104414
2939  010102  062706  000004
2940  010106  004737  005140
2941  010112
2942  010112  104423
2943
2944
2945
2946
2947
```

```
GLOBAL ERROR REPORT SECTION

        ;NON-EXISTENT MEMORY ERROR

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
```

```
2948  010114
2949  010114  013746  002406
2950  010120  012746  011611
2951  010124  013746  002340
2952  010130  013746  002336
2953  010134  012746  012460
2954  010140  012746  000005
2955  010144  010600
2956  010146  104414
2957  010150  062706  000014
2958  010154  004737  005140
2959  010160
2960  010160  104423
2961
2962  010162
2963  010162  013746  002374
2964  010166  013746  002372
2965  010172  013746  002366
2966  010176  012746  013367
2967  010202  012746  000004
2968  010206  010600
2969  010210  104414
2970  010212  062706  000012
2971  010216  004737  005140
2972  010222
2973  010222  104423
2974
2975  010224
2976  010224  013746  002372
2977  010230  013746  002370
2978  010234  013746  002366
2979  010240  012746  013461
2980  010244  012746  000004
2981  010250  010600
2982  010252  104414
2983  010254  062706  000012
2984  010260  004737  005140
2985  010264
2986  010264  104423
2987
2988
2989
2990  010266
2991  010266  013746  002406
2992  010272  012746  011611
2993  010276  012746  011603
2994  010302  012746  000003
2995  010306  010600
2996  010310  104414
2997  010312  062706  000010
2998  010316  004737  005140
2999  010322
3000  010322  104423
3001
3002
3003
```

GLOBAL ERROR REPORT SECTION

```
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 STANARD 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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```
3004
3005
3006  010324
3007  010324  013746  002406          ;STANDARD REGISTERS
3008  010330  012746  011611
3009  010334  012746  011603    ERR27::
3010  010340  012746  000003            MOV     ERRADD,-(SP)
3011  010344  010600                     MOV     #MFPC,-(SP)
3012  010346  104414                     MOV     #MEF1A,-(SP)
3013  010350  062706  000010            MOV     #3,-(SP)
3014  010354  013746  002340            MOV     SP,R0
3015  010360  013746  002336            TRAP    C$PNTB
3016  010364  012746  011730            ADD     #10,SP
3017  010370  013746  002430            MOV     $BDDAT,-(SP)
3018  010374  012746  011536            MOV     $GDDAT,-(SP)
3019  010400  012746  000005            MOV     #MGB,-(SP)
3020  010404  010600                     MOV     CODEW,-(SP)
3021  010406  104414                     MOV     #MEF11,-(SP)
3022  010410  062706  000014            MOV     #5,-(SP)
3023  010414  004737  005140            MOV     SP,R0
3024  010420                             TRAP    C$PNTB
3025  010420  104423                     ADD     #14,SP
3026                                     JSR     PC,STAND
3027                              L10022:
3028                                     TRAP    C$MSG
3029  010422
3030  010422  012746  010450          ;PRINTS THE STANDARD REGS
3031  010426  012746  000001
3032  010432  010600              ERR32::
3033  010434  104414                     MOV     #BASER,-(SP)
3034  010436  062706  000004            MOV     #1,-(SP)
3035  010442  004737  005140            MOV     SP,R0
3036  010446                             TRAP    C$PNTB
3037  010446  104423                     ADD     #4,SP
3038                                     JSR     PC,STAND
3039  010450  040445  040502  044523  L10023:
3040  010456  020103  051105  047522          TRAP    C$MSG
3041  010464  000122
3042  010466  047045  040445  044440  BASER:  .ASCIZ  '%ABASIC ERROR'
3043  010474  041516  051117  042522
3044  010502  052103  044440  052116  BADIFM: .ASCIZ  '%N%A INCORRECT INTERFACE FOR OPTION SELECTED '
3045  010510  051105  040506  042503
3046  010516  043040  051117  047440
3047  010524  052120  047511  020116
3048  010532  042523  042514  052103
3049  010540  042105  000040
3050  010544  047045  040445  044440  BADBRM: .ASCIZ  '%N%A INCORRECT BAUD RATE FOR INTERFACE SELECTED'
3051  010552  041516  051117  042522
3052  010560  052103  041040  052501
3053  010566  020104  040522  042524
3054  010574  043040  051117  044440
3055  010602  052116  051105  040506
3056  010610  042503  051440  046105
3057  010616  041505  042524  000104
3058  010624  047045  040445  025040  TESTAB: .ASCIZ  '%N%A ****** SUBTEST %02%A ABORTED ***** '
3059  010632  025052  025052  020052
```

```
3060  010640  052523  052102  051505
3061  010646  020124  047445  022462
3062  010654  020101  041101  051117
3063  010662  042524  020104  025052
3064  010670  025052  020052     000
3065
3066  010675     045  020101  042101  MEF1:   .ASCIZ  '%A ADDRESSING PROBLEM UNIT ADDRESS %O6%N'
3067  010702  051104  051505  044523
3068  010710  043516  050040  047522
3069  010716  046102  046505  052440
3070  010724  044516  020124  042101
3071  010732  051104  051505  020123
3072  010740  047445  022466  000116
3073  010746  042101  051104  051505  EMTO:   .ASCIZ  /ADDRESS ERROR -TRAP 4/
3074  010754  020123  051105  047522
3075  010762  020122  052055  040522
3076  010770  020120  000064
3077  010774  051445  022463  041501  FMTO:   .ASCIZ  /%S3%ACSR (SEL%D1%A) DOES NOT RESPOND%N/
3078  011002  051123  024040  042523
3079  011010  022514  030504  040445
3080  011016  020051  047504  051505
3081  011024  047040  052117  051040
3082  011032  051505  047520  042116
3083  011040  047045     000
3084  011043     111  052116  051105  MEF3A:  .ASCIZ  /INTERNAL DMP-11 DIAGNOSTIC FAILED/
3085  011050  040516  020114  046504
3086  011056  026520  030461  042040
3087  011064  040511  047107  051517
3088  011072  044524  020103  040506
3089  011100  046111  042105     000
3090  011105     045  052101  051505  MEF3:   .ASCII  '%ATEST CODE- %O3'
3091  011112  020124  047503  042504
3092  011120  020055  047445     063
3093  011125     045  022516  044501  MEF4:   .ASCIZ  /%N%AINTERNAL DMP-11-LINE UNIT TEST FAILURE/
3094  011132  052116  051105  040516
3095  011140  020114  046504  026520
3096  011146  030461  046055  047111
3097  011154  020105  047125  052111
3098  011162  052040  051505  020124
3099  011170  040506  046111  051125
3100  011176  000105
3101  011200  047111  042524  043122  MEFC:   .ASCIZ  /INTERFACE MICRO-DIAGNOSTIC FAILURE/
3102  011206  041501  020105  044515
3103  011214  051103  026517  044504
3104  011222  043501  047516  052123
3105  011230  041511  043040  044501
3106  011236  052514  042522     000
3107  011243     045  020101  052515  MEF5:   .ASCII  '%A MULTIPORT RAM WRITE/READ ERROR%N'
3108  011250  052114  050111  051117
3109  011256  020124  040522  020115
3110  011264  051127  052111  027505
3111  011272  042522  042101  042440
3112  011300  051122  051117  047045
3113  011306  040445  043440  047517          .ASCIZ  '%A GOOD= %O3%A BAD= %O3'
3114  011314  036504  022440  031517
3115  011322  040445  041040  042101
```

```
3116  011330  020075  047445  000063
3117
3118  011336  040445  047040  051120  MEF6:   .ASCII  '%A NPR TRANSFER TEST'
3119  011344  052040  040522  051516
3120  011352  042506  020122  042524
3121  011360  052123
3122  011362  047045  040445  043440          .ASCIZ  '%N%A GOOD= %06%A BAD= %06'
3123  011370  047517  036504  022440
3124  011376  033117  040445  041040
3125  011404  042101  020075  047445
3126  011412  000066
3127
3128  011414  047125  054105  042520  MEF7:   .ASCIZ  /UNEXPECTED TEST LOOP HANG/
3129  011422  052103  042105  052040
3130  011430  051505  020124  047514
3131  011436  050117  044040  047101
3132  011444  000107
3133  011446  046504  020120  047111  MEF8:   .ASCIZ  /DMP INTERRUPTED TO WRONG VECTOR/
3134  011454  042524  051122  050125
3135  011462  042524  020104  047524
3136  011470  053440  047522  043516
3137  011476  053040  041505  047524
3138  011504  000122
3139  011506  047111  047503  051122  EROIC:  .ASCIZ  /INCORRECT CODE RETURNED/
3140  011514  041505  020124  047503
3141  011522  042504  051040  052105
3142  011530  051125  042516  000104
3143  011536  047045  052045  040445  MEF11:  .ASCIZ  '%N%T%A CODE INCORRECT%N%T%N%06%S3%06'
3144  011544  041440  042117  020105
3145  011552  047111  047503  051122
3146  011560  041505  022524  022516
3147  011566  022524  022516  033117
3148  011574  051445  022463  033117
3149  011602     000
3150  011603     045  022524  033117  MEF1A:  .ASCIZ  '%T%06'
3151  011610     000
3152  011611     106  044501  052514  MFPC:   .ASCIZ  'FAILURE AT PC '
3153  011616  042522  040440  020124
3154  011624  041520  000040
3155
3156  011630  047522  020115  052506  MRFT:   .ASCIZ  'ROM FUNCTION TEST ERROR'
3157  011636  041516  044524  047117
3158  011644  052040  051505  020124
3159  011652  051105  047522  000122
3160  011660  040445  042122  020111  MRDI:   .ASCIZ  '%ARDI FAILED TO SET'
3161  011666  040506  046111  042105
3162  011674  052040  020117  042523
3163  011702  000124
3164  011704  040445  042122  020117  MRDO:   .ASCIZ  '%ARDO FAILED TO SET'
3165  011712  040506  046111  042105
3166  011720  052040  020117  042523
3167  011726  000124
3168  011730  047507  042117  020040  MGB:    .ASCIZ  'GOOD       BAD'
3169  011736  020040  020040  041040
3170  011744  042101     000
3171  011747     122  052105  051125  M12F:   .ASCIZ  'RETURN KEY'
```

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```
3172  011754  020116  042513  000131
3173  011762  051105  047522  000122  M13F:   .ASCIZ  'ERROR'
3174  011770  042122  000117           MFRO:   .ASCIZ  'RDO'
3175  011774  042122  000111           MFRI:   .ASCIZ  'RDI'
3176  012000  052517  050124  052125  M18F:   .ASCIZ  'OUTPUT'
3177  012006     000
3178  012007     124  050131  000105  M28F:   .ASCIZ  'TYPE'
3179  012014  040504  040524     000  M30F:   .ASCIZ  'DATA'
3180  012021     122  044504  051440  MEF14:  .ASCIZ  'RDI SET WHEN EXPECTING RDO TO BE SET''
3181  012026  052105  053440  042510
3182  012034  020116  054105  042520
3183  012042  052103  047111  020107
3184  012050  042122  020117  047524
3185  012056  041040  020105  042523
3186  012064  000124
3187  012066  042122  020117  042523  MEF15:  .ASCIZ  'RDO SET WHEN EXPECTING RDI TO BE SET''
3188  012074  020124  044127  047105
3189  012102  042440  050130  041505
3190  012110  044524  043516  051040
3191  012116  044504  052040  020117
3192  012124  042502  051440  052105
3193  012132     000
3194  012133     111  041516  051117  MEF16A: .ASCIZ  /INCORRECT CHARACTER COUNT RETURNED/
3195  012140  042522  052103  041440
3196  012146  040510  040522  052103
3197  012154  051105  041440  052517
3198  012162  052116  051040  052105
3199  012170  051125  042516  000104
3200  012176  047111  047503  051122  MEF17A: .ASCIZ  /INCORRECT REC BUFFER ADDR. RETURNED/
3201  012204  041505  020124  042522
3202  012212  020103  052502  043106
3203  012220  051105  040440  042104
3204  012226  027122  051040  052105
3205  012234  051125  042516  000104
3206  012242  047111  047503  051122  MEF18A: .ASCIZ  /INCORRECT TRIB NUMBER RETURNED/
3207  012250  041505  020124  051124
3208  012256  041111  047040  046525
3209  012264  042502  020122  042522
3210  012272  052524  047122  042105
3211  012300     000
3212  012301     045  043501  047517  MEF18:  .ASCII  '%AGOOD= %C3%A BAD= %O3''
3213  012306  036504  022440  031517
3214  012314  040445  041040  042101
3215  012322  020075  047445     063
3216  012327     045  022516  022524          .ASCIZ  '%N%T%O6''
3217  012334  033117     000
3218  012337     115  051505  040523  MEF19A: .ASCIZ  /MESSAGE DATA COMPARE ERROR/
3219  012344  042507  042040  052101
3220  012352  020101  047503  050115
3221  012360  051101  020105  051105
3222  012366  047522  000122
3223  012372  040445  044103  051101  MEF19:  .ASCII  '%ACHARACTER# %O3%A SENT CODE''
3224  012400  041501  042524  021522
3225  012406  022440  031517  040445
3226  012414  051440  047105  020124
3227  012422  047503  042504
```

```
CZDMTC.P11    25-MAR-81 08:24          GLOBAL ERROR REPORT SECTION

 3228  012426  022440  031517  040445          .ASCIZ  '' %03%A RECEIVED CODES %03''
 3229  012434  051040  041505  044505
 3230  012442  042526  020104  047503
 3231  012450  042504  020123  047445
 3232  012456  000063
 3233  012460  040445  047507  042117  MEF23:  .ASCII  '%AGOOD= %06%A BAD= %06''
 3234  012466  020075  047445  022466
 3235  012474  020101  040502  036504
 3236  012502  022440  033117
 3237  012506  047045  052045  047445          .ASCIZ  '%N%T%06''
 3238  012514  000066
 3239  012516  042122  020117  046111  MEF30:  .ASCIZ  /RDO ILLEGALLY SET/
 3240  012524  042514  040507  046114
 3241  012532  020131  042523  000124
 3242  012540  047522  020115  042526  MEF31:  .ASCIZ  /ROM VERSION INCORRECT/
 3243  012546  051522  047511  020116
 3244  012554  047111  047503  051122
 3245  012562  041505  000124
 3246  012566  053440  047522  043516  MEF32:  .ASCIZ  / WRONG OPTION TYPE SELECTED IN TABLE/
 3247  012574  047440  052120  047511
 3248  012602  020116  054524  042520
 3249  012610  051440  046105  041505
 3250  012616  042524  020104  047111
 3251  012624  052040  041101  042514
 3252  012632     000
 3253  012633     045  052501  044516  TFM20:  .ASCII  '%AUNIT RETURNED NON-EXISTENT MEM ERR FOR ADD'
 3254  012640  020124  042522  052524
 3255  012646  047122  042105  047040
 3256  012654  047117  042455  044530
 3257  012662  052123  047105  020124
 3258  012670  042515  020115  051105
 3259  012676  020122  047506  020122
 3260  012704  042101     104
 3261  012707     040  047445  022462          .ASCIZ  ' %02%A00000%N%A-MEMORY DOES NOT EXIST!'
 3262  012714  030101  030060  030060
 3263  012722  047045  040445  046455
 3264  012730  046505  051117  020131
 3265  012736  047504  051505  047040
 3266  012744  052117  042440  044530
 3267  012752  052123  000041
 3268  012756  040445  040504  040524  TFM21:  .ASCIZ  '%ADATA ERROR IN TRANSFER TO RECEIVE BUFFER AT ADDRESS '
 3269  012764  042440  051122  051117
 3270  012772  044440  020116  051124
 3271  013000  047101  043123  051105
 3272  013006  052040  020117  042522
 3273  013014  042503  053111  020105
 3274  013022  052502  043106  051105
 3275  013030  040440  020124  042101
 3276  013036  051104  051505  020123
 3277  013044     000
 3278  013045     045  031117  040445  TFM2A:  .ASCII  '%02%A00000%N%ADATA SENT = %06'
 3279  013052  030060  030060  022460
 3280  013060  022516  042101  052101
 3281  013066  020101  042523  052116
 3282  013074  036440  022440  033117
 3283  013102  040445  020054  040504          .ASCIZ  '%A, DATA RECD = %06'
```

```
3284  013110  040524  051040  041505
3285  013116  020104  020075  047445
3286  013124  000066
3287  013126  040445  047125  052111  TFM22:  .ASCIZ  '%AUNIT FAILED TO DETECT NON-EXISTENT MEMORY, ADDRESS '
3288  013134  043040  044501  042514
3289  013142  020104  047524  042040
3290  013150  052105  041505  020124
3291  013156  047516  026516  054105
3292  013164  051511  042524  052116
3293  013172  046440  046505  051117
3294  013200  026131  040440  042104
3295  013206  042522  051523  000040
3296  013214  047445  022462  030101  TFM22A: .ASCIZ  '%02%A00000%N%A W A R N I N G  PARTS OF THIS DIAGNOSTIC'
3297  013222  030060  030060  047045
3298  013230  040445  053440  040440
3299  013236  051040  047040  044440
3300  013244  047040  043440  020040
3301  013252  040520  052122  020123
3302  013260  043117  052040  044510
3303  013266  020123  044504  043501
3304  013274  047516  052123  041511
3305  013302     000
3306  013303     045  020101  040515  TFM22B: .ASCIZ  '%A MAY HAVE BEEN %N%ADESTROYED BY THE NPR TRANSFER!'
3307  013310  020131  040510  042526
3308  013316  041040  042505  020116
3309  013324  047045  040445  042504
3310  013332  052123  047522  042531
3311  013340  020104  054502  052040
3312  013346  042510  047040  051120
3313  013354  052040  040522  051516
3314  013362  042506  020522     000
3315  013367     045  041501  041522  TFM24:  .ASCIZ  ''%ACRC ERROR IN ROM E%02%A READ = %06%A ; CALCULATED = %06''
3316  013374  042440  051122  051117
3317  013402  044440  020116  047522
3318  013410  020115  022505  031117
3319  013416  040445  051040  040505
3320  013424  020104  020075  047445
3321  013432  022466  020101  020073
3322  013440  040503  041514  046125
3323  013446  052101  042105  036440
3324  013454  022440  033117     000
3325  013461     045  042501  051122  TFM25:  .ASCII  ''%AERROR IN ROM E%02%A, ''
3326  013466  051117  044440  020116
3327  013474  047522  020115  022505
3328  013502  031117  040445  020054
3329  013510  044123  052517  042114          .ASCIZ  ''SHOULD BE ROM NO.:  %T%A, NO. READ IS: %T''
3330  013516  041040  020105  047522
3331  013524  020115  047516  035056
3332  013532  020040  052045  040445
3333  013540  020054  047516  020056
3334  013546  042522  042101  044440
3335  013554  035123  022440  000124
3336  013562  047045  052045  047045  DFMT4:  .ASCIZ  /%N%T%N%T%N/
3337  013570  052045  047045     000
3338  013575     045  031517  051445  DFMT5:  .ASCIZ  /%03%S5%03%S5%03%S5%03%N/
3339  013602  022465  031517  051445
```

```
3340  013610  022465  031517  051445
3341  013616  022465  031517  047045
3342  013624     000
3343  013625     045  032123  047445  DFMT6:  .ASCIZ  /%S4%03%S5%03%S5%03%S5%03%N/
3344  013632  022463  032523  047445
3345  013640  022463  032523  047445
3346  013646  022463  032523  047445
3347  013654  022463  000116
3348  013660  052045  047045     000  DFMT9:  .ASCIZ  /%T%N/
3349  013665     045  022516  020101  ROMMSG: .ASCIZ  '%N%A UNIT NUMBER: %D5%A ROM NUMBER IS: %T%A  REV. NO. IS: %T''
3350  013672  047125  052111  047040
3351  013700  046525  042502  035122
3352  013706  022440  032504  040445
3353  013714  051040  046517  047040
3354  013722  046525  042502  020122
3355  013730  051511  020072  052045
3356  013736  040445  020040  042522
3357  013744  027126  047040  027117
3358  013752  044440  035123  022440
3359  013760  000124
3360                          .EVEN
3361  013762     000     000  ROMNO:  .BYTE   0,0
3362  013764     000     000  REVNO:  .BYTE   0,0
3363                          .EVEN
```

```
                                .SBTTL  REPORT CODING SECTION


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

013766                          L$RPT::

013766  000167                          .WORD   J$JMP
013770  000000                          .WORD   L10024-2-.

013772                          L10024:
013772  104425                          TRAP    C$RPT
```

```
3386                                    .SBTTL  INITIALIZE SECTION
3387
3388                                    ;////////////////////////////////////////////////////////////////////////
3389                                    ;/ THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
3390                                    ;/ AT THE BEGINNING OF THE TEST SEQUENCE ON THE NEXT UNIT.
3391                                    ;////////////////////////////////////////////////////////////////////////
3392
3393  013774                            L$INIT::
3394
3395  013774  010637  002322                    MOV     SP,PSTACK       ;SAVE BASE-LEVEL STACK POINTER
3396  014000  005037  002324                    CLR     SUBRPC          ;CLEAR SUBR CALL PC
3397  014004  005037  002326                    CLR     ERROR1          ;CLEAR ERROR FLAGS
3398  014010  005037  002376                    CLR     MODQ22          ;CLEAR DMV Q22 FORMAT FLAG.
3399  014014  005037  002400                    CLR     EXLOOP          ;CLEAR DMV EXTERNAL LOOP FLAG
3400  014020  005737  002330                    TST     FRSTIM          ;SEE IF FIRST TIME THROUGH AFTER LOAD
3401  014024  001007                            BNE     6$              ;BR IF NOT
3402  014026  013737  000004  002316            MOV     @#4,SAVE4       ;SAVE ERROR TRAP VECTOR
3403  014034  013737  000006  002320            MOV     @#6,SAVE6
3404  014042  000406                            BR      9$
3405  014044  013737  002316  000004  6$:       MOV     SAVE4,@#4       ;RESTORE ERROR TRAP VECTOR
3406  014052  013737  002320  000006            MOV     SAVE6,@#6
3407  014060  012737  000001  002330  9$:       MOV     #1,FRSTIM       ;MARK FLAG FOR NEXT TIME THROUGH
3408                                    ;SEE IF PROGRAM JUST STARTED, BR IF YES
3409  014066  012700  000040                    MOV     #EF.START,R0
3410  014072  104447                            TRAP    C$REFG
3411  014074  103415                            BCS     STARST
3412                                    ;SEE IF PROGRAM JUST RESTARTED, BR IF YES
3413  014076  012700  000037                    MOV     #EF.RESTART,R0
3414  014102  104447                            TRAP    C$REFG
3415  014104  103411                            BCS     STARST
3416                                    ;SEE IF THIS IS A NEW PASS, BR IF YES
3417  014106  012700  000035                    MOV     #EF.NEW,R0
3418  014112  104447                            TRAP    C$REFG
3419  014114  103411                            BCS     NEWST
3420                                    ;SEE IF PROGRAM WAS JUST CONTINUED
3421  014116  012700  000036                    MOV     #EF.CONTINUE,R0
3422  014122  104447                            TRAP    C$REFG
3423  014124  103540                            BCS     ENDIT
3424  014126  000416                            BR      GETPRM
3425  014130                            STARST:
3426  014130  005037  002346                    CLR     STARES          ;CLEAR FLAG TO SHOW JUST HAD STA OR RES
3427                                    ;CLEAR DEVICE MAP
3428  014134  005037  002350                    CLR     DEVMAP
3429  014140                            NEWST:
3430  014140  012737  177777  002332            MOV     #-1,LOGDEV      ;RESET LOGICAL DEVICE TO -1
3431  014146  005237  002354                    INC     FRSPAS          ;INCREMENT NO. OF PASSES AFTER LOAD
3432  014152  005237  002346                    INC     STARES          ;INCREMENT NO. OF PASSES SINCE STA OR RES
3433  014156  012737  000001  002352            MOV     #BIT0,DEVPTR    ;INIT DEVICE MAP BIT POINTER
3434                                    ; GET UNIBUS ADDRESS, VECTOR, PRIORITY LEVEL, SWITCH PACKS, TEST
3435                                    ;   CONNECTOR INFORMATION FOR THIS LOGICAL DEVICE
3436  014164                            GETPRM:
3437  014164  005237  002332                    INC     LOGDEV          ;INCREMENT LOGICAL DEVICE NUMBER
3438  014170  023737  002332  002012            CMP     LOGDEV,L$UNIT   ;SEE IF MAXIMUM UNIT NO. EXCEEDED
3439  014176  002360                            BGE     NEWST           ;BR IF YES....
3440  014200  013700  002332                    MOV     LOGDEV,R0
3441  014204  104442                            TRAP    C$GPHRD
```

```
3442  014206  010001                        MOV     R0,R1
3443  014210  103403                        BCS     10$
3444  014212  006337  002352                ASL     DEVPTR          ;SHIFT DEVICE MAP BIT POINTER
3445  014216  000762                        BR      GETPRM          ;SKIP THIS DEVICE
3446  014220                          10$:
3447  014220  053737  002352  002350        BIS     DEVPTR,DEVMAP   ;SHIFT DEVICE MAP BIT POINTER
3448  014226  006337  002352                ASL     DEVPTR          ;
3449  014232  012137  002472                MOV     (R1)+,OPTYP     ;SET THE OPTION TYPE
3450  014236  011137  002440                MOV     (R1),MPCSR      ;STORE POINTER TO M8200,4,7 CSR'S
3451  014242  011137  002442                MOV     (R1),BSEL1
3452  014246  005237  002442                INC     BSEL1           ;GET POINTER TO BSEL1 (MAINTENANCE REGISTER)
3453  014252  011137  002450                MOV     (R1),SEL4
3454  014256  062737  000004  002450        ADD     #4,SEL4         ;GET POINTER TO SEL4
3455  014264  011137  002444                MOV     (R1),SEL2
3456  014270  062737  000002  002444        ADD     #2,SEL2
3457  014276  011137  002446                MOV     (R1),BSEL3
3458  014302  062737  000003  002446        ADD     #3,BSEL3
3459  014310  011137  002452                MOV     (R1),BSEL5
3460  014314  062737  000005  002452        ADD     #5,BSEL5
3461  014322  011137  002456                MOV     (R1),BSEL7
3462  014326  062737  000007  002456        ADD     #7,BSEL7
3463  014334  011137  002460                MOV     (R1),BSEL10     ;FOR DMV
3464  014340  062737  000010  002460        ADD     #10,BSEL10
3465  014346  012137  002454                MOV     (R1)+,SEL6
3466  014352  062737  000006  002454        ADD     #6,SEL6         ;STORE POINTER TO SEL6
3467  014360  011137  002462                MOV     (R1),MPIVEC     ;GET M8200,4,7 INPUT INTRPT VECTOR
3468  014364  012137  002464                MOV     (R1)+,MPOVEC
3469  014370  062737  000004  002464        ADD     #4,MPOVEC       ;GET M8200,4,7 OUTPUT INTRPT VECTOR
3470  014376  012137  002470                MOV     (R1)+,MPRIOR    ;GET M8200,4,7 DEVICE PRIORITY
3471  014402  062701  000010                ADD     #10,R1          ;POINT TO TEST CON
3472  014406  012137  002476                MOV     (R1)+,TSTCON    ;GET TEST CONNECTOR INDICATOR
3473  014412  012137  002466                MOV     (R1)+,SPEEDM    ;GET SPEED
3474  014416  012137  002474                MOV     (R1)+,IFTYP
3475  014422  012137  002474                MOV     (R1)+,IFTYP     ;FIRST TIME SKIP RUN WORD;THEN LOAD
3476                                                                  ;INTERFACE TYPE
3477  014426                          ENDIT:
3478  014426                          L10025:
3479  014426  104411                        TRAP    C$INIT
3480
3481
3482  014430                          L$AUTO::
3483  014430  004737  004456                JSR     PC,MINITR       ;INITIALIZE
3484  014434  005037  002342                CLR     COUNT           ;+COUNTER
3485
3486  014440  004737  004244          1$:   JSR     PC,WAIT50       ;STALL
3487  014444  005777  165770                TST     @SEL0           ;HAS IT STARTED?
3488  014450  100406                        BMI     4$
3489  014452  105337  002342                DECB    COUNT           ;TIME UP?
3490  014456  001370                        BNE     1$              ;NO LOOP
3491  014460  013700  002332                MOV     LOGDEV,R0
3492  014464  104451                        TRAP    C$DODU
3493
3494  014466                          4$:
3495  014466  104433                        TRAP    C$RESET
3496  014470                          L10026:
3497  014470  104461                        TRAP    C$AUTO
```

CZDMTC.P11 25-MAR-81 08:24 INITIALIZE SECTION

' 3498

CZDMTC.P11 25-MAR-81 08:24 CLEANUP CODING SECTION

```
3499
3500                    .SBTTL  CLEANUP CODING SECTION
3501
3502                    ;////////////////////////////////////////////////////////////////////////
3503                    ;/ THE CLEANUP CODING SECTION CONTAINS THE CODING THAT IS PERFORMED
3504                    ;/ AT THE END OF THE TEST SEQUENCE ON A PARTICULAR UNIT.
3505                    ;////////////////////////////////////////////////////////////////////////
3506  014472
3507  014472  104433  L$CLEAN::        TRAP    C$RESET
3508
3509  014474
3510  014474  104412  L10027:          TRAP    C$CLEAN
3511
3512
3513
3514
3515
```

```
CZDMTC.P11    25-MAR-81 08:24          DROP UNIT SECTION

                                       .SBTTL  DROP UNIT SECTION

                                       ;+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                                       ;+ THE DROP-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
                                       ;+ TO NO LONGER BE TESTED.
                                       ;+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

014476                                 L$DU::
                                       ;ISSUE UNIBUS RESET TO CLEAN UP
014476  104433                                 TRAP    C$RESET
014500                                 L10030:
014500  104453                                 TRAP    C$DU
```

CZDMTC.P11 25-MAR-81 08:24 ADD UNIT SECTION

```
3533                            .SBTTL  ADD UNIT SECTION
3534
3535                            ;////////////////////////////////////////////////////////////////////////
3536                            ;/ THE ADD-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
3537                            ;/  TO BE (A) TESTED FOR THE FIRST TIME, OR (B) RESUMED IN TESTING.  IF
3538                            ;/  ''EF.AUNIT'' IS SET, THE UNIT WILL BE TESTED AS A NEW UNIT.
3539                            ;////////////////////////////////////////////////////////////////////////
3540
3541  014502                    L$AU::
3542  014502                    L10031:
3543  014502  104452                   TRAP    C$AU
3544
```

CZDMTC.P11 25-MAR-81 08:24 ADD UNIT SECTION

```
3545
3546
3547
3548
3549
```

```
                        .SBTTL  HARDWARE TESTS
                        .SBTTL  ;******************************  TEST 1  ******************************
                        .SBTTL  * ADDRES TEST-VERIFY THAT ALL MCPU ADDRESSES RESPOND
014504                  ZZ
                        ;*ECB
                        ;*
                        ;* THIS IS THE VERY FIRST TEST IN NORMAL SEQUENCE
                        ;* IT IS USED TO VERIFY THAT DMP OR DMV-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  ******************************
014504                  T1::
014504  012746  000340          MOV     #PRI07,-(SP)
014510  012746  014616          MOV     #ECBINT,-(SP)
014514  012746  000004          MOV     #4,-(SP)
014520  012746  000003          MOV     #3,-(SP)
014524  104437                  TRAP    C$SVEC
014526  062706  000010          ADD     #10,SP
014532  005037  014614          CLR     JMO                     ;CLEAR FLAG
014536  005001                  CLR     R1
014540  005777  165674          TST     @SEL0           ;TEST CSR 0
014544  012701  000002          MOV     #2,R1           ;SAVE OFFSET FOR NEXT CSR
014550  005777  165670          TST     @SEL2           ;TEST CSR 2
014554  012701  000004          MOV     #4,R1           ;SAVE OFFSET
014560  005777  165664          TST     @SEL4           ;TEST CSR 4
014564  012701  000006          MOV     #6,R1           ;SAVE OFFSET
014570  005777  165660          TST     @SEL6           ;TEST CSR 6
014574  005737  014614          TST     JMO             ;WAS THERE A NXM TRAP
014600  001401                  BEQ     10$             ;IF NOT EXIT CLEANLY
014602  104444                  TRAP    C$DCLN
014604                  10$:
014604  012700  000004          MOV     #4,R0
014610  104436                  TRAP    C$CVEC
                        
014612                  L10032:
014612  104401                  TRAP    C$ETST
                        
014614  000000          JMO:    .WORD   0               ;FLAG FOR O'CONNOR CODE
                        
014616                  ECBINT::
014616  005737  014614          TST     JMO             ;HAVE WE HAD AT LEAST 1 TRAP
014622  001006                  BNE     10$
014624  104455                  TRAP    C$ERDF
014626  000023                  .WORD   19
014630  010746                  .WORD   EMT0
014632  007350                  .WORD   ERR1
014634  005237  014614          INC     JMO             ;SET FLAG
```

```
CZDMTC.P11    25-MAR-81 08:24        ;****************************** TEST 1 ******************************

  3606  014640
  3607  014640  010146                10$:    MOV     R1,-(SP)
  3608  014642  012746  010774              MOV     #FMT0,-(SP)
  3609  014646  012746  000002              MOV     #2,-(SP)
  3610  014652  010600                      MOV     SP,R0
  3611  014654  104415                      TRAP    C$PNTX
  3612  014656  062706  000006              ADD     #6,SP
  3613  014662                      L10033:
  3614  014662  000002                      RTI
  3615
  3616
  3617
```

```
CZDMTC.P11    25-MAR-81 08:24          ;********************************  TEST 2  ********************************

  3618                                 .SBTTL  ;********************************  TEST 2  ********************************
  3619                                 .SBTTL  *DMP ONLY VERIFY CONTENTS OF ROM 3
  3620  014664                                 ZZ
  3621                                         ;* THIS TEST DONE FOR DMP ONLY
  3622                                         ;*
  3623                                         ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM  3
  3624                                         ;*
  3625                                 .SBTTL  ;********************************  TEST 2  ********************************
  3626                                                                             ;-CROMT-
  3627  014664                         T2::
  3628  014664  022737  000000  002472        CMP     #0,OPTYP                    ;IS THIS AN 8207 DMP
  3629  014672  001150                        BNE     60$                         ;IF NOT END.....
  3630  014674  012737  000003  002366        MOV     #3,ROMN             ;ROM NUMBER
  3631  014702  012737  000000  002404        MOV     #0,CADDR                    ;GET STARTING ADDR.
  3632
  3633  014710  012737  177777  002374        MOV     #-1,CWORD                   ;INIT CRC WORD.
  3634
  3635  014716  004737  004274        10$:    JSR     PC,GWORD                    ;GET FIRST BYTE.
  3636  014722  117737  165526  002372        MOVB    @SEL6,WORDT                 ;STORE FIRST BYTE.
  3637  014730  005237  002404                INC     CADDR                       ;UPDATE ADDR.
  3638  014734  004737  004274                JSR     PC,GWORD                    ;GET NEXT BYTE.
  3639  014740  117737  165510  002373        MOVB    @SEL6,WORDT+1       ;STORE IN HIGH BYTE OF WORDT
  3640  014746  005237  002404                INC     CADDR               ;UPDATE ADDR.
  3641  014752  023727  002404  004000        CMP     CADDR,#3777+1               ;AT END?
  3642  014760  001403                        BEQ     20$                 ;YES,EXIT LOOP.
  3643
  3644  014762  004737  004376                JSR     PC,CRCR                     ;NO-CALCULATE CRC ON THIS WORD.
  3645  014766  000753                        BR      10$                         ;LOOP.
  3646
  3647  014770  005137  002374        20$:    COM     CWORD                       ;STORED CRC WORD IS COMPLEMENT.
  3648  014774  023737  002374  002372        CMP     CWORD,WORDT                 ;EQUAL?
  3649  015002  001404                        BEQ     30$
  3650
  3651                                                                             ;ROM CRC WORD BAD.
  3652  015004  104455                        TRAP    C$ERDF
  3653  015006  000024                        .WORD   20
  3654  015010  000000                        .WORD   0
  3655  015012  010162                        .WORD   ERR24
  3656  015014  012737  003775  002404  30$:  MOV     #3777-2,CADDR               ;SET ROM NUMBER ADDRESS
  3657  015022  012737  000060  002370        MOV     #60,ROMN1                   ;ROM NUMBER
  3658  015030  004737  004274                JSR     PC,GWORD                    ;READ ROM NUMBER
  3659  015034  117737  165414  002372        MOVB    @SEL6,WORDT                 ;STORE BYTE
  3660  015042  123737  002370  002372        CMPB    ROMN1,WORDT                 ;GOOD?
  3661  015050  001404                        BEQ     40$
  3662  015052  104455                        TRAP    C$ERDF
  3663  015054  000025                        .WORD   21
  3664  015056  000000                        .WORD   0
  3665  015060  010224                        .WORD   ERR25
  3666  015062                         40$:
  3667  015062  022737  000001  002346        CMP     #1,STARES                   ;IS THIS FIRST PASS
  3668  015070  001031                        BNE     50$                         ;IF NOT THEN GO TO 50
  3669  015072  113737  002372  013762        MOVB    WORDT,ROMNO                 ;PUT ROM NO IN PRINT CONDITION
  3670  015100  012737  003774  002404        MOV     #3777-3,CADDR
  3671  015106  004737  004274                JSR     PC,GWORD                    ;READ REV NO.
  3672  015112  117737  165336  013764        MOVB    @SEL6,REVNO                 ;STORE BYTE
  3673  015120  012746  013764                MOV     #REVNO,-(SP)
```

```
015124  012746  013762                          MOV     #ROMNO,-(SP)
015130  013746  002332                          MOV     LOGDEV,-(SP)
015134  012746  013665                          MOV     #ROMMSG,-(SP)
015140  012746  000004                          MOV     #4,-(SP)
015144  010600                                  MOV     SP,R0
015146  104417                                  TRAP    C$PNTF
015150  062706  000012                          ADD     #12,SP
015154  012737  003773  002404  50$:            MOV     #3777-4,CADDR           ;GET VERSION
015162  004737  004274                          JSR     PC,GWORD                ;READ IT
015166  117737  165262  002372                  MOVB    @SEL6,WORDT
015174  122737  000131  002372                  CMPB    #131,WORDT
015202  001404                                  BEQ     60$
015204  104455                                  TRAP    C$ERDF
015206  000026                                  .WORD   22
015210  012540                                  .WORD   MEF31
015212  010422                                  .WORD   ERR32
015214                                  60$:
015214                                  L10034:
015214  104401                                  TRAP    C$ETST
```

```
                                        .SBTTL  ;****************************** TEST 3 ******************************
                                        .SBTTL  *DMP ONLY VERIFY CONTENTS OF ROM 2
015216                                          ZZ
                                                ;* THIS TEST DONE FOR DMP ONLY
                                                ;*
                                                ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM  2
                                                ;*
                                        .SBTTL  ;******************************  TEST 3  ******************************
                                                                                        ;-CROMT-
015216                                  T3::
015216  022737  000000  002472                  CMP     #0,OPTYP                        ;IS THIS AN 8207 DMP
015224  001150                                  BNE     60$                             ;IF NOT END.....
015226  012737  000002  002366                  MOV     #2,ROMN                 ;ROM NUMBER
015234  012737  000000  002404                  MOV     #0,CADDR                        ;GET STARTING ADDR.

015242  012737  177777  002374                  MOV     #-1,CWORD                       ;INIT CRC WORD.

015250  004737  004274                  10$:    JSR     PC,GWORD                        ;GET FIRST BYTE.
015254  117737  165176  002372                  MOVB    @BSEL7,WORDT                    ;STORE FIRST BYTE.
015262  005237  002404                          INC     CADDR                           ;UPDATE ADDR.
015266  004737  004274                          JSR     PC,GWORD                        ;GET NEXT BYTE.
015272  117737  165160  002373                  MOVB    @BSEL7,WORDT+1                  ;STORE IN HIGH BYTE OF WORDT.
015300  005237  002404                          INC     CADDR                   ;UPDATE ADDR.
015304  023727  002404  004000                  CMP     CADDR,#3777+1                   ;AT END?
015312  001403                                  BEQ     20$                     ;YES,EXIT LOOP.

015314  004737  004376                          JSR     PC,CRCR                         ;NO-CALCULATE CRC ON THIS WORD.
015320  000753                                  BR      10$                             ;LOOP.

015322  005137  002374                  20$:    COM     CWORD                           ;STORED CRC WORD IS COMPLEMENT.
015326  023737  002374  002372                  CMP     CWORD,WORDT                     ;EQUAL?
015334  001404                                  BEQ     30$


                                                                                        ;ROM CRC WORD BAD.
015336  104455                                  TRAP    C$ERDF
015340  000024                                  .WORD   20
015342  000000                                  .WORD   0
015344  010162                                  .WORD   ERR24
015346  012737  003775  002404          30$:    MOV     #3777-2,CADDR                   ;SET ROM NUMBER ADDRESS
015354  012737  000061  002370                  MOV     #61,ROMN1                       ;ROM NUMBER
015362  004737  004274                          JSR     PC,GWORD                        ;READ ROM NUMBER
015366  117737  165064  002372                  MOVB    @BSEL7,WORDT                    ;STORE BYTE
015374  123737  002370  002372                  CMPB    ROMN1,WORDT                     ;GOOD?
015402  001404                                  BEQ     40$
015404  104455                                  TRAP    C$ERDF
015406  000025                                  .WORD   21
015410  000000                                  .WORD   0
015412  010224                                  .WORD   ERR25
015414                                  40$:
015414  022737  000001  002346                  CMP     #1,STARES                       ;IS THIS FIRST PASS
015422  001031                                  BNE     50$                             ;IF NOT THEN GO TO 50
015424  113737  002372  013762                  MOVB    WORDT,ROMNO                     ;PUT ROM NO IN PRINT CONDITION
015432  012737  003774  002404                  MOV     #3777-3,CADDR
015440  004737  004274                          JSR     PC,GWORD                        ;READ REV NO.
015444  117737  165006  013764                  MOVB    @BSEL7,REVNO                    ;STORE BYTE
015452  012746  013764                          MOV     #REVNO,-(SP)
```

```
                                ;******************************  TEST 3  ******************************
015456  012746  013762                  MOV     #ROMNO,-(SP)
015462  013746  002332                  MOV     LOGDEV,-(SP)
015466  012746  013665                  MOV     #ROMMSG,-(SP)
015472  012746  000004                  MOV     #4,-(SP)
015476  010600                          MOV     SP,R0
015500  104417                          TRAP    C$PNTF
015502  062706  000012                  ADD     #12,SP
015506  012737  003773  002404  50$:    MOV     #3777-4,CADDR           ;GET VERSION
015514  004737  004274                  JSR     PC,GWORD                ;READ IT
015520  117737  164732  002372          MOVB    @BSEL7,WORDT
015526  122737  000131  002372          CMPB    #131,WORDT
015534  001404                          BEQ     60$
015536  104455                          TRAP    C$ERDF
015540  000026                          .WORD   22
015542  012540                          .WORD   MEF31
015544  010422                          .WORD   ERR32
015546                          60$:
015546                          L10035:
015546  104401                          TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 4 ******************************

                                .SBTTL  ;****************************** TEST 4 ******************************
                                .SBTTL  *DMP ONLY VERIFY CONTENTS OF ROM 4
                                        ZZ
                                        ;* THIS TEST DONE FOR DMP ONLY
                                        ;*
                                        ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM  4
                                        ;*
                                .SBTTL  ;****************************** TEST 4 ******************************
                                                                        ;-CROMT-
015550                          T4::
015550  022737  000000  002472          CMP     #0,OPTYP                ;IS THIS AN 8207 DMP
015556  001150                          BNE     60$                     ;IF NOT END.....
015560  012737  000004  002366          MOV     #4,ROMN         ;ROM NUMBER
015566  012737  004000  002404          MOV     #4000,CADDR             ;GET STARTING ADDR.

015574  012737  177777  002374          MOV     #-1,CWORD               ;INIT CRC WORD.

015602  004737  004274          10$:    JSR     PC,GWORD                ;GET FIRST BYTE.
015606  117737  164642  002372          MOVB    @SEL6,WORDT             ;STORE FIRST BYTE.
015614  005237  002404                  INC     CADDR                   ;UPDATE ADDR.
015620  004737  004274                  JSR     PC,GWORD                ;GET NEXT BYTE.
015624  117737  164624  002373          MOVB    @SEL6,WORDT+1   ;STORE IN HIGH BYTE OF WORDT
015632  005237  002404                  INC     CADDR           ;UPDATE ADDR.
015636  023727  002404  010000          CMP     CADDR,#7777+1           ;AT END?
015644  001403                          BEQ     20$             ;YES,EXIT LOOP.

015646  004737  004376                  JSR     PC,CRCR                 ;NO-CALCULATE CRC ON THIS WORD.
015652  000753                          BR      10$                     ;LOOP.

015654  005137  002374          20$:    COM     CWORD                   ;STORED CRC WORD IS COMPLEMENT.
015660  023737  002374  002372          CMP     CWORD,WORDT             ;EQUAL?
015666  001404                          BEQ     30$

                                                                        ;ROM CRC WORD BAD.
015670  104455                          TRAP    C$ERDF
015672  000024                          .WORD   20
015674  000000                          .WORD   0
015676  010162                          .WORD   ERR24
015700  012737  007775  002404  30$:    MOV     #7777-2,CADDR           ;SET ROM NUMBER ADDRESS
015706  012737  000062  002370          MOV     #62,ROMN1               ;ROM NUMBER
015714  004737  004274                  JSR     PC,GWORD                ;READ ROM NUMBER
015720  117737  164530  002372          MOVB    @SEL6,WORDT             ;STORE BYTE
015726  123737  002370  002372          CMPB    ROMN1,WORDT             ;GOOD?
015734  001404                          BEQ     40$
015736  104455                          TRAP    C$ERDF
015740  000025                          .WORD   21
015742  000000                          .WORD   0
015744  010224                          .WORD   ERR25
015746                          40$:
015746  022737  000001  002346          CMP     #1,STARES               ;IS THIS FIRST PASS
015754  001031                          BNE     50$                     ;IF NOT THEN GO TO 50
015756  113737  002372  013762          MOVB    WORDT,ROMNO             ;PUT ROM NO IN PRINT CONDITION
015764  012737  007774  002404          MOV     #7777-3,CADDR
015772  004737  004274                  JSR     PC,GWORD                ;READ REV NO.
015776  117737  164452  013764          MOVB    @SEL6,REVNO             ;STORE BYTE
016004  012746  013764                  MOV     #REVNO,-(SP)
```

```
CZDMTC.P11    25-MAR-81 08:24          ;********************************  TEST 4  ********************************

  3824  016010  012746  013762                      MOV     #ROMNO,-(SP)
  3825  016014  013746  002332                      MOV     LOGDEV,-(SP)
  3826  016020  012746  013665                      MOV     #ROMMSG,-(SP)
  3827  016024  012746  000004                      MOV     #4,-(SP)
  3828  016030  010600                              MOV     SP,R0
  3829  016032  104417                              TRAP    C$PNTF
  3830  016034  062706  000012                      ADD     #12,SP
  3831  016040  012737  007773  002404  50$:        MOV     #7777-4,CADDR           ;GET VERSION
  3832  016046  004737  004274                      JSR     PC,GWORD                ;READ IT
  3833  016052  117737  164376  002372              MOVB    @SEL6,WORDT
  3834  016060  122737  000131  002372              CMPB    #131,WORDT
  3835  016066  001404                              BEQ     60$
  3836  016070  104455                              TRAP    C$ERDF
  3837  016072  000026                              .WORD   22
  3838  016074  012540                              .WORD   MEF31
  3839  016076  010422                              .WORD   ERR32
  3840  016100                        60$:
  3841  016100                        L10036:
  3842  016100  104401                              TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 5 ******************************

                                       .SBTTL  ;****************************** TEST 5 ******************************
                                       .SBTTL  *DMP ONLY VERIFY CONTENTS OF ROM 1
016102                                 ZZ
                                       ;* THIS TEST DONE FOR DMP ONLY
                                       ;*
                                       ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM  1
                                       ;*
                                       .SBTTL  ;****************************** TEST 5 ******************************
                                                                              ;-CROMT-
016102                                 T5::
016102  022737  000000  002472                CMP     #0,OPTYP                ;IS THIS AN 8207 DMP
016110  001150                               BNE     60$                     ;IF NOT END.....
016112  012737  000001  002366                MOV     #1,ROMN         ;ROM NUMBER
016120  012737  004000  002404                MOV     #4000,CADDR             ;GET STARTING ADDR.

016126  012737  177777  002374                MOV     #-1,CWORD               ;INIT CRC WORD.

016134  004737  004274                 10$:   JSR     PC,GWORD                ;GET FIRST BYTE.
016140  117737  164312  002372                MOVB    @BSEL7,WORDT            ;STORE FIRST BYTE.
016146  005237  002404                       INC     CADDR                   ;UPDATE ADDR.
016152  004737  004274                       JSR     PC,GWORD                ;GET NEXT BYTE.
016156  117737  164274  002373                MOVB    @BSEL7,WORDT+1          ;STORE IN HIGH BYTE OF WORDT.
016164  005237  002404                       INC     CADDR           ;UPDATE ADDR.
016170  023727  002404  010000                CMP     CADDR,#7777+1           ;AT END?
016176  001403                               BEQ     20$             ;YES,EXIT LOOP.

016200  004737  004376                       JSR     PC,CRCR                 ;NO-CALCULATE CRC ON THIS WORD.
016204  000753                               BR      10$                     ;LOOP.

016206  005137  002374                 20$:  COM     CWORD                   ;STORED CRC WORD IS COMPLEMENT.
016212  023737  002374  002372                CMP     CWORD,WORDT             ;EQUAL?
016220  001404                               BEQ     30$

                                                                              ;ROM CRC WORD BAD.
016222  104455                               TRAP    C$ERDF
016224  000024                               .WORD   20
016226  000000                               .WORD   0
016230  010162                               .WORD   ERR24
016232  012737  007775  002404  30$:   MOV     #7777-2,CADDR           ;SET ROM NUMBER ADDRESS
016240  012737  000063  002370                MOV     #63,ROMN1               ;ROM NUMBER
016246  004737  004274                       JSR     PC,GWORD                ;READ ROM NUMBER
016252  117737  164200  002372                MOVB    @BSEL7,WORDT            ;STORE BYTE
016260  123737  002370  002372                CMPB    ROMN1,WORDT             ;GOOD?
016266  001404                               BEQ     40$
016270  104455                               TRAP    C$ERDF
016272  000025                               .WORD   21
016274  000000                               .WORD   0
016276  010224                               .WORD   ERR25
016300                                 40$:
016300  022737  000001  002346                CMP     #1,STARES               ;IS THIS FIRST PASS
016306  001031                               BNE     50$                     ;IF NOT THEN GO TO 50
016310  113737  002372  013762                MOVB    WORDT,ROMNO             ;PUT ROM NO IN PRINT CONDITION
016316  012737  007774  002404                MOV     #7777-3,CADDR
016324  004737  004274                       JSR     PC,GWORD                ;READ REV NO.
016330  117737  164122  013764                MOVB    @BSEL7,REVNO            ;STORE BYTE
016336  012746  013764                       MOV     #REVNO,-(SP)
```

```
016342 012746 013762                  MOV     #ROMNO,-(SP)
016346 013746 002332                  MOV     LOGDEV,-(SP)
016352 012746 013665                  MOV     #ROMMSG,-(SP)
016356 012746 000004                  MOV     #4,-(SP)
016362 010600                         MOV     SP,R0
016364 104417                         TRAP    C$PNTF
016366 062706 000012                  ADD     #12,SP
016372 012737 007773 002404   50$:    MOV     #7777-4,CADDR           ;GET VERSION
016400 004737 004274                  JSR     PC,GWORD                ;READ IT
016404 117737 164046 002372           MOVB    @BSEL7,WORDT
016412 122737 000131 002372           CMPB    #131,WORDT
016420 001404                         BEQ     60$
016422 104455                         TRAP    C$ERDF
016424 000026                         .WORD   22
016426 012540                         .WORD   MEF31
016430 010422                         .WORD   ERR32
016432                        60$:
016432                        L10037:
016432 104401                         TRAP    C$ETST
```

```
                                        ;****************************  TEST 6  ****************************
                                .SBTTL  ;****************************  TEST 6  ****************************
                                .SBTTL  *DMP ONLY VERIFY CONTENTS OF ROM 5
                                        ZZ
016434                                  ;* THIS TEST DONE FOR DMP ONLY
                                        ;*
                                        ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM  5
                                        ;*
                                .SBTTL  ;****************************  TEST 6  ****************************
                                                                        ;-CROMT-
016434                          T6::
016434  022737  000000  002472          CMP     #0,OPTYP                ;IS THIS AN 8207 DMP
016442  001150                          BNE     60$                     ;IF NOT END.....
016444  012737  000005  002366          MOV     #5,ROMN         ;ROM NUMBER
016452  012737  010000  002404          MOV     #10000,CADDR            ;GET STARTING ADDR.

016460  012737  177777  002374          MOV     #-1,CWORD               ;INIT CRC WORD.

016466  004737  004274          10$:    JSR     PC,GWORD                ;GET FIRST BYTE.
016472  117737  163756  002372          MOVB    @SEL6,WORDT             ;STORE FIRST BYTE.
016500  005237  002404                  INC     CADDR                   ;UPDATE ADDR.
016504  004737  004274                  JSR     PC,GWORD                ;GET NEXT BYTE.
016510  117737  163740  002373          MOVB    @SEL6,WORDT+1   ;STORE IN HIGH BYTE OF WORDT
016516  005237  002404                  INC     CADDR           ;UPDATE ADDR.
016522  023727  002404  014000          CMP     CADDR,#13777+1          ;AT END?
016530  001403                          BEQ     20$             ;YES,EXIT LOOP.

016532  004737  004376                  JSR     PC,CRCR                 ;NO-CALCULATE CRC ON THIS WORD.
016536  000753                          BR      10$                     ;LOOP.

016540  005137  002374          20$:    COM     CWORD                   ;STORED CRC WORD IS COMPLEMENT.
016544  023737  002374  002372          CMP     CWORD,WORDT             ;EQUAL?
016552  001404                          BEQ     30$

                                                                        ;ROM CRC WORD BAD.
016554  104455                          TRAP    C$ERDF
016556  000024                          .WORD   20
016560  000000                          .WORD   0
016562  010162                          .WORD   ERR24
016564  012737  013775  002404  30$:    MOV     #13777-2,CADDR          ;SET ROM NUMBER ADDRESS
016572  012737  000064  002370          MOV     #64,ROMN1               ;ROM NUMBER
016600  004737  004274                  JSR     PC,GWORD                ;READ ROM NUMBER
016604  117737  163644  002372          MOVB    @SEL6,WORDT             ;STORE BYTE
016612  123737  002370  002372          CMPB    ROMN1,WORDT             ;GOOD?
016620  001404                          BEQ     40$
016622  104455                          TRAP    C$ERDF
016624  000025                          .WORD   21
016626  000000                          .WORD   0
016630  010224                          .WORD   ERR25
016632                          40$:
016632  022737  000001  002346          CMP     #1,STARES               ;IS THIS FIRST PASS
016640  001031                          BNE     50$                     ;IF NOT THEN GO TO 50
016642  113737  002372  013762          MOVB    WORDT,ROMNO             ;PUT ROM NO IN PRINT CONDITION
016650  012737  013774  002404          MOV     #13777-3,CADDR
016656  004737  004274                  JSR     PC,GWORD                ;READ REV NO.
016662  117737  163566  013764          MOVB    @SEL6,REVNO             ;STORE BYTE
016670  012746  013764                  MOV     #REVNO,-(SP)
```

```
016674  012746  013762                  MOV     #ROMNO,-(SP)
016700  013746  002332                  MOV     LOGDEV,-(SP)
016704  012746  013665                  MOV     #ROMMSG,-(SP)
016710  012746  000004                  MOV     #4,-(SP)
016714  010600                          MOV     SP,R0
016716  104417                          TRAP    C$PNTF
016720  062706  000012                  ADD     #12,SP
016724  012737  013773  002404  50$:    MOV     #13777-4,CADDR          ;GET VERSION
016732  004737  004274                  JSR     PC,GWORD                ;READ IT
016736  117737  163512  002372          MOVB    @SEL6,WORDT
016744  122737  000131  002372          CMPB    #131,WORDT
016752  001404                          BEQ     60$
016754  104455                          TRAP    C$ERDF
016756  000026                          .WORD   22
016760  012540                          .WORD   MEF31
016762  010422                          .WORD   ERR32
016764                          60$:
016764                          L10040:
016764  104401                          TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 7 ******************************

  3993                                 .SBTTL  ;****************************** TEST 7 ******************************
  3994                                 .SBTTL  *DMP ONLY VERIFY CONTENTS OF ROM 14
  3995  016766                                 ZZ
  3996                                         ;* THIS TEST DONE FOR DMP ONLY
  3997                                         ;*
  3998                                         ;* IN THIS TEST WE'LL VERIFY THE CONTENTS OF ROM  14
  3999                                         ;*
  4000                                 .SBTTL  ;****************************** TEST 7 ******************************
  4001                                                                         ;-CROMT-
  4002  016766                         T7::
  4003  016766  022737  000000  002472         CMP     #0,OPTYP                ;IS THIS AN 8207 DMP
  4004  016774  001150                         BNE     60$                     ;IF NOT END.....
  4005  016776  012737  000014  002366         MOV     #14,ROMN                ;ROM NUMBER
  4006  017004  012737  010000  002404         MOV     #10000,CADDR            ;GET STARTING ADDR.
  4007
  4008  017012  012737  177777  002374         MOV     #-1,CWORD               ;INIT CRC WORD.
  4009
  4010  017020  004737  004274         10$:    JSR     PC,GWORD                ;GET FIRST BYTE.
  4011  017024  117737  163426  002372         MOVB    @BSEL7,WORDT            ;STORE FIRST BYTE.
  4012  017032  005237  002404                 INC     CADDR                   ;UPDATE ADDR.
  4013  017036  004737  004274                 JSR     PC,GWORD                ;GET NEXT BYTE.
  4014  017042  117737  163410  002373         MOVB    @BSEL7,WORDT+1          ;STORE IN HIGH BYTE OF WORDT.
  4015  017050  005237  002404                 INC     CADDR           ;UPDATE ADDR.
  4016  017054  023727  002404  014000         CMP     CADDR,#13777+1          ;AT END?
  4017  017062  001403                         BEQ     20$             ;YES,EXIT LOOP.
  4018
  4019  017064  004737  004376                 JSR     PC,CRCR                 ;NO-CALCULATE CRC ON THIS WORD.
  4020  017070  000753                         BR      10$                     ;LOOP.
  4021
  4022  017072  005137  002374         20$:    COM     CWORD                   ;STORED CRC WORD IS COMPLEMENT.
  4023  017076  023737  002374  002372         CMP     CWORD,WORDT             ;EQUAL?
  4024  017104  001404                         BEQ     30$
  4025
  4026                                                                         ;ROM CRC WORD BAD.
  4027  017106  104455                         TRAP    C$ERDF
  4028  017110  000024                         .WORD   20
  4029  017112  000000                         .WORD   0
  4030  017114  010162                         .WORD   ERR24
  4031  017116  012737  013775  002404 30$:    MOV     #13777-2,CADDR          ;SET ROM NUMBER ADDRESS
  4032  017124  012737  000065  002370         MOV     #65,ROMN1               ;ROM NUMBER
  4033  017132  004737  004274                 JSR     PC,GWORD                ;READ ROM NUMBER
  4034  017136  117737  163314  002372         MOVB    @BSEL7,WORDT            ;STORE BYTE
  4035  017144  123737  002370  002372         CMPB    ROMN1,WORDT             ;GOOD?
  4036  017152  001404                         BEQ     40$
  4037  017154  104455                         TRAP    C$ERDF
  4038  017156  000025                         .WORD   21
  4039  017160  000000                         .WORD   0
  4040  017162  010224                         .WORD   ERR25
  4041  017164                         40$:
  4042  017164  022737  000001  002346         CMP     #1,STARES               ;IS THIS FIRST PASS
  4043  017172  001031                         BNE     50$                     ;IF NOT THEN GO TO 50
  4044  017174  113737  002372  013762         MOVB    WORDT,ROMNO             ;PUT ROM NO IN PRINT CONDITION
  4045  017202  012737  013774  002404         MOV     #13777-3,CADDR
  4046  017210  004737  004274                 JSR     PC,GWORD                ;READ REV NO.
  4047  017214  117737  163236  013764         MOVB    @BSEL7,REVNO            ;STORE BYTE
  4048  017222  012746  013764                 MOV     #REVNO,-(SP)
```

```
017226 012746 013762                 MOV     #ROMNO,-(SP)
017232 013746 002332                 MOV     LOGDEV,-(SP)
017236 012746 013665                 MOV     #ROMMSG,-(SP)
017242 012746 000004                 MOV     #4,-(SP)
017246 010600                        MOV     SP,R0
017250 104417                        TRAP    C$PNTF
017252 062706 000012                 ADD     #12,SP
017256 012737 013773 002404  50$:    MOV     #13777-4,CADDR          ;GET VERSION
017264 004737 004274                 JSR     PC,GWORD                ;READ IT
017270 117737 163162 002372          MOVB    @BSEL7,WORDT
017276 122737 000131 002372          CMPB    #131,WORDT
017304 001404                        BEQ     60$
017306 104455                        TRAP    C$ERDF
017310 000026                        .WORD   22
017312 012540                        .WORD   MEF31
017314 010422                        .WORD   ERR32
017316                       60$:
017316                       L10041:
017316 104401                        TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************  TEST 8  ******************************

  4068                                 .SBTTL  ;****************************  TEST 8  ******************************
  4069                                 .SBTTL  * ROM VERIFY ROM 1 DMV
  4070  017320                                 ZZ
  4071                                         ;*
  4072                                         ;*
  4073                                         ;*
  4074                                         ;* THIS TEST IS USED TO VERIFY THE CONTENTS OF ROM 1
  4075                                         ;*      THIS TEST IS NOT DONE FOR DMP
  4076                                         ;*-
  4077                                 .SBTTL  ;****************************  TEST 8  ******************************
  4078  017320                         T8::
  4079  017320  032737  000003  002472         BIT     #3,OPTYP        ;IS THIS DMV
  4080  017326  001453                         BEQ     RDVEX           ;IF NOT EXIT
  4081  017330  012737  000001  002366         MOV     #1,ROMN
  4082  017336  012737  000060  002370         MOV     #60,ROMN1       ;SET UP ROM NUMBER(ASCII 0)
  4083  017344  012737  140000  002436         MOV     #140000,ROMADD  ;SET UP 1ST ROM ADDRESS
  4084  017352  004537  005472                 JSR     R5,RMVRT        ;GO CHECK ROM CRC
  4085  017356  005037  002402                 CLR     ERRWRD
  4086  017362  104410                         TRAP    C$ESCAPE
  4087  017364  000072                         .WORD   L10042-.
  4088  017366  022737  000001  002346         CMP     #1,STARES       ;IS IT FIRST PASS
  4089  017374  001030                         BNE     RDVEX           ;IF NOT EXIT
  4090
  4091  017376  023737  013762  002370         CMP     ROMNO,ROMN1     ;COMPARE ROM NUMBER
  4092  017404  001406                         BEQ     10$
  4093  017406  104455                         TRAP    C$ERDF
  4094  017410  000027                         .WORD   23
  4095  017412  000000                         .WORD   0
  4096  017414  010224                         .WORD   ERR25
  4097
  4098  017416  104410                         TRAP    C$ESCAPE
  4099  017420  000036                         .WORD   L10042-.
  4100  017422                         10$:
  4101  017422  012746  013764                 MOV     #REVNO,-(SP)
  4102  017426  012746  013762                 MOV     #ROMNO,-(SP)
  4103  017432  013746  002332                 MOV     LOGDEV,-(SP)
  4104  017436  012746  013665                 MOV     #ROMMSG,-(SP)
  4105  017442  012746  000004                 MOV     #4,-(SP)
  4106  017446  010600                         MOV     SP,R0
  4107  017450  104417                         TRAP    C$PNTF
  4108  017452  062706  000012                 ADD     #12,SP
  4109
  4110
  4111
  4112  017456                         RDVEX:
  4113  017456                         L10042:
  4114  017456  104401                         TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 9 ******************************

 4115                                  .SBTTL  ;****************************** TEST 9 ******************************
 4116                                  .SBTTL  * ROM VERIFY ROM 2 DMV ONLY
 4117  017460                                  ZZ
 4118                                          ;*
 4119                                          ;*
 4120                                          ;* THIS IS THE TEST THAT VERIFIES THE CONTENTS OF ROM 2
 4121                                          ;* OF THE DMV OPTION. THIS TEST IS NOT RUN FOR DMP
 4122                                          ;*
 4123                                  .SBTTL  ;****************************** TEST 9 ******************************
 4124  017460                          T9::
 4125  017460  032737  000003  002472          BIT     #3,OPTYP        ;IS THIS DMV
 4126  017466  001453                          BEQ     RDVEX2          ;IF NOT EXIT
 4127  017470  012737  000002  002366          MOV     #2,ROMN
 4128  017476  012737  000061  002370          MOV     #61,ROMN1       ;SETUP ROM NUMBER(ASCII 1)
 4129  017504  012737  160000  002436          MOV     #160000,ROMADD  ;SETUP 1ST ROM ADDRESS
 4130  017512  004537  005472                  JSR     R5,RMVRT        ;GO CHECK ROM CRC
 4131  017516  005037  002402                  CLR     ERRWRD
 4132  017522  104410                          TRAP    C$ESCAPE
 4133  017524  000072                          .WORD   L10043-.
 4134  017526  022737  000001  002346          CMP     #1,STARES
 4135  017534  001030                          BNE     RDVEX2          ;IF NOT FIRST PASS EXIT
 4136
 4137  017536  123737  013762  002370          CMPB    ROMNO,ROMN1     ;CHECK ROM #
 4138  017544  001406                          BEQ     10$
 4139  017546  104455                          TRAP    C$ERDF
 4140  017550  000030                          .WORD   24
 4141  017552  000000                          .WORD   0
 4142  017554  010224                          .WORD   ERR25
 4143  017556  104410                          TRAP    C$ESCAPE
 4144  017560  000036                          .WORD   L10043-.
 4145  017562                          10$:
 4146  017562  012746  013764                  MOV     #REVNO,-(SP)
 4147  017566  012746  013762                  MOV     #ROMNO,-(SP)
 4148  017572  013746  002332                  MOV     LOGDEV,-(SP)
 4149  017576  012746  013665                  MOV     #ROMMSG,-(SP)
 4150  017602  012746  000004                  MOV     #4,-(SP)
 4151  017606  010600                          MOV     SP,R0
 4152  017610  104417                          TRAP    C$PNTF
 4153  017612  062706  000012                  ADD     #12,SP
 4154
 4155
 4156  017616                          RDVEX2:
 4157  017616                          L10043:
 4158  017616  104401                          TRAP    C$ETST
 4159
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 10 ******************************

                                .SBTTL  ;****************************** TEST 10 ******************************
                                .SBTTL  *INITIALIZATION TEST (INTERNAL DIAGNOSTICS)
017620                                  ZZ
                                        ;*
                                        ;* IN THIS TEST WE'LL START OUT BY SETTING THE MASTER CLEAR BIT (BIT 14 OF SEL0)
                                        ;* THE LOGIC CLEARS AND STARTS THE MICRO DIAGNOSTICS. IF THE MICRO-DIAGNOSTICS
                                        ;* PASS, THE RUN BIT (BIT15 OF SEL0) WILL SET.
                                        ;* IF THE RUN BIT FAILS TO SET WITHIN 300 MILLI-SEC, IT
                                        ;* PROBABLY MEANS THAT MICRO DIAGNOSTICS HAVE DETECTED AN
                                        ;* ERROR AND THE TEST CODE IS IN BSEL6
                                        ;*                  DMP
                                        ;*
                                        ;*      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.
                                        ;*
                                .SBTTL  ;****************************** TEST 10 ******************************
017620                          T10::

017620  012737  000000  002342          MOV     #0,COUNT                ;CLEAR COUNTER
017626  004737  004456                  JSR     PC,MINITR
```

```
CZDMTC.P11    25-MAR-81 08:24          ;******************************  TEST 10  ******************************

 4216  017632
 4217  017632  004737  004244          10$:    JSR     PC,WAIT50
 4218  017636  005777  162576                  TST     @SEL0           ;TEST DONE?
 4219  017642  100411                          BMI     20$             ;YES TEST FOR ERROR
 4220  017644  005337  002342                  DEC     COUNT           ;UPDATE COUNT IF NOT TOO LONG
 4221  017650  001370                          BNE     10$             ;IN THIS WAIT LOOP, GO BACK
 4222
 4223                                          ;INTERNAL DIAG FAILED
 4224
 4225  017652  104455                          TRAP    C$ERDF
 4226  017654  000031                          .WORD   25
 4227  017656  011043                          .WORD   MEF3A
 4228  017660  007376                          .WORD   ERR3
 4229  017662  104410                          TRAP    C$ESCAPE
 4230  017664  000116                          .WORD   L10044-.
 4231  017666  122777  000305  162560  20$:    CMPB    #305,@BSEL6     ;LEGAL TEST COMPLETE CODE?
 4232  017674  001420                          BEQ     40$
 4233  017676  122777  000264  162550          CMPB    #264,@BSEL6     ;LINE UNIT TEST FAILURE?
 4234  017704  001406                          BEQ     30$
 4235
 4236  017706  104455                          TRAP    C$ERDF
 4237  017710  000032                          .WORD   26
 4238  017712  011043                          .WORD   MEF3A
 4239  017714  007376                          .WORD   ERR3
 4240                                                                  ;UNKNOWN ERROR WHILE INITIALLING
 4241                                                                  ;DMP-11
 4242  017716  104410                          TRAP    C$ESCAPE
 4243  017720  000062                          .WORD   L10044-.
 4244
 4245  017722                          30$:
 4246  017722  104455                          TRAP    C$ERDF
 4247  017724  000033                          .WORD   27
 4248  017726  011125                          .WORD   MEF4
 4249  017730  010422                          .WORD   ERR32
 4250  017732  104410                          TRAP    C$ESCAPE
 4251  017734  000046                          .WORD   L10044-.
 4252                                                                  ;MODULE FAULT
 4253  017736                          40$:
 4254  017736  112777  000200  162474          MOVB    #RQI,@BSEL0     ;SET RQI AND THEN WAIT FOR RDI TO SET.
 4255  017744  012737  017766  002406          MOV     #ERLB1,ERRADD   ;SET UP ERROR ADD.
 4256  017752                          TLB1:
 4257  017752  004537  005070                  JSR     R5,TOUT
 4258  017756  005037  002402                  CLR     ERRWRD
 4259  017762  104410                          TRAP    C$ESCAPE
 4260  017764  000016                          .WORD   L10044-.
 4261  017766                          ERLB1:
 4262                                          ;;;;;;;;;;
 4263                                          ; TIME OUT ERROR REPORTS THIS ADDRESS
 4264                                          ;;;;;;;;;;
 4265  017766  032777  000020  162450  47$:    BIT     #RDI,@BSEL2     ;DID RDI SET?
 4266  017774  001766                          BEQ     TLB1
 4267  017776                          50$:
 4268  017776  104410                          TRAP    C$ESCAPE
 4269  020000  000002                          .WORD   L10044-.
 4270  020002                          L10044:
 4271  020002  104401                          TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;******************************  TEST 10  ************  ***************


                                       .SBTTL  ;******************************  TEST 11  ***************************
                                       .SBTTL  * MICRO-DIAGNOSTIC-INTERFACE TESTING DMP
                                               ZZ
020004                                         ;* DMP ONLY THIS TEST...
                                               ;* THIS TEST WILL EXERCISE THE MICRO-CPU'  INTERFACE TO THE PDP-11
                                               ;* WE FIRST START THE MCPU. NEXT WE GIVE THE COMMAND THAT
                                               ;* TAKES US TO THE INTERFACE DIAGNOSTIC CODE. ONCE THIS CODE IS
                                               ;* STARTED, WE MUST GO THROUGH ALL TESTS. THEREFORE, YOU WILL NOTICE
                                               ;* FIVE DISTINCT TESTS PREFORMED
                                               ;* AT THE END OF THIS TEST, THE MICRO-CODE IS LISTED.
                                               ;* VARIOUS SCOPE POINTS DO EXIST IF YOU NEED THEM. IT IS NOT
                                               ;* COMMON PRACTICE TO USE THEM, HOWEVER, WHERE SOME USE OF THEM
                                               ;* COULD BE MADE, THEY ARE NOTED.
                                               ;*
                                       .SBTTL  ;******************************  TEST 11  ******************************


020004                                 T11::

020004  032737  000003  002472                  BIT     #3,OPTYP        ;IS THIS DMV
020012  001402                                 BEQ     10$             ;IF NOT GO TO 10;ELSE
020014  000137  021134                         JMP     EXMDT           ;EXIT TEST
020020                                 10$:
020020                                 T9BG:
020020  004737  004522                         JSR     PC,MINITS
                                               ;****
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;
020024  005037  002402                         CLR     ERRWRD
020030  104410                                 TRAP    C$ESCAPE
020032  001102                                 .WORD   L10045-.
020034  105077  162416                         CLRB    @BSEL7
020040  112777  000200  162372                 MOVB    #DRUN,@BSEL0    ;REQUEST INTERFACE DIAGNOSTICS
020046                                 25$:
020046  004537  002732                         JSR     R5,WRDI         ;WAIT FOR RDI TO SET

020052  005037  002402                         CLR     ERRWRD          ;CLEAR ERROR
020056  104410                                 TRAP    C$ESCAPE
020060  001054                                 .WORD   L10045-.
                                               ;;;;;;;;;
                                               ; TIME OUT OR READY ERROR REPORTS THIS
                                               ; ADDRESS AS FAILING PC
                                               ;;;;;;;;;
020062  105077  162352                         CLRB    @BSEL0          ;NO MORE REQUESTS.
020066  112777  000022  162360                 MOVB    #22,@BSEL6      ;DIAGNOSTIC CODE.
020074  105077  162356                         CLRB    @BSEL7          ;CLEAR BSEL7
020100  112777  000001  162336                 MOVB    #1,@BSEL2       ;START.!

020106                                 TLB2:
020106  012737  020130  002406                  MOV     #ERLB2,ERRADD   ;SET UP ERROR ADDRESS
020114  004537  005070                         JSR     R5,TOUT
020120  005037  002402                         CLR     ERRWRD
020124  104410                                 TRAP    C$ESCAPE
020126  001006                                 .WORD   L10045-.
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 11 ******************************

 4328  020130                         ERLB2:
 4329                                        ;;;;;;;;;;;
 4330                                        ; TIME OUT ERROR REPORTS THIS ADDRESS
 4331                                        ;;;;;;;;;;;
 4332  020130  122777  000377  162320  26$:   CMPB    #377,@BSEL7     ;LOOK FOR SYNC OF CODE 377 IN LAST REG
 4333  020136  001363                       BNE     TLB2            ;IF 'HANG' OCCURS HERE THEN ITS POSSIBLE
 4334                                                                ;THAT EITHER THE DATA PATHS ARE BAD OR
 4335                                                                ;THAT THE MCPU FAILED TO START
 4336
 4337  020140  012737  000377  002336        MOV     #377,$GDDAT     ;EXPECT 377 BACK FROM ALL REGS
 4338  020146  013701  002440                MOV     BSEL0,R1        ;EXCEPT REG 1 (MAINTENANCE)
 4339  020152  012737  000000  002344        MOV     #0, REG
 4340  020160  111137  002340        4$:     MOVB    (R1),$BDDAT     ;READ REG, EXPECT 377
 4341  020164  123737  002340  002336        CMPB    $BDDAT,$GDDAT   ;OK?
 4342  020172  001412                       BEQ     5$              ;YES-CONTINUE
 4343  020174  022737  000001  002344        CMP     #1,REG          ;NO ERROR? (EXCEPT REG 1)
 4344  020202  001406                       BEQ     5$              ;IF REG 1, SKIP
 4345
 4346  020204  104455                       TRAP    C$ERDF
 4347  020206  000034                       .WORD   28
 4348  020210  011200                       .WORD   MEFC
 4349  020212  007430                       .WORD   ERR5
 4350  020214  104410                       TRAP    C$ESCAPE
 4351  020216  000716                       .WORD   L10045-.
 4352  020220  005237  002344        5$:     INC     REG             ;UPDATE REGISTER #
 4353  020224  005201                       INC     R1              ;AND ADDRESS
 4354  020226  023727  002344  000010        CMP     REG, #10        ;DONE ALL REGS?
 4355  020234  001351                       BNE     4$
 4356  020236  105077  162176                CLRB    @BSEL0          ;CAUSES MCPU TO EXIT TSTA
 4357
 4358                                        ;TEST   B
 4359
 4360
 4361
 4362  020242                         TLB3:
 4363  020242  012737  020264  002406        MOV     #ERLB3,ERRADD   ;SET ERROR ADDRESS
 4364  020250  004537  005070                JSR     R5,TOUT
 4365  020254  005037  002402                CLR     ERRWRD
 4366  020260  104410                       TRAP    C$ESCAPE
 4367  020262  000652                       .WORD   L10045-.
 4368  020264                         ERLB3:
 4369                                        ;;;;;;;;
 4370                                        ; TIME OUT ERROR REPORTS THIS ADDRESS
 4371                                        ;;;;;;;;
 4372  020264  105777  162166        27$:    TSTB    @BSEL7          ;LOOK FOR A ZERO IN BSEL7
 4373  020270  001364                       BNE     TLB3
 4374
 4375  020272  005037  002336                CLR     $GDDAT          ;EXPECT ALL ZEROS EXCEPT SBEL1
 4376  020276  013701  002440                MOV     BSEL0,R1        ;GET ADDR OF MCPU.
 4377  020302  012737  000000  002344        MOV     #0,REG
 4378  020310  005037  002340                CLR     $BDDAT
 4379  020314  111137  002340        7$:     MOVB    (R1),$BDDAT     ;READ REG
 4380  020320  001412                       BEQ     8$              ;IF ZERO-CONTINUE
 4381  020322  022737  000001  002344        CMP     #1,REG          ;IF REG #1 CONTINUE
 4382  020330  001406                       BEQ     8$
 4383
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 11 ******************************

 4384  020332  104455                          TRAP    C$ERDF
 4385  020334  000035                          .WORD   29
 4386  020336  011200                          .WORD   MEFC
 4387  020340  007430                          .WORD   ERR5
 4388  020342  104410                          TRAP    C$ESCAPE
 4389  020344  000570                          .WORD   L10045-.
 4390  020346  005237  002344          8$:     INC     REG             ;UPDATE REGISTER #
 4391  020352  005201                          INC     R1              ;AND ADDRESS
 4392  020354  122737  000010  002344          CMPB    #10,REG         ;DONE ALL REGS (0-7)?
 4393  020362  001354                          BNE     7$              ;NO-DO NEXT ONE
 4394
 4395  020364  000404                          BR      9$              ;REPLACE THIS INSTRUCTION WITH CODE 240
 4396                                                                  ;(NOP) IF YOU WITH TO COOP IN
 4397                                                                  ;TESTS A&B
 4398  020366  112777  000200  162044          MOVB    #200,@BSEL0     ;ALL MICRO-CODE TO LOOP
 4399  020374  000611                          BR      T9BG            ;LOOP
 4400
 4401  020376  112777  000377  162034  9$:     MOVB    #377,@BSEL0     ;TELL MICRO-CODE TO EXIT TEST B,
 4402                                                                  ;PROCEED TO TEST C.
 4403
 4404
 4405                                          ;TEST   C
 4406
 4407  020404  017746  162060                  MOV     @KMRLVL,-(SP)
 4408  020410  012746  021044                  MOV     #INTC0,-(SP)
 4409  020414  013746  002462                  MOV     KMRVEC,-(SP)
 4410  020420  012746  000003                  MOV     #3,-(SP)
 4411  020424  104437                          TRAP    C$SVEC
 4412  020426  062706  000010                  ADD     #10,SP
 4413                                                                  ;INTERRUPT VECTOR
 4414
 4415  020432  017746  162032                  MOV     @KMTLVL,-(SP)
 4416  020436  012746  021060                  MOV     #INTC4,-(SP)
 4417  020442  013746  002464                  MOV     KMTVEC,-(SP)
 4418  020446  012746  000003                  MOV     #3,-(SP)
 4419  020452  104437                          TRAP    C$SVEC
 4420  020454  062706  000010                  ADD     #10,SP
 4421                                                                  ;ILLEGAL INTERRUPT TO WRONG VECTOR
 4422
 4423  020460  005037  002334                  CLR     IFLAG
 4424  020464  112777  000377  161754          MOVB    #377,@BSEL3     ;TELL MICRO-CODE TO FORCE INTERRUPT
 4425  020472  012700  000000                  MOV     #0,R0
 4426  020476  104441                          TRAP    C$SPRI
 4427
 4428  020500                          TLB4:
 4429  020500  012737  020522  002406          MOV     #ERLB4,ERRADD   ;SET UP ERROR ADDRESS
 4430  020506  004537  005070                  JSR     R5,TOUT
 4431  020512  005037  002402                  CLR     ERRWRD
 4432  020516  104410                          TRAP    C$ESCAPE
 4433  020520  000414                          .WORD   L10045-.
 4434  020522                          ERLB4:
 4435                                          ;;;;;;;;;;
 4436                                          ; TIME OUT REPORTS THIS ADDRESS
 4437                                          ;;;;;;;;;;
 4438  020522  005737  002334          28$:    TST     IFLAG           ;IFLAG=1 SET BY INTERRUPT SERVICE ROUTINE
 4439  020526  001764                          BEQ     TLB4            ;LOOP UNIT DONE
```

```
                                                                    ;NOTE; IF HANGS HERE, MCPU FAILS TO
                                                                    ;GENERATE INTERRUPT TO PDP-11.



                                                  ;TEST   D

020530  017746  161734                            MOV     @KMRLVL,-(SP)
020534  012746  021100                            MOV     #INTD0,-(SP)
020540  013746  002462                            MOV     KMRVEC,-(SP)
020544  012746  000003                            MOV     #3,-(SP)
020550  104437                                    TRAP    C$SVEC
020552  062706  000010                            ADD     #10,SP
020556  017746  161706                            MOV     @KMTLVL,-(SP)
020562  012746  021120                            MOV     #INTD4,-(SP)
020566  013746  002464                            MOV     KMTVEC,-(SP)
020572  012746  000003                            MOV     #3,-(SP)
020576  104437                                    TRAP    C$SVEC
020600  062706  000010                            ADD     #10,SP

020604  005037  002334                            CLR     IFLAG             ;NO INTERRUPT INDICATOR
020610  012700  000000                            MOV     #0,R0
020614  104441                                    TRAP    C$SPRI
020616  105077  161624                            CLRB    @BSEL3            ;TELL MCPU TO INTERRUPT

020622                                    TLB5:
020622  012737  020644  002406                    MOV     #ERLB5,ERRADD     ;SET UP ERROR ADDRESS
020630  004537  005070                            JSR     R5,TOUT
020634  005037  002402                            CLR     ERRWRD
020640  104410                                    TRAP    C$ESCAPE
020642  000272                                    .WORD   L10045-.
020644                                    ERLB5:
                                                  ;;;;;;;;
                                                  ; TIME OUT REPORTS THIS ADDRESS
                                                  ;;;;;;;;
020644  005737  002334                    29$:    TST     IFLAG             ;DID MCPU INTERRUPT (IFLAG NOT 0)?
020650  001764                                    BEQ     TLB5              ;NO - LOOP
                                                                            ;NOTE:  IF PROGRAM ''HANGS'' HERE, MCPU
                                                                            ;FAILED TO INTERRUPT TO VECTOR XX4
                                                                            ;WE KNOW MCPU IS ABLE TO INTERRUPT
                                                                            ;TO XX0 (TEST C)

020652  013700  002462                            MOV     KMRVEC,R0
020656  104436                                    TRAP    C$CVEC
020660  013700  002464                            MOV     KMTVEC,R0
020664  104436                                    TRAP    C$CVEC


                                                  ;TEST E NPR TEST


020666  012701  033714                            MOV     #DATLST,R1        ;GET DATA LIST
020672  152777  000010  161542                    BISB    #BIT3,@BSEL1      ;SET INDICATOR THAT WE ARE STILL IN TEST.

020700  011137  002336                    TLB6A:  MOV     (R1),$GDDAT       ;GET NEXT PATTERN
020704  010177  161540                            MOV     R1,@BSEL4         ;SET NPR IN ADDR
020710  012777  002340  161536                    MOV     #$BDDAT,@BSEL6    ;SET NPR OUT ADDR
```

```
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 4496  020716  105077  161516                    CLRB    @BSEL0          ;TELL MCPU TO DO NPRS
 4497
 4498  020722                          TLB6:
 4499  020722  012737  020744  002406              MOV     #ERLB6,ERRADD   ;SET ERROR ADDRESS
 4500  020730  004537  005070                      JSR     R5,TOUT
 4501  020734  005037  002402                      CLR     ERRWRD
 4502  020740  104410                              TRAP    C$ESCAPE
 4503  020742  000172                              .WORD   L10045-.
 4504  020744                          ERLB6:
 4505                                             ;;;;;;;;
 4506                                             ; TIME OUT ERROR REPORTS THIS ADDRESS
 4507                                             ;;;;;;;;
 4508  020744  132777  000010  161470  30$:       BITB    #BIT3,@BSEL1    ;DID WE ACCIDENTILY ESCAPE THIS TEST???
 4509  020752  001006                              BNE     135$
 4510  020754  104455                              TRAP    C$ERDF
 4511  020756  000036                              .WORD   30
 4512  020760  011414                              .WORD   MEF7
 4513  020762  010422                              .WORD   ERR32
 4514                                                             ;UNKNOWN MCPU ERROR CAUSED ABORT OF TEST.
 4515  020764  104410                              TRAP    C$ESCAPE
 4516  020766  000146                              .WORD   L10045-.
 4517  020770                          135$:
 4518
 4519  020770  122777  000377  161442              CMPB    #377,@BSEL0     ;WHEN MCPU DONE, IT PUTS 377 INTO BSEL0
 4520  020776  001351                              BNE     TLB6            ;IF WE "HANG" HERE, MCPU FAILS TO DO
 4521                                                                     ;EITHER NPR IN OR NPR OUT
 4522
 4523  021000  023737  002336  002340              CMP     $GDDAT,$BDDAT   ;NPRED FRO PATTERN LIST TO $BDDAT
 4524                                                                     ;DID XFER OCCUR SUCCESSFULLY?
 4525  021006  001406                              BEQ     14$             ;
 4526
 4527  021010  104455                              TRAP    C$ERDF
 4528  021012  000037                              .WORD   31
 4529  021014  011200                              .WORD   MEFC
 4530  021016  007466                              .WORD   ERR6
 4531  021020  104410                              TRAP    C$ESCAPE
 4532  021022  000112                              .WORD   L10045-.
 4533  021024  022721  000562          14$:       CMP     #562,(R1)+      ;IS IT THE LAST PATTERN (562) IS TERM)?
 4534  021030  001323                              BNE     TLB6A
 4535  021032  112777  000200  161400              MOVB    #200,@BSEL0     ;TELL MCPU TO EXIT TEST
 4536  021040  104432                              TRAP    C$EXIT
 4537  021042  000072                              .WORD   L10045-.
 4538
 4539  021044                          INTC0::
 4540  021044  013700  000006                      MOV     6,R0
 4541  021050  104441                              TRAP    C$SPRI
 4542  021052  005237  002334                      INC     IFLAG
 4543  021056                          L10046:
 4544  021056  000002                              RTI
 4545
 4546  021060                          INTC4::
 4547  021060  013700  000006                      MOV     6,R0
 4548  021064  104441                              TRAP    C$SPRI
 4549  021066  104455                              TRAP    C$ERDF
 4550  021070  000040                              .WORD   32
 4551  021072  011446                              .WORD   MEF8
```

```
021074  010422                   .WORD   ERR32
021076                   L10047:
021076  000002                   RTI

021100                   INTD0::
021100  013700  000006           MOV     6,R0
021104  104441                   TRAP    C$SPRI
021106  104455                   TRAP    C$ERDF
021110  000041                   .WORD   33
021112  011446                   .WORD   MES8
021114  010422                   .WORD   ERR32
021116                   L10050:
021116  000002                   RTI

021120                   INTD4::
021120  013700  000006           MOV     6,R0
021124  104441                   TRAP    C$SPRI
021126  005237  002334           INC     IFLAG           ;CORRECT VECTOR (XX4)
021132                   L10051:
021132  000002                   RTI

021134                   EXMDT:

021134                   L10045:
021134  104401                   TRAP    C$ETST
```

```
                                ;****************************** TEST 12 ******************************

                                .SBTTL  ;****************************** TEST 12 ******************************
                                .SBTTL  RDI REMAINS SET TEST
                                        ZZ
                                        ;*
                                        ;*ROM FUNCTION TEST      IN THIS TEST, WE'RE GOING TO SET RQI, GET A
                                        ;*                      RDI, DO A CONTROL IN COMMAND WITH A REQUEST
                                        ;*                      KEY OF 00 (NO REQUEST). NEXT WE'LL WAIT
                                        ;*                      FOR RDI TO SET AGAIN SINCE RQI WAS
                                        ;*                      LEFT SET
                                        ;*
                                .SBTTL  ;****************************** TEST 12 ******************************
021136                          T12::
                                        JSR     PC,MINITS       ;INITIALIZE & START MCPU

021142  005037  002402                  CLR     ERRWRD
021146  104410                          TRAP    C$ESCAPE
021150  000076                          .WORD   L10052-.
                                        ;;;;;;;
                                        ; JUMP TO END OF TEST IF ERROR
                                        ;;;;;;

021152                          7$:
                                        BIS     #RQI,@BSEL0     ;SET RQI

021160                          10$:
021160  004537  002732                  JSR     R5,WRDI         ;WAIT FOR RDI TO SET

021164  005037  002402                  CLR     ERRWRD          ;CLEAR ERROR
021170  104410                          TRAP    C$ESCAPE
021172  000054                          .WORD   L10052-.
                                        ;;;;;;;;;;
                                        ; TIME OUT - OR READY ERROR REPORTS
                                        ;            THIS ADDRESS
                                        ;;;;;;;;;

021174  005077  161254          20$:    CLR     @BSEL6          ;CLEAR RDI, ISSUE REQUEST OF NO REQUEST
                                                                ;THIS SHOULD CAUSE RDI TO SET AGAIN
                                                                ;SINCE RQI HAD REMAINED SET
021200  112777  000001  161236          MOVB    #1,@BSEL2       ;START

021206  004737  004244                  JSR     PC,WAIT50       ;WAIT THIS SHORT TIME SO THAT THE
021212  004737  004244                  JSR     PC,WAIT50       ;DMP MICRO-CODE MAY RESET "RDI" IF
021216  004737  004244                  JSR     PC,WAIT50
021222  004737  004244                  JSR     PC,WAIT50
                                                                        ;IT IS GOING TO

021226  032777  000020  161210          BIT     #RDI,@BSEL2     ;IS RDI SET?
021234  001004                          BNE     30$

021236  104455                          TRAP    C$ERDF
021240  000042                          .WORD   34
021242  011630                          .WORD   MRFT
021244  007524                          .WORD   ERR9
                                                                ;COMPLETING A "NO REQUEST" CONTROL
```

```
CZDMTC.P11    25-MAR-81 08:24          ;********************************  TEST 12  ********************************
                                                                          ;IN COMMAND

  4635
  4636
  4637  021246                        30$:
  4638  021246                        L10052:
  4639  021246  104401                         TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************  TEST 12  ******************************

                                       .SBTTL  ;****************************  TEST 13  ******************************
                                       .SBTTL  *ROM FUNC TEST. VERIFY RDO SETS
                                               ZZ
021250                                         ;*ROM FUNC      IN THIS TEST WE'LL DO A CONTROL IN WITH
                                               ;*                      READ MODEM AS THE REQUEST KEY. WE'LL MAKE
                                               ;*                      SURE THAT RDO SETS. WE SHOULD GET A
                                               ;*                      RETURN KEY OF 10 'RETURN MODEM''
                                               ;*
                                       .SBTTL  ;****************************  TEST 13  ******************************
021250                                 T13::

021250  004737  004522                         JSR     PC,MINITS       ;INIT & START MCPU

021254  005037  002402                         CLR     ERRWRD
021260  104410                                 TRAP    C$ESCAPE
021262  000174                                 .WORD   L10053-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

021264  052777  000200  161146                 BIS     #RQI,@BSEL0     ;SET REQUEST IN
021272  004537  002732                         JSR     R5,WRDI         ;WAIT FOR RDI TO SET

021276  005037  002402                         CLR     ERRWRD          ;CLEAR ERROR
021302  104410                                 TRAP    C$ESCAPE
021304  000152                                 .WORD   L10053-.
                                               ;;;;;;;;;;;
                                               ; TIME OUT OR READY ERROR REPORTS
                                               ; THIS ADDRESS AS FAILING PC
                                               ;;;;;;;

021306  042777  000200  161124  20$:           BIC     #RQI,@BSEL0     ;DROP REQUEST
021314  012777  000020  161132                 MOV     #20,@BSEL6      ;READ MODEM
021322  112777  000001  161114                 MOVB    #1,@BSEL2

021330  004737  004244                         JSR     PC,WAIT50       ;STALL
021334  004737  004244                         JSR     PC,WAIT50

021340  032777  000200  161076                 BIT     #RDO,@BSEL2     ;DID 'RDO' SET?
021346  001006                                 BNE     30$

021350  104455                                 TRAP    C$ERDF
021352  000043                                 .WORD   35
021354  011630                                 .WORD   MRFT
021356  007552                                 .WORD   ERR10
                                                                       ;REQUEST FOR READ MODEM
021360  104410                                 TRAP    C$ESCAPE
021362  000074                                 .WORD   L10053-.

021364  117737  161054  002340  30$:           MOVB    @BSEL2, $BDDAT  ;NOW GET CSR AND
021372  042737  177770  002340                 BIC     #^C<7>, $BDDAT  ;STRIP FOR
021400  012737  000002  002336                 MOV     #2,     $GDDAT  ;TYPE CODE OF INFORMATION OUT
021406  023737  002336  002340                 CMP     $GDDAT, $BDDAT
021414  001411                                 BEQ     40$
021416  012737  012007  002430                 MOV     #M28F,CODEW
021424  104455                                 TRAP    C$ERDF
```

```
CZDMTC.P11    25-MAR-81 08:24          ;********************************  TEST 13  ********************************

  4696  021426  000044                          .WORD   36
  4697  021430  011506                          .WORD   EROIC
  4698  021432  010324                          .WORD   ERR27
  4699                                                                  ;IN RDO
  4700  021434  104410                          TRAP    C$ESCAPE
  4701  021436  000020                          .WORD   L10053-.
  4702
  4703  021440                          40$:
  4704  021440  112737  000010  002336          MOVB    #10,    $GDDAT  ;SHOULD=10 'RETURN MODFM'
  4705  021446  004537  003372                  JSR     R5,GETRKY       ;GO GET AND CHECK RETURN KEY
  4706
  4707  021452  005037  002402                  CLR     ERRWRD
  4708  021456                          L10053:
  4709  021456  104401                          TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 14 ******************************

  4710                                 .SBTTL  ;****************************** TEST 14 ******************************
  4711                                 .SBTTL  * NON-MODE DEF AFTER MC PROCEDURE ERR CHECK
  4712  021460                                 ZZ
  4713                                         ;*
  4714                                         ;*
  4715                                         ;*  THIS TEST CHECKS FOR PROCEDURE ERROR WHEN
  4716                                         ;*  NON-MODE DEFINITION IS DONE AFTER MC
  4717                                         ;*
  4718                                         ;*-
  4719                                 .SBTTL  ;****************************** TEST 14 ******************************
  4720  021460                         T14::
  4721
  4722  021460  112777  000100  160754         MOVB    #100,@BSEL1     ;MASTER CLEAR
  4723  021466  022737  000004  002472         CMP     #4,OPTYP                ;8206
  4724  021474  001003                        BNE     TLB10           ;IF NOT GO TO TLB10
  4725  021476  112777  000200  160736         MOVB    #200,@BSEL1     ;SET RUN 8206
  4726
  4727  021504                         TLB10:
  4728  021504  004537  005070                JSR     R5,TOUT
  4729  021510  005037  002402                CLR     ERRWRD
  4730  021514  104410                        TRAP    C$ESCAPE
  4731  021516  000204                        .WORD   L10054-.
  4732  021520  005777  160714         ERLB10: TST     @BSEL0
  4733  021524  100367                        BPL     TLB10           ;LOOP IF NOT RUN
  4734  021526  052777  000200  160704         BIS     #RQI,@BSEL0     ;SET REQUEST
  4735  021534  004537  002732                JSR     R5,WRDI         ;WAIT FOR RDI TO SET
  4736
  4737  021540  005037  002402                CLR     ERRWRD          ;CLEAR ERROR
  4738  021544  104410                        TRAP    C$ESCAPE
  4739  021546  000154                        .WORD   L10054-.
  4740  021550  105077  160664                CLRB    @BSEL0          ;CLEAR REQUEST
  4741  021554  105077  160666                CLRB    @BSEL3          ;MAKE TRIB ADD 0
  4742  021560  112777  000052  160666         MOVB    #52,@BSEL6      ;READ TSS
  4743  021566  112777  000001  160650         MOVB    #01,@BSEL2      ; EXECUTE CONTROL IN
  4744  021574  004537  002646                JSR     R5,WRDO         ;WAIT FOR RDO
  4745  021600  005037  002402                CLR     ERRWRD
  4746  021604  104410                        TRAP    C$ESCAPE
  4747  021606  000114                        .WORD   L10054-.
  4748  021610  117737  160630  002340         MOVB    @BSEL2,$BDDAT
  4749  021616  042737  177770  002340         BIC     #^C<7>,$BDDAT   ;STRIP TO COMMAND CODE
  4750  021624  022737  000002  002340         CMP     #2,$BDDAT       ;IS IT INFO OUT
  4751  021632  001433                        BEQ     T14EX           ;IF YES EXIT TEST
  4752  021634  022737  000001  002340         CMP     #01,$BDDAT      ;IF NOT IS IT CONTROL OUT
  4753  021642  001411                        BEQ     T14A            ;
  4754  021644  012737  012000  002430         MOV     #M18F,CODEW
  4755  021652  104455                        TRAP    C$ERDF
  4756  021654  000045                        .WORD   37
  4757  021656  011506                        .WORD   EROIC
  4758  021660  010324                        .WORD   ERR27
  4759  021662  104410                        TRAP    C$ESCAPE
  4760  021664  000036                        .WORD   L10054-.
  4761  021666  117737  160562  002340 T14A:  MOVB    @BSEL6,$BDDAT
  4762  021674  022737  000100  002340         CMP     #100,$BDDAT     ;IS IT 100
  4763  021702  001407                        BEQ     T14EX           ;IF SO END TEST ELSE ERROR
  4764  021704  012737  011762  002430         MOV     #M13F,CODEW
  4765  021712  104455                        TRAP    C$ERDF
```

```
4766 021714 000046          .WORD   38
4767 021716 011506          .WORD   EROIC
4768 021720 010324          .WORD   ERR27
4769 021722         T14EX:
4770 021722         L10054:
4771 021722 104401          TRAP    C$ETST
4772
```

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

                        .SBTTL  ;****************************** TEST 15 ******************************
                        .SBTTL  * MODE DEF,MODE DEF PROCEDURE ERROR
021724                          ZZ
                                ;*
                                ;*
                                ;*
                                ;* THIS TEST CHECKS THAT AFTER THE SEQUENCE OF
                                ;* MASTER CLEAR MODE DEF FOLLOWED BY MODE DEF
                                ;* DIFFERENT TYPE PRODUCES A PROCEDURE ERROR OF
                                ;* OCTAL 104
                                ;*
                                ;*-
                        .SBTTL  ;****************************** TEST 15 ******************************
021724                  T15::
021724  004737  004522        JSR     PC,MINITS       ;DO MC,MODE DEF(CONT STA/FD)

021730  005037  002402        CLR     ERRWRD
021734  104410                TRAP    C$ESCAPE
021736  000174                .WORD   L10055-.
                                ;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;
021740  004737  004244        JSR     PC,WAIT50       ;WAIT A WHILE TO BE SURE MODEM READY
                                                        ;IS SET
021744  004737  004244        JSR     PC,WAIT50
021750  142777  000010  160464 BICB    #BIT3,@BSEL1    ;CLEAR LU LOOP
021756  022737  000004  002476 CMP     #4,TSTCON       ;IS THIS NO LOOPBACK
021764  001027                BNE     20$             ;IF LOOPBACK GO TO 20
021766  032777  000200  160450 BIT     #RDO,@BSEL2     ;IS RDO SET?
021774  001423                BEQ     20$             ;IF NOT GO TO 20
021776  012737  000304  002336 MOV     #304,$GDDAT
022004  117737  160444  002340 MOVB    @BSEL6,$BDDAT   ;IF YES.IS IT 304
022012  023737  002340  002336 CMP     $BDDAT,$GDDAT
022020  001406                BEQ     25$             ;IF EQUAL GO TO 25
022022  104455                TRAP    C$ERDF
022024  000047                .WORD   39
022026  012516                .WORD   MEF30
022030  010422                .WORD   ERR32
022032  104432                TRAP    C$EXIT
022034  000076                .WORD   L10055-.
022036                  25$:
022036  042777  000200  160400 BIC     #RDO,@BSEL2     ;CLEAR RDO
022044  052777  000200  160366 20$:   BIS     #RQI,@BSEL0     ;SET REQUEST
022052  004537  002732        JSR     R5,WRDI         ;WAIT FOR RDI TO SET

022056  005037  002402        CLR     ERRWRD          ;CLEAR ERROR
022062  104410                TRAP    C$ESCAPE
022064  000046                .WORD   L10055-.
022066  043777  000200  160344 BIC     RQI,@BSEL0      ; CLEAR REQUEST
022074  012777  000007  160352 MOV     #7,@BSEL6       ;SET MODE FOR TRIB/FD
022102  012777  000002  160334 MOV     #02,@BSEL2      ;DO MODE DEF
022110  012737  000104  002410 MOV     #104,PERR       ;SET PROCEDURE ERROR OF
                                                        ; 104 TO BE CHECKED
```

```
CZDMTC.P11    25-MAR-81 08:24          ;********************************  TEST 15  ********************************

  4829  022116  004537  003016                   JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR
  4830
  4831  022122  005037  002402                   CLR     ERRWRD
  4832  022126  104410                           TRAP    C$ESCAPE
  4833  022130  000002                           .WORD   L10055-.
  4834                                           ;;;;;;;
  4835                                           ; ESCAPE TEST IF ERROR
  4836                                           ;;;;;;;
  4837                                                                   ; ERROR,OR TIME OUT.
  4838
  4839  022132                           L10055:
  4840  022132  104401                           TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;******************************  TEST 15  ******************************

                                       .SBTTL  ;******************************  TEST 16  ******************************
                                       .SBTTL  * MODE DEF ,MODE DEF CHANGE DUPLEX ONLY.
022134                                         ZZ
                                               ;*
                                               ;*
                                               ;* THIS CHECKS THAT YOU CAN CHANGE THE DUPLEX PORTION
                                               ;* OF A MODE DEF
                                               ;*
                                               ;*-
                                       .SBTTL  ;******************************  TEST 16  ******************************
022134                                 T16::
022134  004737  004522                         JSR     PC,MINITS       ;MC,MODE DEF(CONT/FD)
022140  004737  004244                         JSR     PC,WAIT50       ;DELAY

022144  005037  002402                         CLR     ERRWRD
022150  104410                               TRAP    C$ESCAPE
022152  000212                               .WORD   L10056-.

                                             ; JUMP TO END OF TEST IF ERROR


022154  022737  000003  002476               CMP     #3,TSTCON       ;IS IT REMOTE MODEM
022162  001011                               BNE     2$              ;IF NOT THEN GO TO 2A
022164  012704  000104                       MOV     #104,R4         ;
022170  012703  000021               1$:     MOV     #21,R3
022174  004537  003162                       JSR     R5,CONTIN       ; WRITE MODEM WITH CORRECT
                                             ; TYPE OF LOOP CODE
022200  005737  002402                       TST     ERRWRD
022204  100467                               BMI     10$             ;EXIT IF ERROR

022206  142777  000010  160226       2$:     BICB    #BIT3,@BSEL1    ;CLEAR LU LOOP

022214  004737  004244                       JSR     PC,WAIT50       ;WAIT A WHILE
022220  004737  004244                       JSR     PC,WAIT50
022224  022737  000004  002476               CMP     #4,TSTCON
022232  001020                               BNE     20$             ;IF LOOPBACK GO TO 20
022234  032777  000200  160202               BIT     #RDO,@BSEL2     ;ELSE SEE IF READY OUT
022242  001414                               BEQ     20$             ;IF NOT GO TO 20
022244  012737  000304  002410               MOV     #304,PERR       ;
022252  004537  003016                       JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR

022256  005037  002402                       CLR     ERRWRD
022262  104410                               TRAP    C$ESCAPE
022264  000100                               .WORD   L10056-.
                                             ;;;;;;;;
                                             ; ESCAPE TEST IF ERROR
                                             ;;;;;;;;
022266  042777  000200  160150               BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
022274  052777  000200  160136       20$:    BIS     #RQI,@BSEL0     ;SET REQUEST
022302  004537  002732                       JSR     R5,WRDI         ;WAIT FOR RDI TO SET

022306  005037  002402                       CLR     ERRWRD          ;CLEAR ERROR
022312  104410                               TRAP    C$ESCAPE
022314  000050                               .WORD   L10056-.
```

```
CZDMTC.P11    25-MAR-81 08:24          ;******************************  TEST 16  ******************************

 4897                                          ;;;;;;;;;
 4898                                          ; TIME OUT OR READY ERRORS REPORT THIS PC
 4899                                          ;;;;;;;;;
 4900  022316  043777  000200  160114          BIC     RQI,@BSEL0      ;NO MORE REQUESTS
 4901  022324  112777  000004  160122          MOVB    #04,@BSEL6      ;CONT/FD FOR MODE
 4902  022332  112777  000002  160104          MOVB    #02,@BSEL2      ;DO MODE DEF
 4903  022340  004737  004244                  JSR     PC,WAIT50       ;DELAY A WHILE
 4904  022344  032777  000200  160072          BIT     #RDO,@BSEL2     ;IS RDO SET
 4905  022352  001404                          BEQ     10$             ;BRANCH IF NOT
 4906  022354  104455                          TRAP    C$ERDF
 4907  022356  000050                          .WORD   40
 4908  022360  012516                          .WORD   MEF30
 4909  022362  010422                          .WORD   ERR32
 4910  022364                          10$:
 4911  022364                          L10056:
 4912  022364  104401                          TRAP    C$ETST
 4913
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 17 ******************************

                                       .SBTTL  ;****************************** TEST 17 ******************************
                                       .SBTTL  *ROM FUNC. TEST. VERIFY THAT MAX TRIBS CAN BE ESTABLISHED
022366                                         ZZ
                                               ;*ROM FUNCTION TEST-ESTABLISHING TRIBS-
                                               ;*              THIS TEST WILL ESTABLISH MAX TRIBS
                                               ;*              THEN TRY TO ESTABLISH MAX+1 TRIBS
                                               ;*               AND CHECK FOR PROCEDURE ERROR.
                                               ;*               THE TEST ALSO CHECKS FOR PROCEDURE
                                               ;*               ERROR WHEN TRYING TO ESTABLISH AN
                                               ;*               ALREADY ESTABLISHED TRIB.
                                               ;*
                                       .SBTTL  ;****************************** TEST 17 ******************************

022366                                 T17::
022366  012737  000040  002362                   MOV     #32.,TRIBMX             ;SET MAX TRIB TO 32
022374  032737  000003  002472                   BIT     #3,OPTYP                ;IS THIS DMV
022402  001403                                   BEQ     XX                      ;IF NOT BRANCH
022404  012737  000014  002362                   MOV     #12.,TRIBMX             ;ELSE SET THE MAX TO 12
022412                                 XX:

022412  112737  000161  002360                   MOVB    #161,TRIBN              ;NUMBER OF TRIBUTARY,
022420  112737  000161  002364                   MOVB    #161,TRIBH              ;START TRIB HIGH AT SAME AS TRIBN
022426  063737  002362  002364                   ADD     TRIBMX,TRIBH            ;ADD MAX NUMBER OF TRIBS TO TRIBH

022434  004737  004522                           JSR     PC,MINITS       ;INITIALIZE

022440  005037  002402                           CLR     ERRWRD
022444  104410                                   TRAP    C$ESCAPE
022446  000150                                   .WORD   L10057-.
                                                 ;;;;;;;
                                                 ; JUMP TO END OF TEST IF ERROR
                                                 ;;;;;;;;

022450                                 30$:
022450  112703  000001                           MOVB    #01,R3          ;SET ESTABLISH TRIB
022454  004537  003162                           JSR     R5,CONTIN       ;
                                                 ;;;;;;;;;
                                                 ; READY OR TIME OUT ERRORS REPORT THIS PC
                                                 ;;;;;;;;;

022460  005037  002402                           CLR     ERRWRD
022464  104410                                   TRAP    C$ESCAPE
022466  000130                                   .WORD   L10057-.
                                                 ;;;;;;;;
                                                 ; JUMP TO END OF TEST IF ERROR
                                                 ;;;;;;;;

022470  005237  002360                           INC     TRIBN           ;UPDATE TRIB#
022474  023737  002364  002360                   CMP     TRIBH,  TRIBN   ;ONLY ALLOW MAX TRIBS TO BE SET
022502  001362                                   BNE     30$

022504                                 37$:
022504  112703  000001                           MOVB    #01, R3         ;ESTABLISH MAX +1 TRIBS
022510  004537  003162                           JSR     R5,CONTIN       ; DO IT
                                                 ;;;;;;;;;
                                                 ; READY OR TIME OUT ERRORS REPORT THIS PC
                                                 ;;;;;;;;
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 17 ******************************

 4970  022514  005037  002402                    CLR     ERRWRD
 4971  022520  104410                            TRAP    C$ESCAPE
 4972  022522  000074                            .WORD   L10057-.
 4973                                            ;;;;;;;;
 4974                                            ; JUMP TO END OF TEST IF ERROR
 4975                                            ;;;;;;;;
 4976
 4977  022524  012737  000114  002410            MOV     #114,   PERR    ;SHOULD READ 114, PROCEDURE ERROR
 4978                                                                    ;TRYING TO ESTABLISH MAX+1 TRIBUTARIES
 4979
 4980  022532  004537  003016                    JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR
 4981
 4982  022536  005037  002402                    CLR     ERRWRD
 4983  022542  104410                            TRAP    C$ESCAPE
 4984  022544  000052                            .WORD   L10057-.
 4985                                            ;;;;;;;
 4986                                            ; ESCAPE TEST IF ERROR
 4987                                            ;;;;;;;
 4988  022546                            60$:
 4989  022546  042777  000200  157670            BIC     #RDO,@BSEL2     ;CLEAR RDO
 4990  022554  005337  002360                    DEC     TRIBN           ;DEC TRIB NUMBER
 4991  022560  112703  000001                    MOVB    #01,  R3        ;SET ESTABLISH TRIB
 4992  022564  004537  003162                    JSR     R5,CONTIN       ;DO IT
 4993                                            ;;;;;;;;;
 4994                                            ;; READY OR TIME OUT ERRORS REPORT THIS PC
 4995                                            ;;;;;;;;;
 4996
 4997  022570  005037  002402                    CLR     ERRWRD
 4998  022574  104410                            TRAP    C$ESCAPE
 4999  022576  000020                            .WORD   L10057-.
 5000                                            ;;;;;;;;;
 5001                                            ; JUMP TO END OF TEST IF ERROR
 5002                                            ;;;;;;
 5003
 5004  022600  112737  000116  002410            MOVB    #116,  PERR     ;SHOULD BE PROCEDURE ERROR
 5005                                                                    ; OF 116 ESTABLISH ALREADY
 5006                                                                    ;ESTABLISHED TRIB.
 5007  022606  004537  003016                    JSR     R5,WFPE         ;GO CHECK FOR PROCEDURE ERROR
 5008  022612  005037  002402                    CLR     ERRWRD
 5009  022616                            70$:
 5010  022616                            L10057:
 5011  022616  104401                            TRAP    C$ETST
 5012
```

```
CZDMTC.P11    25-MAR-81 08:24          ;******** ********************  TEST 18  ******************************

                                       .SBTTL  ;*******************************  TEST 18  ******************************
                                       .SBTTL  * READ/WRITE TSS TEST
022620                                         ZZ
                                               ;*
                                               ;*
                                               ;* THIS TEST CHECKS THAT A TRIB STATUS SLOT CAN
                                               ;* BE WRITTEN AND READ
                                               ;*
                                               ;*-
                                       .SBTTL  ;*******************************  TEST 18  ******************************
022620                                 T18::
022620  012737  000030  002412                  MOV     #30,TSSADD      ;START ADD AT 30
022626  005002                         NEWSLT: CLR     R2              ;CLEAR R2

022630  004737  004522                 NEWPAT: JSR     PC,MINITS       ;MASTER CLEAR MODE DEF

022634  005037  002402                         CLR     ERRWRD
022640  104410                               TRAP    C$ESCAPE
022642  000240                               .WORD   L10060-.
                                             ;;;;;;;;;
                                             ; JUMP TO END OF TEST IF ERROR
                                             ;;;;;;;;;

022644  012737  000055  002360               MOV     #55,TRIBN       ;PUT 55 IN TRIB NUMBER
022652  012703  000001                       MOV     #01,R3          ;THIS WILL ESTABLISH
022656  004537  003162                       JSR     R5,CONTIN       ; A TRIB
                                             ;;;;;;;;;;;;;;;
                                             ; TIME OUT AND READY ERRORS REPORT THIS PC
                                             ;;;;;;;;;;;;;;;

022662  005037  002402                       CLR     ERRWRD
022666  104410                               TRAP    C$ESCAPE
022670  000212                               .WORD   L10060-.
                                             ;;;;;;;;;
                                             ; JUMP TO END OF TEST IF ERROR
                                             ;;;;;;;;;

022672  016204  033714                       MOV     DATLST(R2),R4   ;PATTERN TO BE WRITTEN
022676  013703  002412                       MOV     TSSADD,R3       ;WRITE TO TSS
022702  052703  000200                       BIS     #BIT7,R3        ;SET THE WRITE BIT
022706  004537  003162                       JSR     R5,CONTIN       ; GO DO IT!!!
                                             ;;;;;;;;;;;;;
                                             ; TIME OUT AND READY ERRORS REPORT THIS PC
                                             ;;;;;;;;;;;;;

022712  005037  002402                       CLR     ERRWRD
022716  104410                               TRAP    C$ESCAPE
022720  000162                               .WORD   L10060-.
                                             ;;;;;;;;;
                                             ; JUMP TO END OF TEST IF ERROR
                                             ;;;;;;;;;

022722  013703  002412                       MOV     TSSADD,R3       ;SET UP TO READ SLOT
022726  052703  000040                       BIS     #BIT5,R3        ;SET THE READ BIT
022732  004537  003162                       JSR     R5,CONTIN       ;DO CONTROL IN
                                             ;;;;;;;;;;;;;;;
```

```
                        ;****************************** TEST 18 ******************************
                                ; TIME OUT AND READY ERRORS REPORT THIS PC
                                ;;;;;;;;;;;;;;;;
022736  005037  002402            CLR     ERRWRD
022742  104410                  TRAP    C$ESCAPE
022744  000136                  .WORD   L10060-.
                                ;;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;
022746  012737  000002  002336    MOV     #02,$GDDAT      ; COMPARE FOR A INFO OUT
022754  004537  003242            JSR     R5,GETOUT       ; CHECK FOR INFO OUT AND
                                                        ;CORRECT TRIB NO. IF ERROR
                                                        ;REPORT THIS PC.
022760  005037  002402            CLR     ERRWRD
022764  104410                  TRAP    C$ESCAPE
022766  000114                  .WORD   L10060-.
                                ;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;
022770  013737  002412  002336    MOV     TSSADD,$GDDAT   ;MOVE EXPECTED ADDRESS TO GDDAT
023004  052737  000040  002336    BIS     #BIT5,$GDDAT    ;SET THE READ TSS BIT IN EXPECTED
023010  004537  003372            JSR     R5,GETRKY       ; GO CHECK FOR GOOD RETURN KEY
023014  005037  002402            CLR     ERRWRD
023016  104410                  TRAP    C$ESCAPE
023020  000064                  .WORD   L10060-.
                                ;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;
023024  016237  033714  002336  30$:    MOV     DATLST(R2),$GDDAT       ;MOVE EXPECTED PATTERN
023032  004537  003446            JSR     R5,GETDAT       ;GET DATA RETURNED.
                                                        ;IF ERROR REPORT THIS PC.
023036  005037  002402            CLR     ERRWRD
023042  104410                  TRAP    C$ESCAPE
023044  000042                  .WORD   L10060-.
                                ;;;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;;;
023046  022762  000562  033714    CMP     #562,DATLST(R2) ;ARE WE DONE WITH PATTERN
023054  001404                  BEQ     50$             ;IF SO DO NEXT SLOT
023056  062702  000002            ADD     #2,R2           ;BUMP LIST POINTER
023062  000137  022630            JMP     NEWPAT          ;GO BACK FOR THIS PATTERN.
023066  022737  000037  002412  50$:    CMP     #37,TSSADD      ;IS THIS THE LAST SLOT
023074  001404                  BEQ     60$             ;IF SO END TEST
023076  005237  002412            INC     TSSADD          ;ELSE BUMP ADD
023102  000137  022626            JMP     NEWSLT          ; AND DO NEXT SLOT
023106                  60$:

023106                  L10060:
023106  104401                  TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 18 ******************************

                                       .SBTTL  ;****************************** TEST 19 ******************************
                                       .SBTTL  *WRITE RESERVED AREA OF TSS. P.E. 132
023104                                 T19::   ZZ
                                               ;*
                                               ;*
                                               ;* THIS TEST CHECKS FOR PROCEDURE ERROR
                                               ;* ON WRITING TO ILLEGAL SLOT
                                               ;*
                                               ;*-
                                       .SBTTL  ;****************************** TEST 19 ******************************
023104                                 T19::

023104  004737  004522                         JSR     PC,MINITS       ;MASTER CLEAR MODE DEF

023110  005037  002402                         CLR     ERRWRD
023114  104410                               TRAP    C$ESCAPE
023116  000072                               .WORD   L10061-.
                                               ;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;

023120  012737  000022  002360                 MOV     #22,TRIBN       ;SET TRIB NUMBER TO 22
023126  012703  000001                         MOV     #01,R3
023132  004537  003162                         JSR     R5,CONTIN       ;ESTABLISH TRIB
                                               ;;;;;;;;;;;
                                               ; TIME OUT OR READY ERRORS REPORT THIS PC
                                               ;;;;;;;;;

023136  005037  002402                         CLR     ERRWRD
023142  104410                               TRAP    C$ESCAPE
023144  000044                               .WORD   L10061-.
                                               ;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;

023146  012703  000204                         MOV     #204,R3         ;SEL6=204
023152  004537  003162                         JSR     R5,CONTIN       ;WRITE TSS (ILLEGAL)
                                               ;;;;;;;;;;
                                               ; TIME OUT OR READY ERROR REPORT THIS PC
                                               ;;;;;;;;;;

023156  005037  002402                         CLR     ERRWRD
023162  104410                               TRAP    C$ESCAPE
023164  000024                               .WORD   L10061-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

023166  012737  000132  002410                 MOV     #132,PERR               ;CHECK FOR PROCEDURE ERROR
023174  004537  003016                         JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR

023200  005037  002402                         CLR     ERRWRD
023204  104410                               TRAP    C$ESCAPE
023206  000002                               .WORD   L10061-.
                                               ;;;;;;;
```

```
CZDMTC.P11    25-MAR-81 08:24          ;********************************  TEST 19  ********************************

  5179                                          ; ESCAPE TEST IF ERROR
  5180                                          ;;;;;;;
  5181
  5182  023210                        L10061:
  5183  023210  104401                         TRAP    C$ETST
  5184
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************  TEST 19  ****************************

 5185
 5186                                  .SBTTL  ;****************************  TEST 20  ****************************
 5187                                  .SBTTL  *READ CLEAR WRONG ADD P.E.132
 5188  023212                                  ZZ:
 5189                                          ;*
 5190                                          ;*
 5191                                          ;* THIS TEST CHECKS FOR PROCEDURE ERROR
 5192                                          ;* FOR RD/CLR TSS WRONG ADD(132)
 5193                                          ;*
 5194                                          ;*-
 5195                                  .SBTTL  ;****************************  TEST 20  ****************************
 5196  023212                          T20::
 5197
 5198  023212  004737  004522                  JSR     PC,MINITS       ;MASTER CLEAR MODE DEF
 5199
 5200  023216  005037  002402                  CLR     ERRWRD
 5201  023222  104410                          TRAP    C$ESCAPE
 5202  023224  000072                          .WORD   L10062-.
 5203                                          ;;;;;;;;;
 5204                                          ; JUMP TO END OF TEST IF ERROR
 5205                                          ;;;;;;;;;
 5206
 5207  023226  012737  000077  002360          MOV     #77,TRIBN       ;MAKE TRIBN 77
 5208  023234  012703  000001                  MOV     #01,R3          ;ESTABLISH TRIB
 5209  023240  004537  003162                  JSR     R5,CONTIN
 5210                                          ;;;;;;;;;;
 5211                                          ; TIME OUT OR READY ERROR REPORTS THIS PC
 5212                                          ;;;;;;;;;
 5213
 5214  023244  005037  002402                  CLR     ERRWRD
 5215  023250  104410                          TRAP    C$ESCAPE
 5216  023252  000044                          .WORD   L10062-.
 5217                                          ;;;;;;;;;
 5218                                          ; JUMP TO END OF TEST IF ERROR
 5219                                          ;;;;;;;;;
 5220
 5221  023254  012703  000106                  MOV     #106,R3
 5222  023260  004537  003162                  JSR     R5,CONTIN       ;READ/CLEAR ADD 6
 5223                                          ;;;;;;;;;;;
 5224                                          ; TIME OUT OR READY ERRORS REPORT THIS PC
 5225                                          ;;;;;;;;;;;
 5226
 5227  023264  005037  002402                  CLR     ERRWRD
 5228  023270  104410                          TRAP    C$ESCAPE
 5229  023272  000024                          .WORD   L10062-.
 5230                                          ;;;;;;;;;
 5231                                          ; JUMP TO END OF TEST IF ERROR
 5232                                          ;;;;;;;;;
 5233
 5234  023274  012737  000132  002410          MOV     #132,PERR       ;SET PROCEDURE ERROR TO
 5235                                                                  ;BE CHECKED TO 132
 5236  023302  004537  003016                  JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR
 5237
 5238  023306  005037  002402                  CLR     ERRWRD
 5239  023312  104410                          TRAP    C$ESCAPE
 5240  023314  000002                          .WORD   L10062-.
```

CZDMTC.P11 25-MAR-81 08:24 ;********** TEST 20 **********

```
5241                            ;;;;;;;;
5242                            ; ESCAPE TEST IF ERROR
5243                            ;;;;;;;;
5244
5245  023316                L10062:
5246  023316  104401               TRAP    C$ETST
```

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

                                        .SBTTL  ;****************************** TEST 21 ******************************
                                        .SBTTL  *READ/CLEAR TSS
023320                                  ZZ:
                                        ;*
                                        ;*
                                        ;* THIS TEST THAT READ CLEAR WORKS
                                        ;*
                                        ;*-
                                        .SBTTL  ;****************************** TEST 21 ******************************
023320                                  T21::

023320  004737  004522                  JSR     PC,MINITS       ;MASTER CLEAR MODE-DEF

023324  005037  002402                  CLR     ERRWRD
023330  104410                          TRAP    C$ESCAPE
023332  000100                          .WORD   L10063-.
                                        ;;;;;;;;;
                                        ; JUMP TO END OF TEST IF ERROR
                                        ;;;;;;

023334  012737  000003  002360          MOV     #03,TRIBN       ;SET TRIB NUMBER
023342  012703  000001                  MOV     #01,R3
023346  004537  003162                  JSR     R5,CONTIN       ;ESTABLISH TRIB
                                        ;;;;;;;;;
                                        ;; TIME OUT OR READY ERRORS REPORT THIS PC
                                        ;;;;;;;;;

023352  005037  002402                  CLR     ERRWRD
023356  104410                          TRAP    C$ESCAPE
023360  000052                          .WORD   L10063-.
                                        ;;;;;;;;;
                                        ; JUMP TO END OF TEST IF ERROR
                                        ;;;;;;;;;

023362  012703  000107                  MOV     #107,R3
023366  004537  003162                  JSR     R5,CONTIN       ;READ/CLEAR ADD 7
                                        ;;;;;;;;;;;;;
                                        ; TIME OUT OR READY ERRORS REPORT THIS PC
                                        ;;;;;;;;;;;;

023372  005037  002402                  CLR     ERRWRD
023376  104410                          TRAP    C$ESCAPE
023400  000032                          .WORD   L10063-.
                                        ;;;;;;;;
                                        ; JUMP TO END OF TEST IF ERROR
                                        ;;;;;;;;

023402  004737  004244                  JSR     PC,WAIT50
023406  004737  004244                  JSR     PC,WAIT50       ;DELAY
023412  032777  000200  157024          BIT     #RDO,@BSEL2
023420  001004                          BNE     10$             ;IF RDO THEN END
                                                                ;ELSE ERROR
023422  104455                          TRAP    C$ERDF
023424  000051                          .WORD   41
```

```
5303 023426 011630                  .WORD   MRFT
5304 023430 007552                  .WORD   ERR10
5305
5306 023432                 10$:
5307 023432                 L10063:
5308 023432 104401                  TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 22 ******************************

                                       .SBTTL  ;****************************** TEST 22 ******************************
                                       .SBTTL  *GLOBAL STATUS SLOT TESTS
                                               ZZ
                                               ;*
                                               ;*      THIS TEST CHECKS THAT GLOBAL STATUS
                                               ;*      SLOTS RESPOND TO COMMANDS
                                               ;*
                                               ;*-
                                       .SBTTL  ;****************************** TEST 22 ******************************
023434                                 T22::

                                       T22.1:
023434  104402                                 TRAP    C$BSUB
                                               ;;;;;;;;;;;;;;;;;;;;;;;;
                                               ; READ ALL SLOTS TEST  ;
                                               ;;;;;;;;;;;;;;;;;;;;;;;;

023436  005037  002412                         CLR     TSSADD          ;CLEAR ADD
023442  005037  002360                         CLR     TRIBN           ;MAKE TRIB #0(GLOBAL COMM)
023446                                 5$:
023446  004737  004522                         JSR     PC,MINITS       ;MASTER CLEAR INIT

023452  005037  002402                         CLR     ERRWRD
023456  104410                               TRAP    C$ESCAPE
023460  000114                               .WORD   L10065-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

023462  013703  002412                         MOV     TSSADD,R3
023466  052703  000040                         BIS     #BIT5,R3        ;SET UP READ GSS COMMAND
023472  004537  003162                         JSR     R5,CONTIN       ;GO DO IT

023476  005037  002402                         CLR     ERRWRD
023502  104410                               TRAP    C$ESCAPE
023504  000070                               .WORD   L10065-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

023506  012737  000002  002336                 MOV     #2,$GDDAT       ;
023514  004537  003242                         JSR     R5,GETOUT       ;CHECK CORRECT TYPE AND
                                                                       ; TRIB NO.

023520  005037  002402                         CLR     ERRWRD
023524  104410                               TRAP    C$ESCAPE
023526  000046                               .WORD   L10065-.
                                               ;;;;;;;
                                               ; ESCAPE SUB IF ERROR
                                               ;;;;;;;

023530                                 10$:
023530  013737  002412  002336                 MOV     TSSADD,$GDDAT
023536  052737  000040  002336                 BIS     #BIT5,$GDDAT    ;SET THE READ TSS BIT
023544  004537  003372                         JSR     R5,GETRKY       ;CHECK RETURN KEY
```

```
CZDMTC.P11    25-MAR-81 08:24          ;******************************  TEST 22  ******************************

 5365  023550  005037  002402                CLR     ERRWRD
 5366  023554  104410                        TRAP    C$ESCAPE
 5367  023556  000016                        .WORD   L10065-.
 5368                                        ;;;;;;;;
 5369                                        ; GO TO END OF SUB IF ERROR
 5370                                        ;;;;;;;
 5371
 5372
 5373  023560  005237  002412          30$:  INC     TSSADD          ;BUMP ADDRESS
 5374  023564  022737  000040  002412        CMP     #40,TSSADD      ; ARE WE ALL DONE
 5375  023572  001325                        BNE     5$              ; IF NOT GO BACK
 5376                                                                ;ELSE END SUBTEST
 5377  023574                          L10065:
 5378  023574  104403                        TRAP    C$ESUB
 5379  023576                          T22.2:
 5380  023576  104402                        TRAP    C$BSUB
 5381                                        ;;;;;;;;;;;;;;;;;;;;;;;;
 5382                                        ; WRITE ALL SLOTS TEST ;
 5383                                        ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
 5384
 5385  023600  012737  000034  002412        MOV     #34,TSSADD      ;START WITH FIRST WRITABLE ADD
 5386  023606  005037  002360                CLR     TRIBN           ;AND TRIBN AT ZERO
 5387  023612  004737  004522          40$:  JSR     PC,MINITS       ;MASTER CLEAR INT
 5388
 5389  023616  005037  002402                CLR     ERRWRD
 5390  023622  104410                        TRAP    C$ESCAPE
 5391  023624  000226                        .WORD   L10066-.
 5392                                        ;;;;;;;;
 5393                                        ; JUMP TO END OF SUB IF ERROR
 5394                                        ;;;;;;;
 5395
 5396  023626  013703  002412          45$:  MOV     TSSADD,R3
 5397  023632  052703  000200                BIS     #BIT7,R3        ;WRITE TSS(GLOBAL BECAUSE TRIBN=0)
 5398  023636  013704  002412                MOV     TSSADD,R4       ;PUT IN ADD FOR DATA
 5399  023642  004537  003162                JSR     R5,CONTIN       ;DO IT
 5400
 5401  023646  005037  002402                CLR     ERRWRD
 5402  023652  104410                        TRAP    C$ESCAPE
 5403  023654  000176                        .WORD   L10066-.
 5404                                        ;;;;;;;;
 5405                                        ; JUMP TO END OF SUB IF ERROR
 5406                                        ;;;;;;
 5407
 5408  023656  005237  002412                INC     TSSADD          ;BUMP ADD
 5409  023662  022737  000040  002412        CMP     #40,TSSADD      ;DONE ALL
 5410  023670  001356                        BNE     45$             ;NO GO FINISH!!!
 5411  023672  012703  000227                MOV     #227,R3
 5412  023676  013704  002412                MOV     TSSADD,R4
 5413  023702  004537  003162                JSR     R5,CONTIN       ; TRY TO WRITE BAD ADDRESS
 5414
 5415  023706  005037  002402                CLR     ERRWRD
 5416  023712  104410                        TRAP    C$ESCAPE
 5417  023714  000136                        .WORD   L10066-.
 5418                                        ;;;;;;;
 5419                                        ; JUMP TO END OF SUB IF ERROR
 5420                                        ;;;;;;
```

```
CZDMTC.P11    25-MAR-81 08:24          ;*********************************  TEST 22  *********************************

 5421  023716  012737  000132  002410          MOV     #132,PERR
 5422  023724  004537  003016                  JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR
 5423
 5424  023730  005037  002402                  CLR     ERRWRD
 5425  023734  104410                          TRAP    C$ESCAPE
 5426  023736  000222                          .WORD   L10064-.
 5427                                          ;;;;;;;
 5428                                          ; ESCAPE TEST IF ERROR
 5429                                          ;;;;;;;
 5430
 5431  023740  042777  000200  156476  GSSREP: BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
 5432  023746  005337  002412                  DEC     TSSADD          ;GET TSSADD BACK TO MAX
 5433  023752  013703  002412                  MOV     TSSADD,R3
 5434  023756  052703  000040                  BIS     #BIT5,R3        ;SET READ BIT
 5435  023762  004537  003162                  JSR     R5,CONTIN       ;READ TSS
 5436
 5437  023766  005037  002402                  CLR     ERRWRD
 5438  023772  104410                          TRAP    C$ESCAPE
 5439  023774  000056                          .WORD   L10066-.
 5440                                          ;;;;;;;
 5441                                          ; JUMP  TO END OF SUB IF ERROR
 5442                                          ;;;;;;;
 5443
 5444  023776  012737  000002  002336          MOV     #2,$GDDAT
 5445  024004  004537  003242                  JSR     R5,GETOUT       ;CHECK FOR INFOR. OUT AND
 5446
 5447  024010  005037  002402                  CLR     ERRWRD
 5448                                                                  ;CORRECT TRIBN.
 5449  024014  104410                          TRAP    C$ESCAPE
 5450  024016  000034                          .WORD   L10066-.
 5451                                          ;;;;;
 5452                                          ; JUMP TO END OF SUB IF ERROR
 5453                                          ;;;;;;
 5454  024020  013737  002412  002336  60$:    MOV     TSSADD,$GDDAT
 5455  024026  004537  003446                  JSR     R5,GETDAT       ;CHECK FOR GOOD DATA
 5456
 5457  024032  005037  002402                  CLR     ERRWRD
 5458  024036  104410                          TRAP    C$ESCAPE
 5459  024040  000012                          .WORD   L10066-.
 5460                                          ;;;;;;;
 5461                                          ;JUMP TO END OF SUB IF ERROR
 5462                                          ;;;;;;
 5463
 5464  024042  022737  000034  002412  70$:    CMP     #34,TSSADD      ;ARE WE ALL DONE
 5465  024050  001333                          BNE     GSSREP          ;GO BACK IF NOT
 5466
 5467  024052                          L10066:
 5468  024052  104403                          TRAP    C$ESUB
 5469  024054                          T22.3:
 5470  024054  104402                          TRAP    C$BSUB
 5471                                          ;;;;;;;;;;;;;;;;;;;;;;;;
 5472                                          ; READ CLEAR SLOT TEST :
 5473                                          ;;;;;;;;;;;;;;;;;;;;;;;;
 5474
 5475  024056  004737  004522                  JSR     PC,MINITS       ;MASTER CLEAR MODE DEF
 5476
```

```
                        ;******************************  TEST 22  ******************************
5477  024062  005037  002402            CLR     ERRWRD
5478  024066  104410                    TRAP    C$ESCAPE
5479  024070  000066                    .WORD   L10067-.
5480                                      ;;;;;;;
5481                                      ;JUMP TO END OF SUB IF ERROR
5482                                      ;;;;;;
5483
5484  024072  005037  002360            CLR     TRIBN
5485  024076  012703  000117            MOV     #117,R3
5486  024102  004537  003162            JSR     R5,CONTIN       ;READ CLEAR SLOT
5487
5488  024106  005037  002402            CLR     ERRWRD
5489  024112  104410                    TRAP    C$ESCAPE
5490  024114  000042                    .WORD   L10067-.
5491                                      ;;;;;;;;
5492                                      ;JUMP TO END OF SUB IF ERROR
5493                                      ;;;;;;;;
5494
5495  024116  012737  000002  002336    MOV     #02,$GDDAT
5496  024124  004537  003242            JSR     R5,GETOUT       ;CHECK FOR INFO OUT
5497                                                            ;AND CORRECT TRIBN.
5498  024130  005037  002402            CLR     ERRWRD
5499  024134  104410                    TRAP    C$ESCAPE
5500  024136  000020                    .WORD   L10067-.
5501                                      ;;;;;;
5502                                      ;JUMP TO END OF SUB IF ERROR
5503                                      ;;;;;;
5504
5505  024140  012737  000117  002336    MOV     #117,$GDDAT
5506  024146  004537  003372            JSR     R5,GETRKY       ;CHECK FOR CORRECT RETURN KEY
5507
5508  024152  005037  002402            CLR     ERRWRD
5509  024156
5510  024156  104403            L10067: TRAP    C$ESUB
5511  024160
5512  024160  104401            L10064: TRAP    C$ETST
5513
```

```
CZDMTC.P11    25-MAR-81 08:24          ;******************************  TEST 22  ******************************

 5514
 5515                                  .SBTTL  ;******************************  TEST 23  ******************************
 5516                                  .SBTTL  *HALT TRIB COMMAND TEST
 5517  024162                                  ZZ
 5518                                          ;*
 5519                                          ;*
 5520                                          ;* THIS TEST CHECKS THE HALT TRIB COMMAND
 5521                                          ;* AND THEN CHECKS THAN A 2ND HALT TRIB
 5522                                          ;* DOES NOT CAUSE A CONTROL OUT.
 5523                                          ;*-
 5524                                  .SBTTL  ;******************************  TEST 23  ******************************
 5525  024162                          T23::
 5526
 5527  024162  004737  004522                  JSR     PC,MINITS       ;MASTER CLEAR -MODE DEF
 5528  024166  005037  002402                  CLR     ERRWRD          ;IF ERROR GO TO END TEST
 5529  024172  104410                          TRAP    C$ESCAPE
 5530  024174  000412                          .WORD   L10070-.
 5531  024176  012737  000036  002360          MOV     #36,TRIBN       ;SET TRIBN
 5532  024204  012703  000001                  MOV     #01,R3
 5533  024210  004537  003162                  JSR     R5,CONTIN       ;ESTABLISH TRIB
 5534
 5535                                          ;IF TIME OUT OR READY ERRORS THE PROGRAM WILL
 5536                                          ;REPORT THIS PC AS FAILING PC
 5537
 5538  024214  005037  002402                  CLR     ERRWRD          ; JUMP TO END OF TEST IF ERROR
 5539  024220  104410                          TRAP    C$ESCAPE
 5540  024222  000364                          .WORD   L10070-.
 5541  024224  012703  000003                  MOV     #03,R3
 5542  024230  004537  003162                  JSR     R5,CONTIN       ;ISTRT TRIB
 5543
 5544                                          ;IF TIME OUT OR READY ERRORS THE PROGRAM WILL
 5545                                          ;REPORT THIS PC AS FAILING PC
 5546  024234  005037  002402                  CLR     ERRWRD          ; JUMP TO END OF TEST IF ERROR
 5547  024240  104410                          TRAP    C$ESCAPE
 5548  024242  000344                          .WORD   L10070-.
 5549  024244  012737  000001  002336          MOV     #01,$GDDAT      ;CHECK
 5550  024252  004537  003242                  JSR     R5,GETOUT       ;FOR CONTROL OUT AND
 5551                                                                  ;CORRECT TRIBN
 5552                                                                  ;IF ERROR REPORT
 5553                                                                  ;THIS PC AND ESCAPE TEST
 5554  024256  005037  002402                  CLR     ERRWRD          ; JUMP TO END OF TEST IF ERROR
 5555  024262  104410                          TRAP    C$ESCAPE
 5556  024264  000322                          .WORD   L10070-.
 5557  024266  012737  000024  002336          MOV     #24,$GDDAT
 5558  024274  004537  003670                  JSR     R5,GETOC        ;CHECK FOR GOOD OUTPUT CODE
 5559  024300  005037  002402                  CLR     ERRWRD          ; JUMP TO END OF TEST IF ERROR
 5560  024304  104410                          TRAP    C$ESCAPE
 5561  024306  000300                          .WORD   L10070-.
 5562
 5563                                          ; QUE REC BUFFER WITH 100 DECIMAL LOCATIONS
 5564
 5565  024310  042777  000200  156126  20$:   BIC     #RDO,@BSEL2     ;CLEAR READY OUT
 5566  024316  052777  000200  156114          BIS     #RQI,@BSEL0     ;SET REQUEST IN
 5567                                                                  ;WAIT FOR READY IN
 5568  024324  004537  002732                  JSR     R5,WRDI         ;WAIT FOR RDI TO SET
 5569
```

```
CZDMTC.P11    25-MAR-81 08:24          ;******************************  TEST 23  ******************************

 5570  024330  005037  002402                    CLR     ERRWRD          ;CLEAR ERROR
 5571  024334  104410                            TRAP    C$ESCAPE
 5572  024336  000250                            .WORD   L10070-.
 5573  024340  042777  000200  156072            BIC     #RQI,@BSEL0     ;CLEAR REQUEST IN
 5574  024346  012777  033734  156074            MOV     #RECBU1,@BSEL4  ;
 5575  024354  012777  000144  156072            MOV     #100.,@BSEL6
 5576  024362  113777  002360  156056            MOVB    TRIBN,@BSEL3
 5577  024370  105077  156050                    CLRB    @BSEL2          ;QUE UP BUFF
 5578  024374  012703  000005                    MOV     #05,R3
 5579  024400  004537  003162                    JSR     R5,CONTIN       ;HALT TRIB
 5580                                            ;IF TIME OUT OR READY ERRORS THE PROGRAM WILL
 5581                                            ;REPORT THIS PC AS FAILING PC
 5582
 5583  024404  005037  002402                    CLR     ERRWRD          ; JUMP TO END OF TEST IF ERROR
 5584  024410  104410                            TRAP    C$ESCAPE
 5585  024412  000174                            .WORD   L10070-.
 5586  024414  012737  000003  002336            MOV     #03,$GDDAT
 5587  024422  004537  003242                    JSR     R5,GETOUT       ;CHECK FOR BUFFER UNUSED
 5588                                                                    ;AND CORRECT TRIBN.
 5589  024426  005037  002402                    CLR     ERRWRD          ; JUMP TO END OF TEST IF ERROR
 5590  024432  104410                            TRAP    C$ESCAPE
 5591  024434  000152                            .WORD   L10070-.
 5592  024436  012737  000144  002336            MOV     #100.,$GDDAT
 5593  024444  004537  003514                    JSR     R5,GETCC        ;CHECK FOR GOOD CHAR.COUNT
 5594  024450  005037  002402                    CLR     ERRWRD          ; JUMP TO END OF TEST IF ERROR
 5595  024454  104410                            TRAP    C$ESCAPE
 5596  024456  000130                            .WORD   L10070-.
 5597  024460  012737  033734  002336            MOV     #RECBU1,$GDDAT
 5598  024466  004537  003576                    JSR     R5,GETBA        ;CHECK FOR GOOD BUFF. ADD.
 5599  024472  005037  002402                    CLR     ERRWRD          ; JUMP TO END OF TEST IF ERROR
 5600  024476  104410                            TRAP    C$ESCAPE
 5601  024500  000106                            .WORD   L10070-.
 5602  024502  042777  000200  155734  23$:     BIC     #RDO,@BSEL2     ;CLEAR OUTPUT AND LOOK FOR NEXT
 5603  024510  012737  000002  002336            MOV     #2,$GDDAT
 5604  024516  004537  003242                    JSR     R5,GETOUT       ;NEXT GET INFO OUT
 5605  024522  005037  002402                    CLR     ERRWRD          ; JUMP TO END OF TEST IF ERROR
 5606  024526  104410                            TRAP    C$ESCAPE
 5607  024530  000056                            .WORD   L10070-.
 5608  024532  012737  000020  002336            MOV     #20,$GDDAT
 5609  024540  004537  003372                    JSR     R5,GETRKY       ;CHECK FOR GOOD RETURN KEY
 5610                                                                    ; BUFFER RETURN COMPLETE
 5611  024544  005037  002402                    CLR     ERRWRD          ; JUMP TO END OF TEST IF ERROR
 5612  024550  104410                            TRAP    C$ESCAPE
 5613  024552  000034                            .WORD   L10070-.
 5614  024554  042777  000200  155662  25$:     BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
 5615  024562  004737  004244                    JSR     PC,WAIT50
 5616  024566  004737  004244                    JSR     PC,WAIT50       ;WAIT A WHILE
 5617  024572  012703  000000                    MOV     #0,R3           ;DO A NO REQUEST
 5618  024576  004537  003162                    JSR     R5,CONTIN
 5619  024602  005037  002402                    CLR     ERRWRD          ;IF ERROR OCCURS THE SECOND
 5620                                                                    ;HALT TRIB CAUSED AN OUTPUT
 5621                                                                    ;AND SHOULD NOT HAVE.
 5622  024606                          L10070:
 5623  024606  104401                            TRAP    C$ETST
```

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

                        .SBTTL  ;****************************** TEST 24 ******************************
                        .SBTTL  *KILL TRIB TESTS
                                ZZ
                                ;*
                                ;* THIS TEST CHECKS THE KILL TRIB FUNCTIONS
                                ;*-
                        .SBTTL  ;****************************** TEST 24 ******************************
024610                  T24::

024610  004737  004522          JSR     PC,MINITS

024614  005037  002402          CLR     ERRWRD
024620  104410                  TRAP    C$ESCAPE
024622  000412                  .WORD   L10071-.
                                ;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;

024624  012737  000143  002360  MOV     #143,TRIBN      ;SET TRIB NUMBER
024632  012703  000001          MOV     #01,R3
024636  004537  003162          JSR     R5,CONTIN       ;ESTABLISH TRIB
                                ;;;;;;;;;;
                                ; TIME OUT OR READY ERRORS REPORT THIS P
                                ;;;;;;;;;;

024642  005037  002402          CLR     ERRWRD
024646  104410                  TRAP    C$ESCAPE
024650  000364                  .WORD   L10071-.
                                ;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;

024652  012703  000041          MOV     #41,R3
024656  004537  003162          JSR     R5,CONTIN       ;READ TRIB STATUS SLOT 1
                                ;;;;;;;;
                                ; TIME OUT OR READY ERRORS REPORT THIS PC
                                ;;;;;;;;

024662  005037  002402          CLR     ERRWRD
024666  104410                  TRAP    C$ESCAPE
024670  000344                  .WORD   L10071-.
                                ;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;

024672  012737  000002  002336  MOV     #02,$GDDAT      ;SET TYPE FOR INFO OUT
024700  004537  003242          JSR     R5,GETOUT       ;CHECK FOR INFO OUT AND
                                                        ;CORRECT TRIBN.

024704  005037  002402          CLR     ERRWRD
024710  104410                  TRAP    C$ESCAPE
024712  000322                  .WORD   L10071-.
                                ;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;
```

```
CZDMTC.P11    25-MAR-81 08:24          ;*********************************  TEST 24  *********************************

 5680
 5681  024714  000377  155530          20$:    SWAB    @BSEL4          ;SWAB BYTES
 5682  024720  117737  155524  002340          MOVB    @BSEL4,$BDDAT   ;MOVE TRIB ADD TO BDDAT
 5683  024726  113737  002360  002336          MOVB    TRIBN,$GDDAT    ;MOVE TRIB NUMBER TO GDDAT
 5684  024734  123737  002336  002340          CMPB    $GDDAT,$BDDAT   ;COMPARE
 5685  024742  001407                          BEQ     30$             ;IF OK GO TO 30
 5686                                                                  ;ELSE ERROR
 5687  024744  012737  012014  002430          MOV     #M30F,CODEW
 5688  024752  104455                          TRAP    C$ERDF
 5689  024754  000052                          .WORD   42
 5690  024756  011506                          .WORD   EROIC
 5691  024760  010324                          .WORD   ERR27
 5692
 5693  024762  042777  000200  155454  30$:    BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
 5694  024770  012703  000004                  MOV     #04,R3
 5695  024774  004537  003162                  JSR     R5,CONTIN       ;MAINT STATE TRIB
 5696                                          ;;;;;;;;;;;
 5697                                          ;TIME OUT OR READY ERRORS REPORT THIS PC
 5698                                          ;;;;;;;;;;;
 5699
 5700  025000  005037  002402                  CLR     ERRWRD
 5701  025004  104410                          TRAP    C$ESCAPE
 5702  025006  000226                          .WORD   L10071-.
 5703                                          ;;;;;;;;
 5704                                          ; JUMP TO END OF TEST IF ERROR
 5705                                          ;;;;;;;;
 5706
 5707  025010  012703  000002                  MOV     #02,R3
 5708  025014  004537  003162                  JSR     R5,CONTIN       ;KILL TRIB
 5709                                          ;;;;;;;;;;;
 5710                                          ; TIME OUT OR READY ERRORS REPORT THIS PC
 5711                                          ;;;;;;;;;;;
 5712
 5713  025020  005037  002402                  CLR     ERRWRD
 5714  025024  104410                          TRAP    C$ESCAPE
 5715  025026  000206                          .WORD   L10071-.
 5716                                          ;;;;;;;;
 5717                                          ; JUMP TO END OF TEST IF ERROR
 5718                                          ;;;;;;;;
 5719
 5720  025030  012737  000112  002410          MOV     #112,PERR       ;CHECK FOR KILL TO UNHALTED
 5721  025036  004537  003016                  JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR
 5722
 5723  025042  005037  002402                  CLR     ERRWRD
 5724  025046  104410                          TRAP    C$ESCAPE
 5725  025050  000164                          .WORD   L10071-.
 5726                                          ;;;;;;;;
 5727                                          ; ESCAPE TEST IF ERROR
 5728                                          ;;;;;;;;
 5729  025052  042777  000200  155364          BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
 5730  025060  012703  000005                  MOV     #05,R3
 5731  025064  004537  003162                  JSR     R5,CONTIN       ;HALT TRIB
 5732                                          ;;;;;;;;;;
 5733                                          ; TIME OUT OR READY ERRORS REPORT THIS PC
 5734                                          ;;;;;;;;;;
 5735
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 24 ******************************

  5736  025070  005037  002402                 CLR     ERRWRD
  5737  025074  104410                         TRAP    C$ESCAPE
  5738  025076  000136                         .WORD   L10071-.
  5739                                         ;;;;;;;;
  5740                                         ; JUMP TO END OF TEST IF ERROR
  5741                                         ;;;;;;;;
  5742
  5743  025100  012737  000002  002336         MOV     #2,$GDDAT
  5744  025106  004537  003242                 JSR     R5,GETOUT       ;CHECK FOR INFO OUT
  5745                                                                  ;AND CORRECT PC
  5746
  5747  025112  005037  002402                 CLR     ERRWRD
  5748  025116  104410                         TRAP    C$ESCAPE
  5749  025120  000114                         .WORD   L10071-.
  5750                                         ;;;;;;;;
  5751                                         ; JUMP TO END OF TEST IF ERROR
  5752                                         ;;;;;;;;
  5753
  5754  025122  012737  000020  002336         MOV     #20,$GDDAT
  5755  025130  004537  003372                 JSR     R5,GETRKY       ;CHECK FOR GOOD RETURN KEY
  5756
  5757
  5758  025134  005037  002402                 CLR     ERRWRD
  5759  025140  104410                         TRAP    C$ESCAPE
  5760  025142  000072                         .WORD   L10071-.
  5761                                         ;;;;;;;;
  5762                                         ; JUMP TO END OF TEST IF ERROR
  5763                                         ;;;;;;;;
  5764
  5765  025144  042777  000200  155272  2$:    BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
  5766  025152  012703  000002                 MOV     #02,R3          ;KILL TRIB
  5767  025156  004537  003162                 JSR     R5,CONTIN
  5768                                         ;;;;;;;;;;
  5769                                         ; TIME OUT OR READY ERRORS REPORT THIS PC
  5770                                         ;;;;;;;;;;
  5771
  5772  025162  005037  002402                 CLR     ERRWRD
  5773  025166  104410                         TRAP    C$ESCAPE
  5774  025170  000044                         .WORD   L10071-.
  5775                                         ;;;;;;;;
  5776                                         ; JUMP TO END OF TEST IF ERROR
  5777                                         ;;;;;;;;
  5778
  5779  025172  012703  000041                 MOV     #41,R3          ;READ SLOT 1
  5780  025176  004537  003162                 JSR     R5,CONTIN
  5781                                         ;;;;;;;;;;
  5782                                         ; TIME OUT OR READY ERRORS REPORT THIS PC
  5783                                         ;;;;;;;;;;
  5784
  5785  025202  005037  002402                 CLR     ERRWRD
  5786  025206  104410                         TRAP    C$ESCAPE
  5787  025210  000024                         .WORD   L10071-.
  5788                                         ;;;;;;;;
  5789                                         ; JUMP TO END OF TEST IF ERROR
  5790                                         ;;;;;;;;
  5791
```

```
CZDMTC.P11     25-MAR-81 08:24          ;********************************  TEST 24  ********************************

  5792  025212  012737  000106  002410          MOV     #106,PERR       ;CHECK FOR PROCEDURE 106 ERROR
  5793  025220  004537  003016                  JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR
  5794
  5795  025224  005037  002402                  CLR     ERRWRD
  5796  025230  104410                          TRAP    C$ESCAPE
  5797  025232  000002                          .WORD   L10071-.
  5798                                          ;;;;;;;
  5799                                          ; ESCAPE TEST IF ERROR
  5800                                          ;;;;;;;
  5801
  5802  025234                          L10071:
  5803  025234  104401                          TRAP    C$ETST
  5804
  5805
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 24 ******************************

                                       .SBTTL  ;****************************** TEST 25 ******************************
                                       .SBTTL  *CHECK FOR PROCEDURE ERROR 102
025236                                 ZZ
                                       ;*
                                       ;*
                                       ;*      THIS TEST CHECKS THAT ILLEGAL TYPE CODES
                                       ;*      ON INPUT COMMANDS WILL PRODUCE PROCEDURE
                                       ;*      ERRORS.
                                       ;*
                                       ;*-
                                       .SBTTL  ;****************************** TEST 25 ******************************
025236                                 T25::
025236  012702  002414                  MOV     #TYLST,R2       ;SET R2 TO START OF LIST

025242  004737  004522          10$:    JSR     PC,MINITS       ;MASTER CLEAR-MODE DEF

025246  005037  002402                  CLR     ERRWRD
025252  104410                          TRAP    C$ESCAPE
025254  000074                          .WORD   L10072-.
                                        ;;;;;;;;
                                        ; JUMP TO END OF TEST IF ERROR
                                        ;;;;;;;;

025256  052777  000200  155154          BIS     #RQI,@BSEL0     ;SET REQUEST
025264  004537  002732                  JSR     R5,WRDI         ;WAIT FOR RDI TO SET

025270  005037  002402                  CLR     ERRWRD          ;CLEAR ERROR
025274  104410                          TRAP    C$ESCAPE
025276  000052                          .WORD   L10072-.
025300  042777  000200  155132          BIC     #RQI,@BSEL0     ;CLEAR REQUEST
025306  112277  155132                  MOVB    (R2)+,@BSEL2    ;DO FIRST BAD CODE
025312  012737  000102  002410          MOV     #102,PERR       ;
025320  004537  003016                  JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR

025324  005037  002402                  CLR     ERRWRD
025330  104410                          TRAP    C$ESCAPE
025332  000016                          .WORD   L10072-.
                                        ;;;;;;;;
                                        ; ESCAPE TEST IF ERROR
                                        ;;;;;;;;
025334  042777  000200  155102          BIC     #RDO,@BSEL2     ;CLEAR READY OUT
025342  022702  002420                  CMP     #TYEND,R2       ;IS IT END
025346  001335                          BNE     10$             ;IF NOT GO BACK

025350                          L10072:
025350  104401                          TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 25 ******************************


                                       .SBTTL  ;****************************** TEST 26 ******************************
                                       .SBTTL  * CHECK FOR PROCEDURE ERROR 110
                                               ZZ
                                               ;*
                                               ;*
                                               ;*      THIS TEST CHECKS FOR THE PROCEDURE ERROR
                                               ;*      NON-GLOBAL COMMAND TO TRIB ADDRESS OF 0
                                               ;*
                                               ;*-
                                       .SBTTL  ;****************************** TEST 26 ******************************
025352                                 T26::
                                               JSR     PC,MINITS       ;MASTER CLEAR -MODE-DEF

025352  004737  004522                         CLR     ERRWRD
025356  005037  002402                         TRAP    C$ESCAPE
025362  104410                               .WORD   L10073-.
025364  000050                               ;;;;;;;;
                                             ; JUMP TO END OF TEST IF ERROR
                                             ;;;;;;;;

025366  005037  002360                         CLR     TRIBN           ;MAKE TRIB ADDRESS 0
025372  012703  000001                         MOV     #01,R3
025376  004537  003162                         JSR     R5,CONTIN       ;TRY TO DO ISTRT

025402  005037  002402                         CLR     ERRWRD
025406  104410                               TRAP    C$ESCAPE
025410  000024                               .WORD   L10073-.
                                             ;;;;;;;;
                                             ; JUMP TO END OF TEST IF ERROR
                                             ;;;;;;;;

025412  012737  000110  002410               MOV     #110,PERR       ;CHECK FOR PE OF 110
025420  004537  003016                         JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR

025424  005037  002402                         CLR     ERRWRD
025430  104410                               TRAP    C$ESCAPE
025432  000002                               .WORD   L10073-.
                                             ;;;;;;;;
                                             ; ESCAPE TEST IF ERROR
                                             ;;;;;;;;

025434                                 L10073:
025434  104401                               TRAP    C$ETST
```

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

                        .SBTTL  ;****************************** TEST 27 ******************************
                        .SBTTL  * CHECKS FOR PROCEDURE ERROR 120
025436                  ZZ:
                        ;*
                        ;*
                        ;*      THIS TEST ISSUES A CONTROL IN WITH A REQUEST
                        ;*      KEY OF 7 AND LOOKS FOR A PROCEDURE ERROR OF
                        ;*      ILLEGAL REQUEST KEY ON CONTROL IN (120)
                        ;*
                        ;*-
                        .SBTTL  ;****************************** TEST 27 ******************************
025436                  T27::

025436  004737  004522          JSR     PC,MINITS       ;MASTER CLEAR - MODE DEF

025442  005037  002402          CLR     ERRWRD
025446  104410                  TRAP    C$ESCAPE
025450  000212                  .WORD   L10074-.
                                ;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;

025452  012737  000003  002360  MOV     #3,TRIBN
025460  012703  000001          MOV     #01,R3
025464  004537  003162          JSR     R5,CONTIN       ;ESTABLISH TRIB
                                ;;;;;;;;;
                                ;TIME OUT OR READY ERRORS REPORT HERE
                                ;;;;;;;;

025470  005037  002402          CLR     ERRWRD
025474  104410                  TRAP    C$ESCAPE
025476  000164                  .WORD   L10074-.
                                ;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;

025500  012703  000007          MOV     #07,R3
025504  004537  003162          JSR     R5,CONTIN       ;DO CONTROL IN WITH KEY OF 07

025510  005037  002402          CLR     ERRWRD
025514  104410                  TRAP    C$ESCAPE
025516  000144                  .WORD   L10074-.
                                ;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;

025520  012737  000120  002410  MOV     #120,PERR       ;LOOK FOR ERROR
025526  004537  003016          JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR

025532  005037  002402          CLR     ERRWRD
025536  104410                  TRAP    C$ESCAPE
025540  000122                  .WORD   L10074-.
                                ;;;;;;;
                                ; ESCAPE TEST IF ERROR
```

```
                        ;******************************** TEST 27 ********************************
5956
5957  025542  042777  000200  154674        ;;;;;;;;
                                            BIC     #RDO,@BSEL2     ;CLEAR RDO
5958  025550  012703  000017                MOV     #17,R3          ;MOV 17 TO KEY WORD
5959  025554  004537  003162                JSR     R5,CONTIN       ;DO CONTROL IN WITH KEY OF 17
5960
5961  025560  005037  002402                CLR     ERRWRD
5962  025564  104410                        TRAP    C$ESCAPE
5963  025566  000074                        .WORD   L10074-.
                                            ;;;;;;;;
                                            ; JUMP TO END OF TEST IF ERROR
                                            ;;;;;;;;
5964
5965
5966
5967
5968  025570  012737  000120  002410        MOV     #120,PERR       ;LOOK FOR ERROR
5969  025576  004537  003016                JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR
5970
5971  025602  005037  002402                CLR     ERRWRD
5972  025606  104410                        TRAP    C$ESCAPE
5973  025610  000052                        .WORD   L10074-.
                                            ;;;;;;;
                                            ; ESCAPE TEST IF ERROR
                                            ;;;;;;;
5974
5975
5976
5977  025612  042777  000200  154624        BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
5978  025620  005003                        CLR     R3
5979  025622  004537  003162                JSR     R5,CONTIN       ;DO A NO REQUEST
5980
5981  025626  005037  002402                CLR     ERRWRD
5982  025632  104410                        TRAP    C$ESCAPE
5983  025634  000026                        .WORD   L10074-.
                                            ;;;;;;;;
                                            ; JUMP TO END OF TEST IF ERROR
                                            ;;;;;;;;
5984
5985
5986
5987
5988  025636  004737  004244                JSR     PC,WAIT50       ;THEN DELAY
5989  025642  032777  000200  154574        BIT     #RDO,@BSEL2
5990  025650  001404                        BEQ     10$             ;IF NOT SET THEN END
                                                                    ;ELSE ERROR
5991
5992  025652  104455                        TRAP    C$ERDF
5993  025654  000053                        .WORD   43
5994  025656  012516                        .WORD   MEF30
5995  025660  010422                        .WORD   ERR32
5996  025662                        10$:
5997  025662                        L10074:
5998  025662  104401                        TRAP    C$ETST
5999
```

```
CZDMTC.P11    25-MAR-81 08:24          ;*********************************  TEST 28  *******************************

                                       .SBTTL  ;*********************************  TEST 28  *******************************
                                       .SBTTL  * CHECK FOR PROCEDURE ERROR 134
                                               ZZ
                                               ;*
                                               ;*
                                               ;*      THIS TEST CHECKS FOR PROCEDURE ERROR OF USING
                                               ;*      RESERVED BITS IN BSEL7 ON CONTROL IN
                                               ;*
                                               ;*-
                                       .SBTTL  ;*********************************  TEST 28  *******************************
025664                                 T28::

025664  004737  004522                         JSR     PC,MINITS       ;MASTER CLEAR MODE DEF

025670  005037  002402                         CLR     ERRWRD
025674  104410                               TRAP    C$ESCAPE
025676  000212                               .WORD   L10075-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

025700  012737  000005  002360                 MOV     #5,TRIBN
025706  012703  000001                         MOV     #1,R3
025712  004537  003162                         JSR     R5,CONTIN       ;ESTABLISH TRIB
                                               ;;;;;;;;;;
                                               ;TIME OUT OR READY ERRORS REPORT THIS PC
                                               ;;;;;;;;

025716  005037  002402                         CLR     ERRWRD
025722  104410                               TRAP    C$ESCAPE
025724  000164                               .WORD   L10075-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

025726  012703  100000                         MOV     #100000,R3      ;SET BIT 7
025732  004537  003162                         JSR     R5,CONTIN

025736  005037  002402                         CLR     ERRWRD
025742  104410                               TRAP    C$ESCAPE
025744  000144                               .WORD   L10075-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

025746  012737  000134  002410                 MOV     #134,PERR
025754  004537  003016                         JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR

025760  005037  002402                         CLR     ERRWRD
025764  104410                               TRAP    C$ESCAPE
025766  000122                               .WORD   L10075-.
                                               ;;;;;;;
                                               ; ESCAPE TEST IF ERROR
                                               ;;;;;;;

025770  042777  000200  154446                 BIC     #RD0,@BSEL2     ;CLEAR OUTPUT
025776  012703  046000                         MOV     #46000,R3       ;SET 6 3 AND2
```

```
CZDMTC.P11    25-MAR-81 08:24          ;********************************  TEST 28  ********************************

  6056  026002  004537  003162                 JSR     R5,CONTIN       ;DO CONTROL IN
  6057
  6058  026006  005037  002402                 CLR     ERRWRD
  6059  026012  104410                          TRAP    C$ESCAPE
  6060  026014  000074                          .WORD   L10075-.
  6061                                           ;;;;;;;;
  6062                                           ; JUMP TO END OF TEST IF ERROR
  6063                                           ;;;;;;;;
  6064
  6065  026016  012737  000134  002410           MOV     #134,PERR
  6066  026024  004537  003016                   JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR
  6067
  6068  026030  005037  002402                  CLR     ERRWRD
  6069  026034  104410                          TRAP    C$ESCAPE
  6070  026036  000052                          .WORD   L10075-.
  6071                                           ;;;;;;;;
  6072                                           ; ESCAPE TEST IF ERROR
  6073                                           ;;;;;;;;
  6074  026040  005003                          CLR     R3
  6075  026042  042777  000200  154374           BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
  6076  026050  004537  003162                   JSR     R5,CONTIN       ;DO CONTROL IN
  6077
  6078  026054  005037  002402                  CLR     ERRWRD
  6079  026060  104410                          TRAP    C$ESCAPE
  6080  026062  000026                          .WORD   L10075-.
  6081                                           ;;;;;;;;
  6082                                           ; JUMP TO END OF TEST IF ERROR
  6083                                           ;;;;;;;;
  6084
  6085  026064  004737  004244                  JSR     PC,WAIT50       ;WAIT A WHILE
  6086  026070  032777  000200  154346           BIT     #RDO,@BSEL2     ;IS RDO SET NOW
  6087  026076  001404                          BEQ     10$             ;IF NOT THEN GO ON
  6088                                                                   ;ELSE ERROR
  6089  026100  104455                          TRAP    C$ERDF
  6090  026102  000054                          .WORD   44
  6091  026104  012516                          .WORD   MEF30
  6092  026106  010422                          .WORD   ERR32
  6093  026110                          10$:
  6094  026110                          L10075:
  6095  026110  104401                          TRAP    C$ETST
  6096
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************  TEST 29  ******************************

                                       .SBTTL  ;****************************  TEST 29  ******************************
                                       .SBTTL  *LATCH - UNLATCH POLL CHECK
                                               ZZ
                                               ;*
                                               ;*
                                               ;* THIS TEST CHECKS THE LATCH - UNLATCH POLL
                                               ;* COMMANDS. FIRST LATCH TRIB IN DEAD STATE
                                               ;* MAKE SURE ITS DEAD. THEN UNLATCH AND MAKE
                                               ;* SURE THAT IT GOES ACTIVE.
                                               ;*
                                               ;*
                                       .SBTTL  ;****************************  TEST 29  ******************************
026112                                 T29::

026112  004737  004522                         JSR     PC,MINITS       ;MASTER CLEAR MODE DEF

026116  005037  002402                         CLR     ERRWRD
026122  104410                                TRAP    C$ESCAPE
026124  000312                                .WORD   L10076-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

026126  012737  000027  002360                 MOV     #27,TRIBN
026134  012703  000001                         MOV     #01,R3          ;ESTABLISH TRIB
026140  004537  003162                         JSR     R5,CONTIN
                                               ;;;;;;;;;;
                                               ;TIME OUT OR READY ERROR REPORT THIS PC
                                               ;;;;;;;;;

026144  005037  002402                         CLR     ERRWRD
026150  104410                                TRAP    C$ESCAPE
026152  000264                                .WORD   L10076-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

026154  012704  000003                         MOV     #3,R4
026160  012703  020000                         MOV     #20000,R3       ;LATCH POLL DEAD
026164  004537  003162                         JSR     R5,CONTIN
                                               ;;;;;;;;;;
                                               ; TIME OUT OR READY ERRORS REPORT THIS PC
                                               ;;;;;;;;;

026170  005037  002402                         CLR     ERRWRD
026174  104410                                TRAP    C$ESCAPE
026176  000240                                .WORD   L10076-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

026200  012703  000042                         MOV     #42,R3
026204  004537  003162                         JSR     R5,CONTIN       ;READ SLOT 2 TSS
                                               ;;;;;;;;;;
                                               ; TIME OUT OR READY ERRORS REPORT THIS PC
                                               ;;;;;;;;;;
```

```
                        ;****************************** TEST 29 ******************************
 6153
 6154  026210  005037  002402              CLR     ERRWRD
 6155  026214  104410                      TRAP    C$ESCAPE
 6156  026216  000220                      .WORD   L10076-.
 6157                                      ;;;;;;;;
 6158                                      ; JUMP TO END OF TEST IF ERROR
 6159                                      ;;;;;;;;
 6160
 6161  026220  012737  000002  002336      MOV     #02,$GDDAT
 6162  026226  004537  003242              JSR     R5,GETOUT
 6163                                      ;;;;;;;;;;
 6164                                      ; CHECK FOR INFO OUT AND CORRECT TRIBN
 6165                                      ; IF ERROR REPORT THIS PC
 6166                                      ;;;;;;;;;;
 6167
 6168  026232  005037  002402              CLR     ERRWRD
 6169  026236  104410                      TRAP    C$ESCAPE
 6170  026240  000176                      .WORD   L10076-.
 6171                                      ;;;;;;;;
 6172                                      ; JUMP TO END OF TEST IF ERROR
 6173                                      ;;;;;;;;
 6174
 6175  026242  012737  000042  002336      MOV     #42,$GDDAT
 6176  026250  004537  003372              JSR     R5,GETRKY
 6177                                      ;;;;;;;;;
 6178                                      ; CHECK FOR CORRECT RETURN KEY
 6179                                      ;;;;;;;;;
 6180
 6181  026254  005037  002402              CLR     ERRWRD
 6182  026260  104410                      TRAP    C$ESCAPE
 6183  026262  000154                      .WORD   L10076-.
 6184                                      ;;;;;;;;
 6185                                      ; JUMP TO END OF TEST IF ERROR
 6186                                      ;;;;;;;;
 6187
 6188  026264  012737  100220  002336      MOV     #100220,$GDDAT  ;
 6189  026272  004537  003446              JSR     R5,GETDAT
 6190                                      ;;;;;;;;;;
 6191                                      ; CHECK FOR DEAD STATE
 6192                                      ;;;;;;;;
 6193
 6194  026276  005037  002402              CLR     ERRWRD
 6195  026302  104410                      TRAP    C$ESCAPE
 6196  026304  000132                      .WORD   L10076-.
 6197                                      ;;;;;;;;
 6198                                      ; JUMP TO END OF TEST IF ERROR
 6199                                      ;;;;;;;;
 6200
 6201  026306  042777  000200  154130      BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
 6202  026314  012703  010000              MOV     #10000,R3
 6203  026320  004537  003162              JSR     R5,CONTIN       ;UNLATCH POLL
 6204                                      ;;;;;;;
 6205                                      ;TIME OUT OR READY ERRORS REPORT THIS PC
 6206                                      ;;;;;;;
 6207
 6208  026324  005037  002402              CLR     ERRWRD
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 29 ******************************

 6209  026330  104410                          TRAP    C$ESCAPE
 6210  026332  000104                          .WORD   L10076-.
 6211                                          ;;;;;;;;
 6212                                          ; JUMP TO END OF TEST IF ERROR
 6213                                          ;;;;;;;;
 6214
 6215  026334  012703  000042                  MOV     #42,R3
 6216  026340  004537  003162                  JSR     R5,CONTIN       ;READ TSS SLOT 2
 6217                                          ;;;;;;;;;;
 6218                                          ;TIME OUT OR READY ERRORS REPORT THIS PC
 6219                                          ;;;;;;;;;
 6220
 6221  026344  005037  002402                  CLR     ERRWRD
 6222  026350  104410                          TRAP    C$ESCAPE
 6223  026352  000064                          .WORD   L10076-.
 6224                                          ;;;;;;;;
 6225                                          ; JUMP TO END OF TEST IF ERROR
 6226                                          ;;;;;;;;
 6227
 6228  026354  012737  000002  002336          MOV     #02,$GDDAT      ;
 6229  026362  004537  003242                  JSR     R5,GETOUT
 6230                                          ;;;;;;;;;
 6231                                          ;CHECK FOR INFORMATION OUT AND CORRECT TRIBN
 6232                                          ;;;;;;;;
 6233
 6234  026366  005037  002402                  CLR     ERRWRD
 6235  026372  104410                          TRAP    C$ESCAPE
 6236  026374  000042                          .WORD   L10076-.
 6237                                          ;;;;;;;;
 6238                                          ; JUMP TO END OF TEST IF ERROR
 6239                                          ;;;;;;;;
 6240
 6241  026376  012737  000042  002336          MOV     #42,$GDDAT
 6242  026404  004537  003372                  JSR     R5,GETRKY
 6243                                          ;;;;;;;;
 6244                                          ;CHECK FOR CORRECT RETURN KEY
 6245                                          ;;;;;;;;
 6246
 6247  026410  005037  002402                  CLR     ERRWRD
 6248  026414  104410                          TRAP    C$ESCAPE
 6249  026416  000020                          .WORD   L10076-.
 6250                                          ;;;;;;;;
 6251                                          ; JUMP TO END OF TEST IF ERROR
 6252                                          ;;;;;;;;
 6253
 6254  026420  012737  000600  002336          MOV     #600,$GDDAT
 6255  026426  004537  003446                  JSR     R5,GETDAT
 6256                                          ;;;;;;;;
 6257                                          ; CHECK FOR ACTIVE STATE
 6258                                          ;;;;;;;;
 6259  026432  005037  002402                          CLR     ERRWRD
 6260  026436                          L10076:
 6261  026436  104401                          TRAP    C$ETST
 6262
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 29 ******************************


                                       .SBTTL  ;****************************** TEST 30 ******************************
                                       .SBTTL  SHORT MESSAGE SENDING TEST, WITH INTERNAL LOOPBACK
026440                                         ZZ
                                               ;*
                                               ;* 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 THAT THE DATA
                                               ;* IS CORRECT. IT ALSO CHECKS THAT THE NEXT OUTPUT COMMAND
                                               ;* IS A TX BUFFER COMPLETE.
                                       .SBTTL  ;****************************** TEST 30 ******************************

026440                                 T30::
026440  012737  001750  002424                MOV     #1000.,RXCC     ;SET UP RX CC
026446  012737  033734  002422                MOV     #RECBU1,RXADD   ;SET UP RX ADD
026454  012737  033454  002420                MOV     #MR1,TXADD      ;SET UP TX ADD
026462  012737  000004  002426                MOV     #4,TXCC         ;SET UP TX COUNT
026470  005037  002432                        CLR     GENWRD          ;CLEAR GEN WORD
026474  012737  000003  002360                MOV     #3,TRIBN        ;SET TRIB ADDRESS
026502  004737  004522                        JSR     PC,MINITS       ;INITIALIZE

026506  005037  002402                        CLR     ERRWRD
026512  104410                               TRAP    C$ESCAPE
026514  000016                               .WORD   L10077-.
                                             ;;;;;;;;
                                             ; JUMP TO END OF TEST IF ERROR
                                             ;;;;;;;;

026516  004537  006346                        JSR     R5,TXRX3        ;TRANSMIT AND REC.
026522  005037  002402                        CLR     ERRWRD
026526  104410                               TRAP    C$ESCAPE
026530  000002                               .WORD   L10077-.
026532                                 L10077:
026532  104401                               TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 31 ******************************

  6301                                 .SBTTL  ;****************************** TEST 31 ******************************
  6302                                 .SBTTL  * PROCEDURE ERROR 122 CHECK
  6303  026534                                 ZZ
  6304                                         ;*
  6305                                         ;*
  6306                                         ;* THIS TEST CHECKS FOR PROCEDURE ERROR 122
  6307                                         ;* ESTABLISH BUFFER FOR UNESTABLISHED TRIB.
  6308                                         ;*
  6309                                 .SBTTL  ;****************************** TEST 31 ******************************
  6310  026534                         T31::
  6311
  6312  026534  004737  004522                 JSR     PC,MINITS       ;MASTER CLEAR MODE DEF
  6313
  6314  026540  005037  002402                 CLR     ERRWRD
  6315  026544  104410                         TRAP    C$ESCAPE
  6316  026546  000104                         .WORD   L10100-.
  6317                                         ;;;;;;;;
  6318                                         ; JUMP TO END OF TEST IF ERROR
  6319                                         ;;;;;;;;
  6320
  6321  026550  052777  000200  153662         BIS     #RQI,@BSEL0     ;SET REQUEST FOR INPUT
  6322  026556  004537  002732                 JSR     R5,WRDI         ;WAIT FOR RDI TO SET
  6323
  6324  026562  005037  002402                 CLR     ERRWRD          ;CLEAR ERROR
  6325  026566  104410                         TRAP    C$ESCAPE
  6326  026570  000062                         .WORD   L10100-.
  6327  026572  042777  000200  153640         BIC     #RQI,@BSEL0     ;CLEAR REQUEST
  6328  026600  112777  000003  153640         MOVB    #03,@BSEL3
  6329  026606  012777  000010  153640         MOV     #10,@BSEL6      ;SET CC
  6330  026614  012777  033734  153626         MOV     #RECBU1,@BSEL4  ;SET BA
  6331  026622  112777  000000  153614         MOVB    #0,  @BSEL2     ;ESTABLISH BUFFER
  6332  026630  012737  000122  002410         MOV     #122,PERR               ;WAIT
  6333  026636  004537  003016                 JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR
  6334
  6335  026642  005037  002402                 CLR     ERRWRD
  6336  026646  104410                         TRAP    C$ESCAPE
  6337  026650  000002                         .WORD   L10100-.
  6338                                         ;;;;;;;;
  6339                                         ; ESCAPE TEST IF ERROR
  6340                                         ;;;;;;;;
  6341  026652                         L10100:
  6342  026652  104401                         TRAP    C$ETST
  6343
```

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

                        .SBTTL  ;****************************** TEST 32 ******************************
                        .SBTTL  *PROCEDURE ERROR 124 CHECK
                                ZZ
                                ;*
                                ;*
                                ;* THIS TEST CHECKS FOR PROCEDURE ERROR 124
                                ;* ESTABLISHING BUFFER FOR HALTED TRIB
                                ;*
                        .SBTTL  ;****************************** TEST 32 ******************************
026654                  T32::

026654  004737  004522          JSR     PC,MINITS       ;MASTER CLEAR MODE DEF

026660  005037  002402          CLR     ERRWRD
026664  104410                  TRAP    C$ESCAPE
026666  000132                  .WORD   L10101-.
                                ;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;

026670  012737  000047  002360  MOV     #47,TRIBN
026676  012703  000001          MOV     #01,R3
026702  004537  003162          JSR     R5,CONTIN       ;ESTABLISH TRIB
                                ;;;;;;;;
                                ; TIME OUT AND READY ERRORS REPORT THIS PC
                                ;;;;;;;;

026706  005037  002402          CLR     ERRWRD
026712  104410                  TRAP    C$ESCAPE
026714  000104                  .WORD   L10101-.
                                ;;;;;;;;
                                ; JUMP TO END OF TEST IF ERROR
                                ;;;;;;;;

026716  052777  000200  153514  BIS     #RQI,@BSEL0     ;SET REQUEST
026724  004537  002732          JSR     R5,WRDI         ;WAIT FOR RDI TO SET

026730  005037  002402          CLR     ERRWRD          ;CLEAR ERROR
026734  104410                  TRAP    C$ESCAPE
026736  000062                  .WORD   L10101-.
026740  042777  000200  153472  BIC     #RQI,@BSEL0     ;CLEAR REQUEST
026746  012777  000010  153500  MOV     #10,@BSEL6      ;SET CC
026754  012777  033734  153466  MOV     #RECBU1,@BSEL4  ;SET BA
026762  113777  002360  153456  MOVB    TRIBN,@BSEL3    ;SET TRIB NO.
026770  112777  000000  153446  MOVB    #0,@BSEL2       ;ESTABLISH BUFFER
026776  012737  000124  002410  MOV     #124,PERR       ;WAIT FOR ERROR
027004  004537  003016          JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR

027010  005037  002402          CLR     ERRWRD
027014  104410                  TRAP    C$ESCAPE
027016  000002                  .WORD   L10101-.
                                ;;;;;;;
                                ; ESCAPE TEST IF ERROR
                                ;;;;;;;

027020                  L10101: TRAP    C$ETST
027020  104401
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 32 ******************************

  6400
  6401
  6402
  6403
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 33 ******************************

                                       .SBTTL  ;****************************** TEST 33 ******************************
                                       .SBTTL  *PROCEDURE ERROR #126 CHECK
6406  027022                           T33::   ZZ
                                               ;*
                                               ;*
                                               ;* THIS TEST CHECKS FOR A PROCEDURE ERROR OF #126
                                               ;* ASSIGNING A BUFFER WITH A ZERO BYTE COUNT
                                               ;*
                                               ;*-
                                       .SBTTL  ;****************************** TEST 33 ******************************
6414  027022

6416  027022  004737  004522                   JSR     PC,MINITS       ;MASTER CLEAR MODE DEF

6418  027026  005037  002402                   CLR     ERRWRD
6419  027032  104410                           TRAP    C$ESCAPE
6420  027034  000152                           .WORD   L10102-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

6425  027036  012737  000074  002360           MOV     #74,TRIBN
6426  027044  012703  000001                   MOV     #01,R3
6427  027050  004537  003162                   JSR     R5,CONTIN       ; ESTABLISH TRIB

6429  027054  005037  002402                   CLR     ERRWRD
6430  027060  104410                           TRAP    C$ESCAPE
6431  027062  000124                           .WORD   L10102-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

6436  027064  012703  000004                   MOV     #04,R3
6437  027070  004537  003162                   JSR     R5,CONTIN       ;MAINT STATE

6439  027074  005037  002402                   CLR     ERRWRD
6440  027100  104410                           TRAP    C$ESCAPE
6441  027102  000104                           .WORD   L10102-.
                                               ;;;;;;;;
                                               ; JUMP TO END OF TEST IF ERROR
                                               ;;;;;;;;

6446  027104  052777  000200  153326           BIS     #RQI,@BSEL0     ;SET REQUEST
6447  027112  004537  002732                   JSR     R5,WRDI         ;WAIT FOR RDI TO SET

6449  027116  005037  002402                   CLR     ERRWRD          ;CLEAR ERROR
6450  027122  104410                           TRAP    C$ESCAPE
6451  027124  000062                           .WORD   L10102-.
6452  027126  042777  000200  153304           BIC     #RQI,@BSEL0     ;CLEAR REQUEST
6453  027134  012777  000000  153312           MOV     #0,@BSEL6       ;0 BYTES
6454  027142  012777  033734  153300           MOV     #RECBU1,@BSEL4  ;BA
6455  027150  113777  002360  153270           MOVB    TRIBN,@BSEL3    ;SET TRIBN
6456  027156  112777  000000  153260           MOVB    #0,@BSEL2       ;SET BUFFER
6457  027164  012737  000126  002410           MOV     #126,PERR       ;WAIT FOR ERROR
6458  027172  004537  003016                   JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR
6459
```

```
CZDMTC.P11    25-MAR-81 08:24          ;********************************  TEST 33  ********************************

  6460  027176  005037  002402                      CLR     ERRWRD
  6461  027202  104410                              TRAP    C$ESCAPE
  6462  027204  000002                              .WORD   L10102-.
  6463                                              ;;;;;;;
  6464                                              ; ESCAPE TEST IF ERROR .
  6465                                              ;;;;;;;
  6466
  6467  027206                          L10102:
  6468  027206  104401                              TRAP    C$ETST
  6469
```

```
CZDMTC.P11    25-MAR-81 08:24          ;******************************  TEST 34  ******************************

  6470                                 .SBTTL  ;******************************  TEST 34  ******************************
  6471                                 .SBTTL  *CHECK FOR PROCEDURE ERROR 130
  6472  027210                                 ZZ
  6473                                         ;*
  6474                                         ;*
  6475                                         ;* THIS TEST CHECKS FOR A PROCEDURE ERROR OF 130
  6476                                         ;* ASSIGNING TRANSMIT BUFFER FOR TRIB 0
  6477                                         ;*
  6478                                         ;*-
  6479                                 .SBTTL  ;******************************  TEST 34  ******************************
  6480  027210                         T34::
  6481
  6482  027210  004737  004522                 JSR     PC,MINITS       ;MASTER CLEAR MODE DEF
  6483
  6484  027214  005037  002402                 CLR     ERRWRD
  6485  027220  104410                         TRAP    C$ESCAPE
  6486  027222  000102                         .WORD   L10103-.
  6487                                         ;;;;;;;;
  6488                                         ; JUMP TO END OF TEST IF ERROR
  6489                                         ;;;;;;;;
  6490
  6491  027224  052777  000200  153206         BIS     #RQI,@BSEL0     ;SET REQUEST
  6492                                                                 ;WAIT FOR READY
  6493  027232  004537  002732                 JSR     R5,WRDI         ;WAIT FOR RDI TO SET
  6494
  6495  027236  005037  002402                 CLR     ERRWRD          ;CLEAR ERROR
  6496  027242  104410                         TRAP    C$ESCAPE
  6497  027244  000060                         .WORD   L10103-.
  6498  027246  042777  000200  153164         BIC     #RQI,@BSEL0     ;CLEAR REQUEST.
  6499  027254  105077  153166                 CLRB    @BSEL3          ;MAKE TRIB NO. 0
  6500  027260  012777  000010  153166         MOV     #10,@BSEL6      ;MAKE CC 10
  6501  027266  012777  033454  153154         MOV     #MR1,@BSEL4     ;MAKE ADD MR1
  6502  027274  012777  000004  153142         MOV     #4,@BSEL2       ;CLEAR RDI AND ESTAB
  6503                                                                 ;TRANSMIT BUFFER
  6504  027302  012737  000130  002410         MOV     #130,PERR       ;WAIT FOR PROCEDURE ERROR
  6505  027310  004537  003016                 JSR     R5,WFPE         ;WAIT FOR PROCEDURE ERROR
  6506
  6507  027314  005037  002402                 CLR     ERRWRD
  6508  027320  104410                         TRAP    C$ESCAPE
  6509  027322  000002                         .WORD   L10103-.
  6510                                         ;;;;;;;;
  6511                                         ; ESCAPE TEST IF ERROR
  6512                                         ;;;;;;;;
  6513  027324                         L10103:
  6514  027324  104401                         TRAP    C$ETST
  6515
  6516
  6517
```

```
                        ;****************************** TEST 34 ******************************

6518
6519                    .SBTTL  ;****************************** TEST 35 ******************************
6520                    .SBTTL  * TRANSMIT REC 256,PTP,DDCMP
6521    027326                  ZZ
6522                            ;*
6523                            ;*
6524                            ;* THIS TEST WILL TRANSMIT 256 BYTE MESSAGE
6525                            ;* DDCMP PROTOCOL
6526                            ;* THIS WILL BE DONE EXTERNAL LOOPBACK IF
6527                            ;* IT EXISTS ELSE INTERNAL LOOPBACK WILL
6528                            ;* BE USED
6529                            ;*
6530                            ;*-
6531                    .SBTTL  ;****************************** TEST 35 ******************************
6532    027326          T35::
6533    027326  012737  000035  002370          MOV     #35,ROMN1       ;SET UP TEST NUMBER
6534
6535    027334  012737  001750  002424          MOV     #1000.,RXCC     ;SET REC BUFFER FOR 1000BYTES
6536    027342  012737  033734  002422          MOV     #RECBU1,RXADD   ; SET UP BUFF ADD
6537    027350  012737  000400  002426          MOV     #256.,TXCC      ;SET UP RX CHAR COUNT
6538    027356  012737  033454  002420          MOV     #MR1,TXADD      ;AND ADDRESS
6539    027364  005037  002432                  CLR     GENWRD          ;CLEAR GEN WORD
6540    027370  012737  000001  002360          MOV     #01,TRIBN       ;SET THE TRIB TO 01
6541    027376  022737  000004  002476          CMP     #4,TSTCON       ;CHECK FOR LOOPBACK CONNECTOR.
6542    027404  001402                          BEQ     1$              ;
6543    027406  005237  002400                  INC     EXLOOP          ;EXT CONNECTOR PRESENT: SET EXT LOOP FLAG
6544    027412  004737  004512          1$:     JSR     PC,MINIT1       ;MASTER CLEAR-MODE DEF
6545    027416  005037  002400                  CLR     EXLOOP          ;CLEAR EXTERNAL LOOP FLAG
6546    027422  005037  002402                  CLR     ERRWRD
6547    027426  104410                          TRAP    C$ESCAPE
6548    027430  000016                          .WORD   L10104-.
6549                                            ;;;;;;;;
6550                                            ; JUMP TO END OF TEST IF ERROR
6551                                            ;;;;;;;;
6552
6553    027432  004537  005720                  JSR     R5,TXRXSR       ;GO TRANSMIT RX AND CHECK
6554
6555    027436  005037  002402                  CLR     ERRWRD
6556    027442  104410                          TRAP    C$ESCAPE
6557    027444  000002                          .WORD   L10104-.
6558                                            ;;;;;;;;
6559                                            ; JUMP TO END OF TEST IF ERROR
6560                                            ;;;;;;;;
6561
6562    027446          L10104:
6563    027446  104401                          TRAP    C$ETST
6564
6565
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 35 ******************************


                                       .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 ******************************
027450                                 T36::
027450  032737  000003  002472                  BIT     #3,OPTYP        ;IS THIS A DMV ?
027456  001454                               BEQ     T36END          ;IF NOT: EXIT TEST

027460  012737  000036  002370               MOV     #36,ROMN1       ;SET UP TEST NUMBER
027466  012737  001750  002424               MOV     #1000.,RXCC     ;SET REC BUFFER FOR 1000BYTES
027474  012737  033734  002422               MOV     #RECBU1,RXADD   ; SET UP BUFF ADD
027502  012737  000400  002426               MOV     #256.,TXCC      ;SET UP RX CHAR COUNT
027510  012737  033454  002420               MOV     #MR1,TXADD      ;AND ADDRESS
027516  005037  002432                       CLR     GENWRD          ;CLEAR GEN WORD
027522  012737  000001  002360               MOV     #01,TRIBN       ;SET THE TRIB TO 01
027530  022737  000004  002476               CMP     #4,TSTCON       ;CHECK FOR LOOPBACK CONNECTOR.
027536  001402                               BEQ     1$              ;
027540  005237  002400                       INC     EXLOOP          ;EXT CONNECTOR PRESENT: SET EXT LOOP FLAG
027544  004737  004512               1$:     JSR     PC,MINIT1       ;MASTER CLEAR-MODE DEF
027550  005037  002400                       CLR     EXLOOP          ;CLEAR NO TTLOOP FLAG
027554  005037  002402                       CLR     ERRWRD
027560  104410                               TRAP    C$ESCAPE
027562  000026                               .WORD   L10105-.
                                             ;;;;;;;;
                                             ; JUMP TO END OF TEST IF ERROR
                                             ;;;;;;;;
027564  005237  002376                       INC     MODQ22          ;SET Q22 MODE FLAG (FOR TXRXSR)
027570  004537  005720                       JSR     R5,TXRXSR       ;GO TRANSMIT RX AND CHECK
027574  005037  002402                       CLR     ERRWRD
027600  005037  002376                       CLR     MODQ22
027604  104410                               TRAP    C$ESCAPE
027606  000002                               .WORD   L10105-.
                                             ;;;;;;;;
                                             ; JUMP TO END OF TEST IF ERROR
                                             ;;;;;;;;
027610                                 T36END:
027610                                 L10105:
027610  104401                               TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 37 ******************************

 6614                                  .SBTTL  ;****************************** TEST 37 ******************************
 6615                                  .SBTTL  * TX AND RX,255 BYTES,EVEN TX,ODD RX,DDCMP,MULTIPOINT
 6616  027612                                  ZZ
 6617                                          ;*
 6618                                          ;*
 6619                                          ;* THIS TEST WILL TRANSMIT A MESSAGE OF 255
 6620                                          ;* BYTES FROM AN EVEN TX START ADD TO AN ODD
 6621                                          ;* REC START ADD. IN DDCMP MODE MULTI POINT
 6622                                          ;* CONTROL STATION.
 6623                                          ;*
 6624                                          ;*-
 6625                                  .SBTTL  ;****************************** TEST 37 ******************************
 6626  027612                          T37::
 6627  027612  012737  000377  002426          MOV     #255.,TXCC      ;SET UP TRANSMIT CHAR COUNT
 6628  027620  012737  033454  002420          MOV     #MR1,TXADD      ;SET UP TRANSMIT ADD
 6629  027626  012737  000764  002424          MOV     #500.,RXCC      ;SET UP REC CHAR COUNT
 6630  027634  012737  033735  002422          MOV     #RECBU1+1,RXADD ;SET UP REC ADD
 6631  027642  012737  000075  002360          MOV     #75,TRIBN       ;SET UP TRIB NO.
 6632  027650  005037  002432                  CLR     GENWRD          ;CLEAR THE GENWRD
 6633  027654  004737  004522                  JSR     PC,MINITS       ;MASTER CLEAR MODE DEF
 6634                                                                  ;MULTI POINT CONTROL
 6635
 6636  027660  005037  002402                  CLR     ERRWRD
 6637  027664  104410                          TRAP    C$ESCAPE
 6638  027666  000016                          .WORD   L10106-.
 6639                                          ;;;;;;;;
 6640                                          ; JUMP TO END OF TEST IF ERROR
 6641                                          ;;;;;;;;
 6642
 6643  027670  004537  006346          20$:    JSR     R5,TXRX3        ;GO TRANSMIT AND REC
 6644                                                                  ; AND CHECK DATA.
 6645
 6646  027674  005037  002402                  CLR     ERRWRD
 6647  027700  104410                          TRAP    C$ESCAPE
 6648  027702  000002                          .WORD   L10106-.
 6649                                          ;;;;;;;;
 6650                                          ; JUMP TO END OF TEST IF ERROR
 6651                                          ;;;;;;;;
 6652
 6653  027704                          L10106:
 6654  027704  104401                          TRAP    C$ETST
 6655
```

```
CZDMTC.P11    25-MAR-81 08:24          ;******************************  TEST 38  ******************************

 6656                                  .SBTTL  ;******************************  TEST 38  ******************************
 6657                                  .SBTTL  *READ/WRITE MODEM TESTS
 6658  027706                                  ZZ
 6659                                          ;*
 6660                                          ;*
 6661                                          ;*  THIS TEST WILL SELECT EACH OF THE 4 MODEM
 6662                                          ;*  INTERFACES AND WRITE AND READ THEM. THIS IS
 6663                                          ;*  ONLY DONE IF CONNECTORS ARE PRESENT
 6664                                          ;*      ( DMP ONLY ).
 6665                                          ;*-
 6666                                  .SBTTL  ;******************************  TEST 38  ******************************
 6667  027706                          T38::
 6668
 6669  027706  032737  000003  002472          BIT     #3,OPTYP        ;IS THIS A DMV11 ?
 6670  027714  001402                          BEQ     1$              ; NO: GOOD, CONTINUE TEST
 6671  027716  104432                          TRAP    C$EXIT
 6672  027720  000412                          .WORD   L10107-.
 6673
 6674  027722  005002                  1$:     CLR     R2              ;CLEAR R2
 6675  027724  022737  000000  002476          CMP     #0,TSTCON       ;IS THIS WITH TEST CONN LOOPBACK
 6676  027732  001135                          BNE     MODEX           ;IF NOT GO TO END
 6677  027734  016237  030306  002506  MODEB:  MOV     DUPTYP(R2),AXNUM
 6678  027742  004737  004530                  JSR     PC,MINTR        ;MASTER CLEAR MODE DEF
 6679  027746  004737  004244                  JSR     PC,WAIT50       ;DELAY
 6680
 6681  027752  005037  002402                  CLR     ERRWRD
 6682  027756  104410                          TRAP    C$ESCAPE
 6683  027760  000352                          .WORD   L10107-.
 6684                                          ;;;;;;;;;
 6685                                          ; JUMP TO END OF TEST IF ERROR
 6686                                          ;;;;;;;;;
 6687  027762  022702  000010                  CMP     #10,R2
 6688  027766  101403                          BLOS    MODEA           ;DON'T TURN OFF LINE UINT LOOP
 6689                                                                  ;IF PAST THIS POINT IN TABLES
 6690  027770  142777  000010  152444          BICB    #BIT3,@BSEL1
 6691
 6692  027776  005037  002360          MODEA:  CLR     TRIBN           ;MAKE TRIB NO. = 0
 6693  030002  016204  030232                  MOV     MODTYP(R2),R4   ;SELECT TYPE OF INTERFACE
 6694  030006  012703  000023                  MOV     #23,R3          ;SELECT INTERFACE
 6695  030012  004537  003162                  JSR     R5,CONTIN
 6696                                          ;;;;;;;;;;
 6697                                          ; TIME OUT OR READY ERRORS REPORT THIS PC
 6698                                          ;;;;;;;;;;
 6699
 6700  030016  005037  002402                  CLR     ERRWRD
 6701  030022  104410                          TRAP    C$ESCAPE
 6702  030024  000306                          .WORD   L10107-.
 6703                                          ;;;;;;;;
 6704                                          ; JUMP TO END OF TEST IF ERROR
 6705                                          ;;;;;;;;
 6706  030026  012704  000100                  MOV     #100,R4
 6707  030032  012703  000021          MODED:  MOV     #21,R3          ;WRITE MODEM
 6708  030036  004537  003162                  JSR     R5,CONTIN
 6709                                          ;;;;;;;;;
 6710                                          ; TIME OUT OR READY ERRORS REPORT THIS PC
 6711                                          ;;;;;;;;;
```

```

030042  005037  002402                          CLR     ERRWRD
030046  104410                                  TRAP    C$ESCAPE
030050  000262                                  .WORD   L10107-.
                                                ;;;;;;;;
                                                ; JUMP TO END OF TEST IF ERROR
                                                ;;;;;;;;

030052  012703  000020                          MOV     #20,R3
030056  004537  003162                          JSR     R5,CONTIN       ;READ MODEM
                                                ;;;;;;;;;;;
                                                ; TIME OUT OR READY ERRORS REPORT THIS PC
                                                ;;;;;;;;;;;

030062  005037  002402                          CLR     ERRWRD
030066  104410                                  TRAP    C$ESCAPE
030070  000242                                  .WORD   L10107-.
                                                ;;;;;;;;
                                                ; JUMP TO END OF TEST IF ERROR
                                                ;;;;;;;;

030072  012737  000002  002336                  MOV     #02,$GDDAT
030100  004537  003242                          JSR     R5,GETOUT
                                                ;;;;;;;;
                                                ; CHECK FOR INFORMATION OUT AND CORRECT TRIBN
                                                ;;;;;;;;

030104  005037  002402                          CLR     ERRWRD
030110  104410                                  TRAP    C$ESCAPE
030112  000220                                  .WORD   L10107-.
                                                ;;;;;;;;
                                                ; JUMP TO END OF TEST IF ERROR
                                                ;;;;;;;;

030114  012737  000010  002336                  MOV     #10,$GDDAT
030122  004537  003372                          JSR     R5,GETRKY
                                                ;;;;;;;;
                                                ;CHECK FOR CORRECT RETURN KEY MODEM STATUS
                                                ;;;;;;;;

030126  005037  002402                          CLR     ERRWRD
030132  104410                                  TRAP    C$ESCAPE
030134  000176                                  .WORD   L10107-.
                                                ;;;;;;;;
                                                ; JUMP TO END OF TEST IF ERROR
                                                ;;;;;;;;
030136  005037  002336                          CLR     $GDDAT
030142  005037  002340                          CLR     $BDDAT
030146  117737  152276  002340                  MOVB    @BSEL4,$BDDAT
030154  116237  030262  002336                  MOVB    MODOUT(R2),$GDDAT
030162  123737  002340  002336                  CMPB    $BDDAT,$GDDAT
030170  001411                                  BEQ     10$
030172  012737  012014  002430                  MOV     #M30F,CODEW
030200  104455                                  TRAP    C$ERDF
030202  000055                                  .WORD   45
030204  011506                                  .WORD   EROIC
```

```
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 6768  030206  010324                            .WORD   ERR27
 6769  030210  104410                            TRAP    C$ESCAPE
 6770  030212  000120                            .WORD   L10107-.
 6771  030214  062702  000002      10$:          ADD     #2,R2
 6772
 6773  030220  022702  000024                    CMP     #24,R2
 6774  030224  001243                            BNE     MODEB           ;IF NOT DONE GO TO B
 6775  030226                      MODEX:
 6776  030226  104432                            TRAP    C$EXIT
 6777  030230  000102                            .WORD   L10107-.
 6778
 6779  030232  000323              MODTYP:       .WORD   323
 6780  030234  000313                            .WORD   313
 6781  030236  000233                            .WORD   233
 6782  030240  000133                            .WORD   133
 6783  030242  000133                            .WORD   133
 6784  030244  000233                            .WORD   233
 6785  030246  000323                            .WORD   323
 6786  030250  000323                            .WORD   323
 6787  030252  000323                            .WORD   323
 6788  030254  000313                            .WORD   313
 6789  030256  000377              MODIN:        .WORD   377
 6790  030260  000100                            .WORD   100
 6791
 6792  030262  000310              MODOUT:       .WORD   310
 6793  030264  000310                            .WORD   310
 6794  030266  000330                            .WORD   330
 6795  030270  000330                            .WORD   330
 6796  030272  000330                            .WORD   330
 6797  030274  000330                            .WORD   330
 6798  030276  000330                            .WORD   330
 6799  030300  000330                            .WORD   330
 6800  030302  000310                            .WORD   310
 6801  030304  000310                            .WORD   310
 6802
 6803
 6804
 6805  030306  000005              DUPTYP:       .WORD   5
 6806  030310  000005                            .WORD   5
 6807  030312  000004                            .WORD   4
 6808  030314  000004                            .WORD   4
 6809  030316  000004                            .WORD   4
 6810  030320  000004                            .WORD   4
 6811  030322  000004                            .WORD   4
 6812  030324  000004                            .WORD   4
 6813  030326  000005                            .WORD   5
 6814  030330  000005                            .WORD   5
 6815
 6816  030332                      L10107:
 6817  030332  104401                            TRAP    C$ETST
 6818
 6819
 6820
 6821
 6822
```

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

                .SBTTL  ;****************************** TEST 39 ******************************
                .SBTTL  TEST OF MEM EXTENSION BIT 16, ADDRESS 200000
030334                  ZZ
                        ;*
                        ;*
                        ;* THIS TEST WE'LL TRY TRANSMITTING A MESSAGE
                        ;* TO VIRTUAL ADDRESS 200000 (BIT 16 SET).
                        ;* IF MEMORY MANAGEMENT AND/OR SUFFICIENT MEMORY IS NOT
                        ;* AVAILABLE FOR MESSAGE STORAGE, WE WILL EXPECT THE DMP-11
                        ;* TO RETURN A NON-EXISTENT MEMORY ERROR FOR THE BUFFER.
                        ;* IF ENOUGH MEMORY EXISTS,WE'LL MAKE SURE THE TRANSFER TAKES
                        ;* PLACE PROPERLY.
                        ;*
                        ;*-
                .SBTTL  ;****************************** TEST 39 ******************************
030334          T39::

030334  012737  004222  000004        MOV     #META,4         ;SET UP TRAP FOR NO MEM
030342  005037  000006                CLR     6
030346  012737  000002  002542        MOV     #2,$TMP0
030354  012746  000002                MOV     #2,-(SP)        ;DUMMY MOVE TO STACK
030360  012705  030570                MOV     #RET16,R5       ;SET UP R5 FOR RETURN IF TRAP
                                                              ; TAKES U TO SR.
030364  005737  177572                TST     @#177572        ;DOES MEM MANAGEMENT EXIST
                                                              ;IF NOT TRAP TO META
                                                              ; ELSE CONTINUE
030370  062716  000002                ADD     #2,(SP)         ;FIX THE STACK
030374  012700  000000                MOV     #0,R0
030400  104441                       TRAP    C$SPRI
030402  012701  172300                MOV     #172300,R1      ;GET ADDRESS OF KERNEL PDR REQD/
030406  012702  000010                MOV     #8.,R2          ; DO 8 TIMES
030412                          10$:
030412  012721  077406                MOV     #77406,(R1)+
030416  005302                       DEC     R2
030420  001374                       BNE     10$
030422  012701  172340                MOV     #172340,R1
030426  005011                       CLR     (R1)
030430  012761  000200  000002        MOV     #200,2(R1)
030436  012761  000400  000004        MOV     #400,4(R1)
030444  012761  000600  000006        MOV     #600,6(R1)
030452  012761  001000  000010        MOV     #1000,10(R1)
030460  012761  007600  000016        MOV     #7600,16(R1)
030466  012761  002000  000012        MOV     #2000,12(R1)
030474  005037  002432                CLR     GENWRD
030500  012737  000033  002360        MOV     #33,TRIBN       ;MAP MEM CLEAR GEN AND SET UP TRIB
030506  052737  040000  002432        BIS     #BIT14,GENWRD   ;SET MM BIT
030514  012737  177776  002422        MOV     #177776,RXADD   ;SET UP RX ADD
030522  012737  001750  002424        MOV     #1750,RXCC      ;SET UP RX COUNT(1000 DEC)
030530  012737  033454  002420        MOV     #MR1,TXADD      ;SET UP TRANSMIT COUNT
030536  012737  001000  002426        MOV     #512.,TXCC      ;SET UP TRANSMIT COUNT
030544  004737  004522                JSR     PC,MINITS       ; MASTER CLEAR MODE DEF
030550  004537  006346                JSR     R5,TXRX3        ;GO TRANSMIT AND RX
030554  005037  002402                CLR     ERRWRD          ; IF ERROR GO TO END
030560  104410                       TRAP    C$ESCAPE
030562  000012                       .WORD   L10110-.
030564  004537  003744                JSR     R5,MEMEX        ;CHECK MEM EXTENSION
```

```
CZDMTC.P11    25-MAR-81 08:24          ;********************************  TEST 39  ********************************

  6879  030570  005037  002402          RET16:  CLR     ERRWRD          ;CLEAR ERROR WORD
  6880  030574                          L10110:
  6881  030574  104401                          TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 40 ******************************

  6882                                 .SBTTL  ;****************************** TEST 40 ******************************
  6883                                 .SBTTL  TEST OF MEM EXTENSION BIT 17, ADDRESS 400000
  6884  030576                                 ZZ
  6885                                         ;*
  6886                                         ;*
  6887                                         ;* THIS TEST WE'LL TRY TRANSMITTING A MESSAGE
  6888                                         ;* TO VIRTUAL ADDRESS 400000 (BIT 17 SET).
  6889                                         ;* IF MEMORY MANAGEMENT AND/OR SUFFICIENT MEMORY IS NOT
  6890                                         ;* AVAILABLE FOR MESSAGE STORAGE, WE WILL EXPECT THE DMP-11
  6891                                         ;* TO RETURN A NON-EXISTENT MEMORY ERROR FOR THE BUFFER.
  6892                                         ;* IF ENOUGH MEMORY EXISTS,WE'LL MAKE SURE THE TRANSFER TAKES
  6893                                         ;* PLACE PROPERLY.
  6894                                         ;*
  6895                                         ;*-
  6896                                 .SBTTL  ;****************************** TEST 40 ******************************
  6897  030576                         T40::
  6898
  6899  030576  012737  004222  000004         MOV     #META,4         ;SET UP TRAP FOR NO MEM
  6900  030604  005037  000006                 CLR     6
  6901  030610  012737  000004  002542         MOV     #4,$TMP0
  6902  030616  012746  000004                 MOV     #4,-(SP)        ;DUMMY MOVE ON STACK IF TRAP
  6903  030622  012705  031032                 MOV     #RET17,R5       ;SET UP R5 FOR RETURN IF TRAP IS
                                                                       ; TO SR.EXMEM.
  6904
  6905  030626  005737  177572                 TST     @#177572        ;DOES MEM MANAGEMENT EXIST
  6906                                                                 ;IF NOT TRAP TO META
  6907                                                                 ; ELSE CONTINUE
  6908  030632  062716  000002                 ADD     #2,(SP)         ;FIX THE STACK
  6909  030636  012700  000000                 MOV     #0,R0
  6910  030642  104441                         TRAP    C$SPRI
  6911  030644  012701  172300                 MOV     #172300,R1      ;GET ADDRESS OF KERNEL PDR REQD/
  6912  030650  012702  000010                 MOV     #8.,R2          ; DO 8 TIMES
  6913  030654                         10$:
  6914  030654  012721  077406                 MOV     #77406,(R1)+
  6915  030660  005302                         DEC     R2
  6916  030662  001374                         BNE     10$
  6917  030664  012701  172340                 MOV     #172340,R1
  6918  030670  005011                         CLR     (R1)
  6919  030672  012761  000200  000002         MOV     #200,2(R1)
  6920  030700  012761  000400  000004         MOV     #400,4(R1)
  6921  030706  012761  000600  000006         MOV     #600,6(R1)
  6922  030714  012761  001000  000010         MOV     #1000,10(R1)
  6923  030722  012761  007600  000016         MOV     #7600,16(R1)
  6924  030730  012761  004000  000012         MOV     #4000,12(R1)
  6925  030736  005037  002432                 CLR     GENWRD
  6926  030742  012737  000033  002360         MOV     #33,TRIBN       ;MAP MEM CLEAR GEN AND SET UP TRIB
  6927  030750  052737  040000  002432         BIS     #BIT14,GENWRD   ;SET MM BIT
  6928  030756  012737  177776  002422         MOV     #177776,RXADD   ;SET UP RX ADD
  6929  030764  012737  041750  002424         MOV     #41750,RXCC     ;SET UP RX COUNT (1000 DEC)+BA16
  6930  030772  012737  033454  002420         MOV     #MR1,TXADD      ;SET UP TRANSMIT COUNT
  6931  031000  012737  001000  002426         MOV     #512.,TXCC      ;SET UP TRANSMIT COUNT
  6932  031006  004737  004522                 JSR     PC,MINITS       ; MASTER CLEAR MODE DEF
  6933  031012  004537  006346                 JSR     R5,TXRX3        ;GO TRANSMIT AND RX
  6934  031016  005037  002402                 CLR     ERRWRD          ; IF ERROR GO TO END
  6935  031022  104410                         TRAP    C$ESCAPE
  6936  031024  000012                         .WORD   L10111-.
  6937  031026  004537  003744                 JSR     R5,MEMEX        ;CHECK MEM EXTENSION
```

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```
6938  031032  005037  002402
6939  031036
6940  031036  104401
6941
```

```
;*******************************  TEST 40  *******************************
RET17:  CLR     ERRWRD          ;CLEAR ERROR WORD
L10111:
        TRAP    C$ETST
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 41 ******************************

  6942                                 .SBTTL  ;****************************** TEST 41 ******************************
  6943                                 .SBTTL  TEST OF MEM EXTENSION BIT 16 AND 17, ADDRESS 600000
  6944  031040                                 ZZ
  6945                                         ;*
  6946                                         ;*
  6947                                         ;* THIS TEST WE'LL TRY TRANSMITTING A MESSAGE
  6948                                         ;* TO VIRTUAL ADDRESS 600000 (BIT 16 AND 17 SET).
  6949                                         ;* IF MEMORY MANAGEMENT AND/OR SUFFICIENT MEMORY IS NOT
  6950                                         ;* AVAILABLE FOR MESSAGE STORAGE, WE WILL EXPECT THE DMP-11
  6951                                         ;* TO RETURN A NON-EXISTENT MEMORY ERROR FOR THE BUFFER.
  6952                                         ;* IF ENOUGH MEMORY EXISTS,WE'LL MAKE SURE THE TRANSFER TAKES
  6953                                         ;* PLACE PROPERLY.
  6954                                         ;*
  6955                                         ;*-
  6956                                 .SBTTL  ;****************************** TEST 41 ******************************
  6957  031040                         T41::
  6958
  6959  031040  012737  004222  000004         MOV     #META 4         ;SET UP TRAP FOR NO MEM
  6960  031046  005037  000006                 CLR     6
  6961  031052  012737  000006  002542         MOV     #6,$TMP0
  6962  031060  012746  000006                 MOV     #6,-(SP)        ;DUMMY MOVE TO STACK IF
                                                                         ;TRAP TAKES U TO SR.
  6963
  6964  031064  012705  031274                 MOV     #RET18,R5       ;SET UP R5 FOR RETURN
  6965
  6966  031070  005737  177572                 TST     @#177572        ;DOES MEM MANAGEMENT EXIST
  6967                                                                   ;IF NOT TRAP TO META
  6968                                                                   ; ELSE CONTINUE
  6969  031074  062716  000002                 ADD     #2,(SP)         ;FIX STACK
  6970  031100  012700  000000                 MOV     #0,R0
  6971  031104  104441                         TRAP    C$SPRI
  6972  031106  012701  172300                 MOV     #172300,R1      ;GET ADDRESS OF KERNEL PDR REQD/
  6973  031112  012702  000010                 MOV     #8.,R2          ; DO 8 TIMES
  6974  031116                         10$:
  6975  031116  012721  077406                 MOV     #77406,(R1)+
  6976  031122  005302                         DEC     R2
  6977  031124  001374                         BNE     10$
  6978  031126  012701  172340                 MOV     #172340,R1
  6979  031132  005011                         CLR     (R1)
  6980  031134  012761  000200  000002         MOV     #200,2(R1)
  6981  031142  012761  000400  000004         MOV     #400,4(R1)
  6982  031150  012761  000600  000006         MOV     #600,6(R1)
  6983  031156  012761  001000  000010         MOV     #1000,10(R1)
  6984  031164  012761  007600  000016         MOV     #7600,16(R1)
  6985  031172  012761  006000  000012         MOV     #6000,12(R1)
  6986  031200  005037  002432                 CLR     GENWRD
  6987  031204  012737  000033  002360         MOV     #33,TRIBN       ;MAP MEM CLEAR GEN AND SET UP TRIB
  6988  031212  052737  040000  002432         BIS     #BIT14,GENWRD   ;SET MM BIT
  6989  031220  012737  177776  002422         MOV     #177776,RXADD   ;SET UP RX ADD
  6990  031226  012737  101750  002424         MOV     #101750,RXCC    ;SET UP RX COUNT (1000 DEC)+BA17
  6991  031234  012737  033454  002420         MOV     #MR1,TXADD      ;SET UP TRANSMIT COUNT
  6992  031242  012737  001000  002426         MOV     #512.,TXCC      ;SET UP TRANSMIT COUNT
  6993  031250  004737  004522                 JSR     PC,MINITS       ; MASTER CLEAR MODE DEF
  6994  031254  004537  006346                 JSR     R5,TXRX3        ;GO TRANSMIT AND RX
  6995  031260  005037  002402                 CLR     ERRWRD          ; IF ERROR GO TO END
  6996  031264  104410                         TRAP    C$ESCAPE
  6997  031266  000012                         .WORD   L10112-.
```

```
CZDMTC.P11    25-MAR-81 08:24          ;********************************  TEST 41  ********************************

  6998  031270  004537  003744                    JSR     R5,MEMEX        ;CHECK MEM EXTENSION
  6999  031274  005037  002402    RET18:  CLR     ERRWRD          ;CLEAR ERROR WORD
  7000  031300                    L10112:
  7001  031300  104401                    TRAP    C$ETST
  7002
```

```
CZDMTC.P11    25-MAR-81 08:24          ;********************************  TEST 42  ********************************

  7003                                 .SBTTL  ;********************************  TEST 42  ********************************
  7004                                 .SBTTL  *TX AND RX 257 BYTES,ODD TX,ODD RX,DDCMP,POINT TO POINT
  7005  031302                                 ZZ
  7006                                         ;*
  7007                                         ;*
  7008                                         ;* THIS TEST WILL TRANSMIT A MESSAGE OF 257 BYTES
  7009                                         ;* FROM A TX BUFFER STARTING WITH AN ODD BYTE TO
  7010                                         ;* A RECEIVE BUFFER STARTING WITH AN ODD BYTE IN
  7011                                         ;* DDCMP MODE,POINT TO POINT IF THERE IS EXTERNAL LOOP
  7012                                         ;* BACK THEN THE TEST WILL BE DONE OVER THAT LOOPBACK
  7013                                         ;* ELSE THE LOOPBACK WILL BE SET TO INTERNAL(TTL).
  7014                                         ;*
  7015                                         ;*-
  7016                                 .SBTTL  ;********************************  TEST 42  ********************************
  7017  031302                         T42::
  7018
  7019  031302  012737  000042  002370         MOV     #42,ROMN1       ;SET UP TEST NUMBER
  7020
  7021  031310  005037  002432                 CLR     GENWRD          ;CLEAR THE GEN WORD
  7022  031314  012737  000401  002426         MOV     #257.,TXCC      ;SET UP TRANSMIT CHAR COUNT
  7023  031322  012737  033455  002420         MOV     #MR1+1,TXADD    ;SET UP ADD FOR TX
  7024  031330  012737  033735  002422         MOV     #RECBU1+1,RXADD ;SET UP RX
  7025  031336  012737  001750  002424         MOV     #1000.,RXCC     ;SET UP RX COUNT 1000 DECIMAL
  7026  031344  012737  000001  002360         MOV     #01,TRIBN       ;SET TRIB # TO 1
  7027  031352  022737  000004  002476         CMP     #4,TSTCON       ;CHECK FOR LOOPBACK CONNECTOR
  7028  031360  001402                         BEQ     1$              ;
  7029  031362  005237  002400                 INC     EXLOOP          ;EXT CONNECTOR PRESENT: SET EXT LOOP FLAG
  7030  031366  004737  004512         1$:     JSR     PC,MINIT1       ;MASTER CLEAR-MODE DEF
  7031  031372  005037  002400                 CLR     EXLOOP          ;CLEAR EXTERNAL LOOP FLAG
  7032  031376  005037  002402                 CLR     ERRWRD
  7033  031402  104410                         TRAP    C$ESCAPE
  7034  031404  000012                         .WORD   L10113-.
  7035                                         ;;;;;;;
  7036                                         ;ESCAPE TEST IF ERROR
  7037                                         ;;;;;;;;
  7038  031406  004537  005720         20$:    JSR     R5,TXRXSR       ;GO DO IT
  7039  031412  005037  002402                 CLR     ERRWRD
  7040  031416                         L10113:
  7041  031416  104401                         TRAP    C$ETST
  7042
```

```
CZDMTC.P11    25-MAR-81 08:24          ;******************************  TEST 43  ******************************

  7043                                 .SBTTL  ;******************************  TEST 43  ******************************
  7044                                 .SBTTL  *TX AND RX 1 BYTE,ODD TX,EVEN RX,MAINT,MULTIPOINT
  7045  031420                                 ZZ
  7046                                         ;*
  7047                                         ;*
  7048                                         ;* THIS TEST TRANSMITS AND RECEIVES 1 BYTE MESSAGE
  7049                                         ;* FROM AND ODD TRANSMIT BUFFER TO AN EVEN RX BUFFER
  7050                                         ;* IN MAINTAINCE MODE,MULTIPOINT
  7051                                         ;*
  7052                                         ;*-
  7053                                 .SBTTL  ;******************************  TEST 43  ******************************
  7054  031420                         T43::
  7055
  7056  031420  012737  000001  002360         MOV     #01,TRIBN
  7057  031426  012737  000001  002426         MOV     #01,TXCC
  7058  031434  012737  033455  002420         MOV     #MR1+1,TXADD
  7059  031442  012737  000764  002424         MOV     #500.,RXCC
  7060  031450  012737  033734  002422         MOV     #RECBU1,RXADD
  7061  031456  005037  002432                 CLR     GENWRD
  7062  031462  052737  100000  002432         BIS     #BIT15,GENWRD   ;SET UP TX RX AND MAINT STATE
  7063  031470  004737  004522                 JSR     PC,MINITS       ;MASTER CLEAR MULTIPOINT
  7064  031474  005037  002402                 CLR     ERRWRD
  7065  031500  104410                         TRAP    C$ESCAPE
  7066  031502  000012                         .WORD   L10114-.
  7067                                         ;;;;;;;;
  7068                                         ; ESCAPE TEST IF ERROR
  7069                                         ;;;;;;;;
  7070  031504  004537  006346         20$:    JSR     R5,TXRX3                ;GO DO IT
  7071  031510  005037  002402                 CLR     ERRWRD          ;CLEAR ERROR WORD
  7072  031514                         L10114:
  7073  031514  104401                         TRAP    C$ETST
```

```
7074
7075
7076  031516                        ;****************************  TEST 44  ******************************
7077                                .SBTTL  ;****************************  TEST 44  ******************************
7078                                .SBTTL  POLLING STATE TESTS
7079                                        ZZ
7080                                        ;*
7081                                        ;*
7082                                        ;* THIS TEST CHECKS THE DEGRADING OF THE POLLING
7083                                        ;* STATES FROM ACTIVE TO INACTIVE TO POTEN. DEAD
7084  031516                                ;* TO DEAD.
7085                                        ;*
7086  031516  005037  002432               CLR     GENWRD          ;CLEAR FLAG WORD
7087  031522  004737  004522       BEGPOL: JSR     PC,MINITS       ;MASTER CLEAR MODE DEF(FD/CS/MP)
7088  031526  005037  002402               CLR     ERRWRD
7089  031532  104410                       TRAP    C$ESCAPE
7090  031534  000774                       .WORD   L10115-.
7091                                        ;;;;;;;;;;;;
7092                                        ;SET POLL DELAY
7093                                        ;;;;;;;;;;;;
7094  031536  005037  002360               CLR     TRIBN
7095  031542  012703  000237               MOV     #237,R3
7096  031546  012704  000100               MOV     #100,R4
7097  031552  004537  003162               JSR     R5,CONTIN
7098  031556  005037  002402               CLR     ERRWRD
7099  031562  104410                       TRAP    C$ESCAPE
7100  031564  000744                       .WORD   L10115-.
7101
7102                                        ;;;;;;;;;;;;
7103                                        ; ESTABLISH TRIB
7104                                        ;;;;;;;;;;;;
7105  031566  012737  000034  002360       MOV     #34,TRIBN       ;SET TRIB NO.
7106  031574  012703  000001               MOV     #01,R3
7107  031600  004537  003162               JSR     R5,CONTIN
7108  031604  005037  002402               CLR     ERRWRD
7109  031610  104410                       TRAP    C$ESCAPE
7110  031612  000716                       .WORD   L10115-.
7111                                        ;;;;;;;;;;;;
7112                                        ; SET SELECTION TIMER TO 1 SEC
7113                                        ;;;;;;;;;;;;
7114  031614  012703  000236               MOV     #236,R3
7115  031620  012704  002000               MOV     #2000,R4
7116  031624  032737  000003  002472       BIT     #3,OPTYP        ;* IS THIS A DMV ?
7117  031632  001402                       BEQ     1$              ;*
7118  031634  012704  000144               MOV     #144,R4         ;* IF YES: ADJUST VALUE.
7119  031640  004537  003162       1$:     JSR     R5,CONTIN
7120  031644  005037  002402               CLR     ERRWRD
7121  031650  104410                       TRAP    C$ESCAPE
7122  031652  000656                       .WORD   L10115-.
7123                                        ;;;;;;;;;;;;
7124                                        ; WRITE NDM > INACTIVE AND #TO > PDEAD
7125                                        ;;;;;;;;;;;;
7126  031654  012704  002010               MOV     #2010,R4
7127  031660  012703  000234       10$:    MOV     #234,R3
7128  031664  004537  003162               JSR     R5,CONTIN       ;WRITE TSS SLOT
7129  031670  005037  002402               CLR     ERRWRD
```

```
031674  104410                          TRAP    C$ESCAPE
031676  000632                          .WORD   L10115-.
                                        ;;;;;;;;;;;
                                        ; ISTRT TRIB
                                        ;;;;;;;;;;;;
031700  012703  000003                  MOV     #03,R3
031704  004537  003162                  JSR     R5,CONTIN
031710  005037  002402                  CLR     ERRWRD
031714  104410                          TRAP    C$ESCAPE
031716  000612                          .WORD   L10115-.
                                        ;;;;;;;;;;;;
                                        ; WAIT FOR RUN STATE
                                        ;;;;;;;;;;;;
031720  012737  000001  002336          MOV     #01,$GDDAT
031726  004537  003242                  JSR     R5,GETOUT
031732  005037  002402                  CLR     ERRWRD
031736  104410                          TRAP    C$ESCAPE
031740  000570                          .WORD   L10115-.
031742  012737  000024  002336          MOV     #24,$GDDAT
031750  004537  003670                  JSR     R5,GETOC
031754  005037  002402                  CLR     ERRWRD
031760  104410                          TRAP    C$ESCAPE
031762  000546                          .WORD   L10115-.
                                        ;;;;;;;;;;;;
                                        ; READ  TSS SLOT WITH POLL STATUS
                                        ;;;;;;;;;;;;
031764  042777  000200  150452  20$:    BIC     #RDO,@BSEL2     ;CLEAR RDO
031772  012703  000042                  MOV     #42,R3
031776  004537  003162                  JSR     R5,CONTIN       ;READ TSS SLOT 2
032002  005037  002402                  CLR     ERRWRD
032006  104410                          TRAP    C$ESCAPE
032010  000520                          .WORD   L10115-.
032012  012737  000002  002336          MOV     #02,$GDDAT
032020  004537  003242                  JSR     R5,GETOUT       ;GET INFO OUT
032024  005037  002402                  CLR     ERRWRD
032030  104410                          TRAP    C$ESCAPE
032032  000476                          .WORD   L10115-.
032034  032777  001000  150406          BIT     #BIT9,@BSEL4    ;IS IT INACTIVE
032042  001750                          BEQ     20$             ;IF NOT GO BACK
                                        ;;;;;;;;;;;;
                                        ; GET HERE WHEN STATE GOES TO INACTIVE
                                        ;;;;;;;;;;;
032044  042777  000200  150372          BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
                                        ;;;;;;;;;;;
                                        ;READ # OF SELECTION INTERVALS
                                        ;;;;;;;;;;;
032052  012703  000051                  MOV     #51,R3
032056  004537  003162                  JSR     R5,CONTIN
032062  005037  002402                  CLR     ERRWRD
032066  104410                          TRAP    C$ESCAPE
032070  000440                          .WORD   L10115-.
032072  012737  000002  002336          MOV     #02,$GDDAT
032100  004537  003242                  JSR     R5,GETOUT
                                        ;;;;;;;;;;;
                                        ; MAKE SURE #OF SELC. INTV IS CORRECT
                                        ;;;;;;;;;;;
```

```
CZDMTC.P11    25-MAR-81 08:24          ;****************************** TEST 44 ******************************

 7186  032104  012737  000010  002336          MOV     #10,$GDDAT
 7187  032112  004537  003446                  JSR     R5,GETDAT
 7188                                          ;;;;;;;;;;;
 7189                                          ; GET HERE IN INACTIVE STATE
 7190                                          ;;;;;;;;;;;
 7191  032116                          40$:
 7192  032116  042777  000200  150320          BIC     #RDO,@BSEL2     ;CLEAR OUTPUT
 7193                                          ;;;;;;;;;;
 7194                                          ; CHANGE MODE TO HALF DUPLEX
 7195                                          ;;;;;;;;;;
 7196  032124  052777  000200  150306          BIS     #RQI,@BSEL0
 7197  032132  004537  002732                  JSR     R5,WRDI         ;WAIT FOR RDI TO SET
 7198
 7199  032136  005037  002402                  CLR     ERRWRD          ;CLEAR ERROR
 7200  032142  104410                          TRAP    C$ESCAPE
 7201  032144  000364                          .WORD   L10115-.
 7202  032146  042777  000200  150264          BIC     #RQI,@BSEL0
 7203  032154  012777  000004  150272          MOV     #04,@BSEL6
 7204  032162  112777  000002  150254          MOVB    #02,@BSEL2
 7205  032170  042777  000200  150246  50$:    BIC     #RDO,@BSEL2
 7206
 7207
 7208                                          ;;;;;;;;;;;;
 7209                                          ; READ POLL STATUS SLOT
 7210                                          ;;;;;;;;;;;;
 7211  032176  012703  000042                  MOV     #42,R3
 7212  032202  004537  003162                  JSR     R5,CONTIN
 7213  032206  005037  002402                  CLR     ERRWRD
 7214  032212  104410                          TRAP    C$ESCAPE
 7215  032214  000314                          .WORD   L10115-.
 7216  032216  012737  000002  002336          MOV     #02,$GDDAT
 7217
 7218  032224  004537  003242                  JSR     R5,GETOUT
 7219                                          ;;;;;;;;;;;
 7220                                          ; IS THE STATE POTN. DEAD??
 7221                                          ;;;;;;;;;;
 7222  032230  032777  010000  150212          BIT     #BIT12,@BSEL4
 7223  032236  001754                          BEQ     50$
 7224                                          ;;;;;;;;;
 7225                                          ; IF NOT GO BACK TO 50
 7226                                          ;;;;;;;;;
 7227
 7228                                          ;;;;;;;;
 7229                                          ; IF SO READ THE SELECTION TIMER
 7230                                          ;;;;;;;;;
 7231
 7232  032240  012703  000056                  MOV     #56,R3
 7233  032244  042777  000200  150172          BIC     #RDO,@BSEL2
 7234  032252  004537  003162                  JSR     R5,CONTIN
 7235  032256  005037  002402                  CLR     ERRWRD
 7236  032262  104410                          TRAP    C$ESCAPE
 7237  032264  000244                          .WORD   L10115-.
 7238  032266  012737  000002  002336          MOV     #02,$GDDAT
 7239  032274  004537  003242                  JSR     R5,GETOUT
 7240  032300  005037  002402                  CLR     ERRWRD
 7241  032304  104410                          TRAP    C$ESCAPE
```

```
                        ;****************************** TEST 44 ******************************
7242  032306  000222                .WORD   L10115-.
7243                                ;;;;;;;;;;
7244                                ; COMPARE SELECTION TIME OUTS WITH # WRITTEN
7245                                ;
7246                                ;;;;;;;;;;
7247  032310  012737  001004  002336  MOV     #1004,$GDDAT
7248  032316  004537  003446         JSR     R5,GETDAT
7249                                ;;;;;;;;;;
7250                                ; WAIT FOR TRIB TO POST SELECT. THRESH. ERROR
7251                                ;;;;;;;;;;
7252  032322  042777  000200  150114  BIC     #RDO,@BSEL2     ;CLEAR OUTPUT CODE
7253
7254  032330  012737  000001  002336  MOV     #01,$GDDAT
7255  032336  004537  003242         JSR     R5,GETOUT
7256  032342  005037  002402         CLR     ERRWRD
7257  032346  104410                 TRAP    C$ESCAPE
7258  032350  000160                 .WORD   L10115-.
7259  032352  012737  000006  002336  MOV     #6,$GDDAT
7260  032360  004537  003670         JSR     R5,GETOC
7261  032364  005037  002402         CLR     ERRWRD
7262  032370  104410                 TRAP    C$ESCAPE
7263  032372  000136                 .WORD   L10115-.
7264  032374  042777  000200  150042  BIC     #RDO,@BSEL2
7265                                ;;;;;;;;;;;;
7266                                ; NOW WAIT FOR TRIB TO POST DEAD STATUS
7267                                ;;;;;;;;;;;;
7268  032402  012737  000001  002336  MOV     #01,$GDDAT
7269  032410  004537  003242         JSR     R5,GETOUT
7270  032414  005037  002402         CLR     ERRWRD
7271  032420  104410                 TRAP    C$ESCA
7272  032422  000106                 .WORD   L10115-.
7273  032424  012737  000022  002336  MOV     #22,$GDDAT
7274  032432  004537  003670         JSR     R5,GETOC
7275
7276  032436  005037  002402         CLR     ERRWRD
7277  032442  104410                 TRAP    C$ESCAPE
7278  032444  000064                 .WORD   L10115-.
7279
7280                                ;;;;;;;;;;;;;;
7281                                ; NOW READ SELECTION TIMER AND
7282                                ; SEE IF IT IS EQUAL TO 10
7283                                ;;;;;;;;;;;;;;
7284
7285  032446  042777  000200  147770  BIC     #RDO,@BSEL2
7286  032454  012703  000056         MOV     #56,R3
7287  032460  004537  003162         JSR     R5,CONTIN
7288  032464  005037  002402         CLR     ERRWRD
7289  032470  104410                 TRAP    C$ESCAPE
7290  032472  000036                 .WORD   L10115-.
7291  032474  012737  000002  002336  MOV     #02,$GDDAT
7292  032502  004537  003242         JSR     R5,GETOUT
7293  032506  005037  002402         CLR     ERRWRD
7294  032512  104410                 TRAP    C$ESCAPE
7295  032514  000014                 .WORD   L10115-.
7296  032516  012737  001010  002336  MOV     #1010,$GDDAT
7297  032524  004537  003446         JSR     R5,GETDAT
```

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```
7298  032530
7299  032530  104401
7300
7301
7302
7303
7304
7305
```

```
;********************************  TEST 44  ********************************
L10115:
        TRAP    C$ETST
                .SBTTL  ------ END OF HARDWARE TESTS -----
```

```
                        ------ END OF HARDWARE TESTS -----

                        .SBTTL  HARDWARE PARAMETER CODING SECTION


                        ;////////////////////////////////////////////////////////////////////////
                        ;/ THE HARDWARE PARAMETER CODING SECTION CONTAINS MACROS
                        ;/ THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES.  THE
                        ;/ MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
                        ;/ INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES.  THE
                        ;/ MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
                        ;/ WITH THE OPERATOR.
                        ;////////////////////////////////////////////////////////////////////////

7320  032532  000041            .WORD L10116-L$HARD/2
7321  032534
7322  032534  000032  L$HARD::  .WORD   T$CODE
7323  032536  032636            .WORD   OPTYPM
7324  032540  000007            .WORD   7
7325  032542  000000            .WORD   T$LOLIM
7326  032544  000007            .WORD   T$HILIM
7327  032546  001031            .WORD   T$CODE
7328  032550  032730            .WORD   ADDRES
7329  032552  160000            .WORD   T$LOLIM
7330  032554  177776            .WORD   T$HILIM
7331  032556  002031            .WORD   T$CODE
7332  032560  032756            .WORD   VECTOR
7333  032562  000000            .WORD   T$LOLIM
7334  032564  000674            .WORD   T$HILIM
7335  032566  003032            .WORD   T$CODE
7336  032570  033007            .WORD   PRIRTY
7337  032572  007000            .WORD   7000
7338  032574  000004            .WORD   T$LOLIM
7339  032576  000007            .WORD   T$HILIM
7340  032600  010032            .WORD   T$CODE
7341  032602  033040            .WORD   LOOPBK
7342  032604  000007            .WORD   7
7343  032606  000000            .WORD   T$LOLIM
7344  032610  000004            .WORD   T$HILIM
7345  032612  011032            .WORD   T$CODE
7346  032614  033144            .WORD   SPEDM
7347  032616  000007            .WORD   7
7348  032620  000000            .WORD   T$LOLIM
7349  032622  000007            .WORD   T$HILIM
7350  032624  013032            .WORD   T$CODE
7351  032626  033355            .WORD   IFTYPM
7352  032630  000007            .WORD   7
7353  032632  000000            .WORD   T$LOLIM
7354  032634  000007            .WORD   T$HILIM
7355
7356
7357                            .EVEN
7358  032636            L10116:
7359
7360  032636  042523  042514  052103  OPTYPM: .ASCIZ  /SELECT OPTION TYPE ( 0=8207'DMP',1=8053'DMV',2=8064'DMV):/
7361  032644  047440  052120  047511
```

```
7362  032652  020116  054524  042520
7363  032660  024040  030040  034075
7364  032666  030062  023467  046504
7365  032674  023520  030454  034075
7366  032702  032460  023463  046504
7367  032710  023526  031054  034075
7368  032716  033060  023464  046504
7369  032724  024526  000072
7370  032730  042504  044526  042503  ADDRES: .ASCIZ  /DEVICE CSR ADDRESS : /
7371  032736  041440  051123  040440
7372  032744  042104  042522  051523
7373  032752  035040  000040
7374  032756  042504  044526  042503  VECTOR: .ASCIZ  /DEVICE VECTOR ADDRESS : /
7375  032764  053040  041505  047524
7376  032772  020122  042101  051104
7377  033000  051505  020123  020072
7378  033006     000
7379  033007     104  053105  041511  PRIRTY: .ASCIZ  /DEVICE PRIORITY LEVEL : /
7380  033014  020105  051120  047511
7381  033022  044522  054524  046040
7382  033030  053105  046105  035040
7383  033036  000040
7384  033040  052524  047122  051101  LOOPBK: .ASCII  /TURNAROUND TYPE -/
7385  033046  052517  042116  052040
7386  033054  050131  020105     055
7387  033061     050  036460  031510          .ASCIZ  /(0=H3254&H3255,1=CABLE,2=MOD LOC,3=MOD REM,4=NONE)/
7388  033066  032462  023064  031510
7389  033074  032462  026065  036461
7390  033102  040503  046102  026105
7391  033110  036462  047515  020104
7392  033116  047514  026103  036463
7393  033124  047515  020104  042522
7394  033132  026115  036464  047516
7395  033140  042516  000051
7396  033144  046120  040505  042523  SPEDM:  .ASCII  'PLEASE SELECT BAUD RATE;TYPE '0' FOR 2.4K; '1' FOR 4.8K;''
7397  033152  051440  046105  041505
7398  033160  020124  040502  042125
7399  033166  051040  052101  035505
7400  033174  054524  042520  023440
7401  033202  023460  043040  051117
7402  033210  031040  032056  035513
7403  033216  023440  023461  043040
7404  033224  051117  032040  034056
7405  033232  035513
7406  033234  005015  031047  020047          .ASCII<15><12>'"2' FOR 9.6K; '3' FOR 19.2K; '4' FOR 56K; '5' FOR 250K;''
7407  033242  047506  020122  027071
7408  033250  045466  020073  031447
7409  033256  020047  047506  020122
7410  033264  034461  031056  035513
7411  033272  023440  023464  043040
7412  033300  051117  032440  045466
7413  033306  020073  032447  020047
7414  033314  047506  020122  032462
7415  033322  045460     073
7416  033325     015  047412  020122          .ASCIZ<15><12>'OR '6' FOR 500K BAUDS''
7417  033332  033047  020047  047506
```

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```
7418  033340  020122  030065  045460
7419  033346  041040  052501  051504
7420  033354     000
7421  033355     123  046105  041505  IFTYPM: .ASCIZ  /SELECT INTERFACE TYPE (1=INTEGRAL,2=EIA,3=V.35,4=422):/
7422  033362  020124  047111  042524
7423  033370  043122  041501  020105
7424  033376  054524  042520  024040
7425  033404  036461  047111  042524
7426  033412  051107  046101  031054
7427  033420  042475  040511  031454
7428  033426  053075  031456  026065
7429  033434  036464  031064  024462
7430  033442  000072
7431
7432                            .EVEN
7433
7434
7435
```

CZDMTC.P11 25-MAR-81 08:24 SOFTWARE PARAMETER CODING SECTION

```
                                .SBTTL  SOFTWARE PARAMETER CODING SECTION


                                ;////////////////////////////////////////////////////////////////////////
                                ;/ THE SOFTWARE PARAMETER CODING SECTION CONTAINS MACROS
                                ;/ THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES.  THE
                                ;/ MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
                                ;/ INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES.  THE
                                ;/ MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
                                ;/ WITH THE OPERATOR.
                                ;////////////////////////////////////////////////////////////////////////

033444  000000                          .WORD L10117-L$SOFT/2
033446                          L$SOFT::

                                        .EVEN
033446                          L10117:




                                ;****** PATCH AREA FOR DEBUG ******
033446                          PATCH:
033446  000240                          NOP
033450  000240                          NOP
033452  000240                          NOP
                                ;************************************


033454  041101  000103         MR1:    .ASCIZ  ''ABC''
033460                          MR1E:

033460  047516  020127  051511 MR12:   .ASCII  'NOW IS THE TIME FOR ALL GOOD PEOPLE TO COME TO THE''
033466  052040  042510  052040
033474  046511  020105  047506
033502  020122  046101  020114
033510  047507  042117  050040
033516  047505  046120  020105
033524  047524  041440  046517
033532  020105  047524  052040
033540  042510
033542  044124  020105  052521          .ASCII  ''THE QUICK BROWN FOX JUMPED OVER THE LAZY DOG'S''
033550  041511  020113  051102
033556  053517  020116  047506
033564  020130  052512  050115
033572  042105  047440  042526
033600  020122  044124  020105
033606  040514  054532  042040
033614  043517  051447
033620  040502  045503  020056          .ASCII  'BACK. LOPS ARE TOPS!''
033626  047514  051520  040440
```

CZDMTC.P11 25-MAR-81 08:24 SOFTWARE PARAMETER CODING SECTION

```
 7492  033634  042522  052040  050117
 7493  033642  020523
 7494  033644  041101  042103  043105          .ASCII  ''ABCDEFGHIJKLMNOPQRSTUVWXYZ''
 7495  033652  044107  045111  046113
 7496  033660  047115  050117  051121
 7497  033666  052123  053125  054127
 7498  033674  055131
 7499  033676  041501  043505  045511          .ASCII  ''ACEGIKMOQSUWY''
 7500  033704  047515  051521  053525
 7501  033712     131
 7502
 7503          033714                  .EVEN
 7504  033714                  MR12E:
 7505
 7506  033714  000000          DATLST: 0
 7507  033716  125252                  125252
 7508  033720  052525                  052525
 7509  033722  000000                  0
 7510  033724  177777                  -1
 7511  033726  000377                  377
 7512  033730  177400                  177400
 7513  033732  000562                  562
 7514
 7515  033734  001750          RECBU1: .BLKW   1000.
 7516
 7517                                  .EVEN
 7518  037654  000000                  .WORD   0
 7519  037656  000000                  .WORD   0
 7520  037660                  L$LAST::
 7521
 7522          000001                  .END
```

CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- USER SYMBOLS

```
ADDRES  032730          7328    7370#
ADR   = 000020 G        1396#
ASSEMB= 000010          1094
AXNUM   002506          1518#   2217*   2219*   2277    2483*   2596    6677*
BADBR   006232          2512    2528    2571#
BADBRM  010544          2573    3050#
BADIF   006200          2510    2526    2541    2551    2560#
BADIFM  010466          2562    3042#
BASER   010450          3030    3039#
BEGPOL  031522          7087#
BIT0  = 000001 G        1369#   1423    2490    3433
BIT00 = 000001 G        1358#   1369
BIT01 = 000002 G        1357#   1368
BIT02 = 000004 G        1356#   1367
BIT03 = 000010 G        1355#   1366
BIT04 = 000020 G        1354#   1365
BIT05 = 000040 G        1353#   1364
BIT06 = 000100 G        1352#   1363
BIT07 = 000200 G        1351#   1362
BIT08 = 000400 G        1350#   1361
BIT09 = 001000 G        1349#   1360
BIT1  = 000002 G        1368#   1422    2487
BIT10 = 002000 G        1348#
BIT11 = 004000 G        1347#
BIT12 = 010000 G        1346#   7222
BIT13 = 020000 G        1345#
BIT14 = 040000 G        1344#   2684    6868    6927    6988
BIT15 = 100000 G        1343#   2606    7062
BIT2  = 000004 G        1367#   1421
BIT3  = 000010 G        1366#   1420    1428    2268    2501    4491    4508    4801    4873    6690
BIT4  = 000020 G        1365#   1419
BIT5  = 000040 G        1364#   5066    5090    5339    5362    5434
BIT6  = 000100 G        1363#   1418
BIT7  = 000200 G        1362#   1417    5052    5397
BIT8  = 000400 G        1361#
BIT9  = 001000 G        1360#   7167
BOE   = 000400 G        1400#
BSEL0   002440          1489#   1773*   1778*   2232    2270*   2278*   2641*   2676*   2681*   4254*   4306*   4317*   4338
                        4356*   4376    4398*   4401*   4496*   4519    4535*   4603*   4661*   4671*   4732    4734*   4740*
                        4818*   4824*   4891*   4900*   5566*   5573*   5830*   5836*   6321*   6327*   6378*   6384*   6446*
                        6452*   6491*   6498*   7196*   7202*
BSEL1   002442          1492#   2137*   2139*   2140*   2187*   2190*   2220*   2223*   2260*   2268*   2394*   2501*   3451*
                        3452*   4491*   4508    4722*   4725*   4801*   4873*   6690*
BSEL10  002460          1502#   2401*   2653*   2674*   3463*   3464*
BSEL2   002444          1494#   1630    1633    1643*   1673    1676    1686*   1718    1781*   1812    2022    2262*   2275
                        2279*   2403*   2627*   2655*   2659*   2677*   2682*   2701    2721*   2762*   4265    4320*   4619*
                        4627    4673*   4678    4689    4743*   4748    4804    4817*   4826*   4879    4890*   4902*   4904
                        4989*   5298    5431*   5565*   5577*   5602*   5614*   5693*   5729*   5765*   5837*   5847*   5957*
                        5977*   5989    6054*   6075*   6086    6201*   6331*   6388*   6456*   6502*   7156*   7172*   7192*
                        7204*   7205*   7233*   7252*   7264*   7285*
BSEL3   002446          1495#   1777*   1826    2648*   2669*   3457*   3458*   4424*   4462*   4741*   5576*   6328*   6387*
                        6455*   6499*
BSEL4   002450          1496#   1779*   1882    2248    2647*   2668*   4494*   5574*   5681*   5682    6330*   6386*   6454*
                        6501*   6760    7167    7222
BSEL5   002452          1498#   3459*   3460*
BSEL6   002454          1499#   1734    1780*   1853    1983    2029    2138*   2239    2241    2277*   2654*   2658*   2675*
```

```
                2680*  2801   4231   4233   4318*  4495*  4616*  4672*  4742*  4761   4807   4825*  4901*
                5575*  6329*  6385*  6453*  6500*  7203*
BSEL7   002456  1501#  3461*  3462*  3711   3714   3734   3747   3758   3861   3864   3884   3897   3908
                4011   4014   4034   4047   4058   4305*  4319*  4332   4372
CADDR   002404  1472#  2113   2117   3631*  3637*  3640*  3641   3656*  3670*  3681*  3706*  3712*  3715*
                3716   3731*  3745*  3756*  3781*  3787*  3790*  3791   3806*  3820*  3831*  3856*  3862*
                3865*  3866   3881*  3895*  3906*  3931*  3937*  3940*  3941   3956*  3970*  3981*  4006*
                4012*  4015*  4016   4031*  4045*  4056*
CFM1    005306  2327   2356#
CFM2    005373  2336   2365#
CFM3    005451  2344   2373#
CFM4    005466  2350   2376#
CODEW   002430  1483#  1724*  1738*  1817*  1858*  1888*  1988*  2032*  3017   4694*  4754*  4764*  5687*
                6764*
CONTIN  003162  1772#  2494   2592   2601   2612   2633   4868   4948   4965   4992   5038   5053   5067
                5147   5160   5209   5222   5271   5284   5340   5399   5413   5435   5486   5533   5542
                5579   5618   5645   5658   5695   5708   5731   5767   5780   5879   5926   5939   5959
                5979   6023   6036   6056   6076   6122   6136   6149   6203   6216   6366   6427   6437
                6695   6708   6721   7097   7107   7119   7128   7136   7158   7177   7212   7234   7287
COUNT   002342  1454#  3484*  3489*  4214*  4220*
COUNTT  005134  2293*  2300*  2306#
CRCCAL  002434  1485#  2411*  2432
CRCR    004376  2158#  2419   3644   3719   3794   3869   3944   4019
CWORD   002374  1468#  2162*  2166   2167*  2168*  2393*  2433   2963   3633*  3647*  3648   3708*  3722*
                3723   3783*  3797*  3798   3858*  3872*  3873   3933*  3947*  3948   4008*  4022*  4023
C$AU  = 000052  1094#  3543
C$AUTO= 000061  1094#  3497
C$BRK = 000022  1094#  2303
C$BSEG= 000004  1094#
C$BSUB= 000002  1094#  5321   5380   5470
C$CEFG= 000045  1094#
C$CLCK= 000062  1094#
C$CLEA= 000012  1094#  3510
C$CLOS= 000035  1094#
C$CLP1= 000006  1094#
C$CVEC= 000036  1094#  3591   4482   4484
C$DCLN= 000044  1094#  3588
C$DODU= 000051  1094#  3492
C$DRPT= 000024  1094#
C$DU  = 000053  1094#  3527
C$EDIT= 000003  1094#  1171
C$ERDF= 000055  1094#  1638   1681   1728   1742   1818   1830   1859   1889   1922   1958   1989   2033
                2046   2062   2069   2295   2435   2745   3601   3652   3662   3686   3727   3737   3761
                3802   3812   3836   3877   3887   3911   3952   3962   3986   4027   4037   4061   4093
                4139   4225   4236   4246   4346   4384   4510   4527   4549   4559   4630   4681   4695
                4755   4765   4810   4906   5301   5688   5992   6089   6765
C$ERHR= 000056  1094#
C$ERRO= 000060  1094#
C$ERSF= 000054  1094#
C$ERSO= 000057  1094#  2250
C$ESCA= 000010  1094#  4086   4098   4132   4143   4229   4242   4250   4259   4268   4303   4311   4326
                4350   4366   4388   4432   4468   4502   4515   4531   4595   4609   4655   4665   4686
                4700   4730   4738   4746   4759   4793   4822   4832   4858   4885   4895   4941   4954
                4971   4983   4998   5030   5044   5059   5073   5083   5094   5104   5139   5153   5166
                5176   5201   5215   5228   5239   5263   5277   5290   5332   5343   5354   5366   5390
                5402   5416   5425   5438   5449   5458   5478   5489   5499   5529   5539   5547   5555
```

CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- USER SYMBOLS

```
                    5560  5571  5584  5590  5595  5600  5606  5612  5637  5651  5664  5675  5701
                    5714  5724  5737  5748  5759  5773  5786  5796  5824  5834  5842  5871  5882
                    5892  5918  5932  5942  5952  5962  5972  5982  6015  6029  6039  6049  6059
                    6069  6079  6114  6128  6142  6155  6169  6182  6195  6209  6222  6235  6248
                    6288  6296  6315  6325  6336  6358  6372  6382  6393  6419  6430  6440  6450
                    6461  6485  6496  6508  6547  6556  6596  6605  6637  6647  6682  6701  6714
                    6727  6740  6753  6769  6876  6935  6996  7033  7065  7089  7099  7109  7121
                    7130  7138  7146  7151  7160  7165  7179  7200  7214  7236  7241  7257  7262
                    7271  7277  7289  7294
C$ESEG= 000005       1094#
C$ESUB= 000003       1094#  5378  5468  5510
C$ETST= 000001       1094#  3594  3692  3767  3842  3917  3992  4067  4114  4158  4271  4576  4639
                     4709   4771  4840  4912  5011  5121  5183  5246  5308  5512  5623  5803  5853
                     5899   5998  6095  6261  6299  6342  6399  6468  6514  6563  6612  6654  6817
                     6881   6940  7001  7041  7073  7299
C$EXIT= 000032       1094#  4536  4814  6671  6776
C$GETB= 000026       1094#
C$GETW= 000027       1094#
C$GMAN= 000043       1094#
C$GPHR= 000042       1094#  3441
C$GPLO= 000030       1094#
C$GPRI= 000040       1094#
C$INIT= 000011       1094#  3479
C$INLP= 000020       1094#
C$MANI= 000050       1094#
C$MEM = 000031       1094#
C$MSG = 000023       1094#  2795  2809  2821  2833  2845  2857  2875  2890  2903  2921  2942  2960
                     2973   2986  3000  3025  3037
C$OPEN= 000034       1094#
C$PNTB= 000014       1094#  2792  2805  2817  2829  2841  2853  2871  2886  2899  2909  2917  2927
                     2933   2938  2956  2969  2982  2996  3012  3021  3033
C$PNTF= 000017       1094#  2565  2576  2583  3679  3754  3829  3904  3979  4054  4107  4152
C$PNTS= 000016       1094#
C$PNTX= 000015       1094#  2330  2339  2347  2353  3611
C$QIO = 000377       1094#
C$RDBU= 000007       1094#
C$REFG= 000047       1094#  3410  3414  3418  3422
C$RESE= 000033       1094#  3495  3507  3525
C$REVI= 000003       1094#  1170
C$RFLA= 000021       1094#
C$RPT = 000025       1094#  3380
C$SEFG= 000046       1094#
C$SPRI= 000041       1094#  4426  4461  4541  4548  4558  4568  6851  6910  6971
C$SVEC= 000037       1094#  3575  4411  4419  4450  4456
C$TPRI= 000013       1094#
DATLST  033714       4490   5050  5100  5110  7506#
DEVMAP  002350       1457#  3428* 3447*
DEVPTR  002352       1458#  3433* 3444*  3447  3448*
DFMT4   013562       3336#
DFMT5   013575       3338#
DFMT6   013625       3343#
DFMT9   013660       3348#
DFPTBL  002264 G     1286#
DIAGMC= 000000       1094
DISILO  002510       1519#
DMPMOD  002000 G     1102#
```

CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- USER SYMBOLS

```
DRUN  = 000200 G      1097#  4306
DUPTYP  030306        6677   6805#
ECBINT  014616 G      3572   3598#
EF.CON= 000036 G      1376#  3421
EF.NEW= 000035 G      1377#  3417
EF.PWR= 000034 G      1378#
EF.RES= 000037 G      1375#  3413
EF.STA= 000040 G      1374#  3409
EMT0    010746        3073#  3603
ENDIT   014426        3423   3477#
ERLB1   017766        4255   4261#
ERLB10  021520        4732#
ERLB2   020130        4323   4328#
ERLB3   020264        4363   4368#
ERLB4   020522        4429   4434#
ERLB5   020644        4465   4470#
ERLB6   020744        4499   4504#
ERLB7   004600        2226   2230#
ERLB8   004632        2234   2238#
ERLB9   C05036        2271   2275#
EROIC   011506        1730   1744   1820   1861   1891   1991   2035   3139#  4697   4757   4767   5690   6767
ERRADD  002406        1473#  1626*  1669*  1713*  1772*  1808*  1852*  1881*  1911*  1945*  1982*  2226*  2234*
                      2271*  2864   2949   2991   3007   4255*  4323*  4363*  4429*  4465*  4499*
ERROR1  002326        1448#  3397*
ERRWRD  002402        1471#  1628   1642*  1671   1685*  1715   1732*  1746*  1775   1810   1822*  1834*  1863*
                      1893*  1926*  1962*  1993*  2020   2037*  2050*  2066*  2228   2236   2254*  2264   2273
                      2299*  2396   2405   2496   2593   2603   2614   2621   2625   2635   2644   2665   2699
                      2710   2714   2718   2724   2728   2732   2749*  2765   2769   2773   4085*  4131*  4258*
                      4302*  4310*  4325*  4365*  4431*  4467*  4501*  4594*  4608*  4654*  4664*  4707*  4729*
                      4737*  4745*  4792*  4821*  4831*  4857*  4870   4884*  4894*  4940*  4953*  4970*  4982*
                      4997*  5008*  5029*  5043*  5058*  5072*  5082*  5093*  5103*  5138*  5152*  5165*  5175*
                      5200*  5214*  5227*  5238*  5262*  5276*  5289*  5331*  5342*  5353*  5365*  5389*  5401*
                      5415*  5424*  5437*  5447*  5457*  5477*  5488*  5498*  5508*  5528*  5538*  5546*  5554*
                      5559*  5570*  5583*  5589*  5594*  5599*  5605*  5611*  5619*  5636*  5650*  5663*  5674*
                      5700*  5713*  5723*  5736*  5747*  5758*  5772*  5785*  5795*  5823*  5833*  5841*  5870*
                      5881*  5891*  5917*  5931*  5941*  5951*  5961*  5971*  5981*  6014*  6028*  6038*  6048*
                      6058*  6068*  6078*  6113*  6127*  6141*  6154*  6168*  6181*  6194*  6208*  6221*  6234*
                      6247*  6259*  6287*  6295*  6314*  6324*  6335*  6357*  6371*  6381*  6392*  6418*  6429*
                      6439*  6449*  6460*  6484*  6495*  6507*  6546*  6555*  6595*  6603*  6636*  6646*  6681*
                      6700*  6713*  6726*  6739*  6752*  6875*  6879*  6934*  6938*  6995*  6999*  7032*  7039*
                      7064*  7071*  7088*  7098*  7108*  7120*  7129*  7137*  7145*  7150*  7159*  7164*  7178*
                      7199*  7213*  7235*  7240*  7256*  7261*  7270*  7276*  7288*  7293*
ERR1    007350 G      2787#  3604
ERR10   007552 G      2849#  4684   5304
ERR18   007600 G      1833   2863#
ERR19   007646 G      2748   2879#
ERR20   007706 G      2049   2894#
ERR21   007740 G      2065   2905#
ERR22   010022 G      2072   2923#
ERR23   010114 G      1925   1961   2948#
ERR24   010162 G      2438   2962#  3655   3730   3805   3880   3955   4030
ERR25   010224 G      2975#  3665   3740   3815   3890   3965   4040   4096   4142
ERR26   010266 G      1641   1684   2298   2990#
ERR27   010324 G      1731   1745   1821   1862   1892   1992   2036   3006#  4698   4758   4768   5691   6768
ERR3    007376 G      2800#  4228   4239
ERR32   010422 G      2253   3029#  3689   3764   3839   3914   3989   4064   4249   4513   4552   4562   4813
```

CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- USER SYMBOLS

```
                        4909    5995    6092
ERR5    007430 G        2811#   4349    4387
ERR6    007466 G        2823#   4530
ERR9    007524 G        2837#   4633
EVL   = 000004 G        1394#
EXLOOP  002400          1470#   2258    3399*   6543*   6545*   6592*   6594*   7029*   7031*
EXMDT   021134          4295    4573#
EXMEM   003744          2019#
EXMEMA  004122          2025    2055#
EXMEMB  004036          2027    2032#
EXMEMC  004062          2031    2039#
EXMEMX  004226          2021    2038    2051    2061    2067    2075#
E$END = 002100          1094#
E$LOAD= 000035          1094#   1194
FMTO    010774          3077#   3608
FRSPAS  002354          1459#   3431*
FRSTIM  002330          1449#   3400    3407*
F$AU  = 000015          1094#   3541    3542
F$AUTO= 000020          1094#   3482    3496
F$BGN = 000040          1094#   1102    1212    2787    2800    2811    2823    2837    2849    2863    2879    2894    2905
                        2923    2948    2962    2975    2990    3006    3029    3372    3377    3393    3482    3506    3523
                        3541    3570    3593    3598    3627    3691    3702    3766    3777    3841    3852    3916    3927
                        3991    4002    4066    4078    4086    4098    4113    4124    4132    4143    4157    4212    4229
                        4242    4250    4259    4268    4270    4291    4303    4311    4326    4350    4366    4388    4432
                        4468    4502    4515    4531    4536    4539    4546    4556    4566    4575    4590    4595    4609
                        4638    4650    4655    4665    4686    4700    4708    4720    4730    4738    4746    4759    4770
                        4787    4793    4814    4822    4832    4839    4852    4858    4885    4895    4911    4927    4941
                        4954    4971    4983    4998    5010    5023    5030    5044    5059    5073    5083    5094    5104
                        5120    5134    5139    5153    5166    5176    5182    5196    5201    5215    5228    5239    5245
                        5258    5263    5277    5290    5307    5318    5320    5332    5343    5354    5366    5377    5379
                        5390    5402    5416    5425    5438    5449    5458    5467    5469    5478    5489    5499    5509
                        5511    5525    5529    5539    5547    5555    5560    5571    5584    5590    5595    5600    5606
                        5612    5622    5632    5637    5651    5664    5675    5701    5714    5724    5737    5748    5759
                        5773    5786    5796    5802    5818    5824    5834    5842    5852    5866    5871    5882    5892
                        5898    5913    5918    5932    5942    5952    5962    5972    5982    5997    6010    6015    6029
                        6039    6049    6059    6069    6079    6094    6109    6114    6128    6142    6155    6169    6182
                        6195    6209    6222    6235    6248    6260    6277    6288    6296    6298    6310    6315    6325
                        6336    6341    6353    6358    6372    6382    6393    6398    6414    6419    6430    6440    6450
                        6461    6467    6480    6485    6496    6508    6513    6532    6547    6556    6562    6579    6596
                        6605    6611    6626    6637    6647    6653    6667    6671    6682    6701    6714    6727    6740
                        6753    6769    6776    6816    6838    6876    6880    6897    6935    6939    6957    6996    7000
                        7017    7033    7040    7054    7065    7072    7084    7089    7099    7109    7121    7130    7138
                        7146    7151    7160    7165    7179    7200    7214    7236    7241    7257    7262    7271    7277
                        7289    7294    7298    7320    7448
F$CLEA= 000007          1094#   3506    3509
F$DU  = 000016          1094#   3523    3526
F$END = 000041          1094#   1102    2796    2810    2822    2834    2846    2858    2876    2891    2904    2922    2943
                        2961    2974    2987    3001    3026    3038    3375    3381    3480    3498    3511    3528    3544
                        3570    3593    3595    3615    3627    3691    3693    3702    3766    3768    3777    3841    3843
                        3852    3916    3918    3927    3991    3993    4002    4066    4068    4078    4086    4098    4113
                        4115    4124    4132    4143    4157    4159    4212    4229    4242    4250    4259    4268    4270
                        4272    4291    4303    4311    4326    4350    4366    4388    4432    4468    4502    4515    4531
                        4536    4545    4555    4565    4572    4575    4577    4590    4595    4609    4638    4640    4650
                        4655    4665    4686    4700    4708    4710    4720    4730    4738    4746    4759    4770    4772
                        4787    4793    4814    4822    4832    4839    4841    4852    4858    4885    4895    4911    4913
                        4927    4941    4954    4971    4983    4998    5010    5012    5023    5030    5044    5059    5073
```

```
                    5083  5094  5104  5120  5122  5134  5139  5153  5166  5176  5182  5184  5196
                    5201  5215  5228  5239  5245  5247  5258  5263  5277  5290  5307  5309  5318
                    5320  5332  5343  5354  5366  5377  5379  5390  5402  5416  5425  5438  5449
                    5458  5467  5469  5478  5489  5499  5509  5511  5513  5525  5529  5539  5547
                    5555  5560  5571  5584  5590  5595  5600  5606  5612  5622  5624  5632  5637
                    5651  5664  5675  5701  5714  5724  5737  5748  5759  5773  5786  5796  5802
                    5804  5818  5824  5834  5842  5852  5854  5866  5871  5882  5892  5898  5900
                    5913  5918  5932  5942  5952  5962  5972  5982  5997  5999  6010  6015  6029
                    6039  6049  6059  6069  6079  6094  6096  6109  6114  6128  6142  6155  6169
                    6182  6195  6209  6222  6235  6248  6260  6262  6277  6288  6296  6298  6300
                    6310  6315  6325  6336  6341  6343  6353  6358  6372  6382  6393  6398  6400
                    6414  6419  6430  6440  6450  6461  6467  6469  6480  6485  6496  6508  6513
                    6515  6532  6547  6556  6562  6564  6579  6596  6605  6611  6613  6626  6637
                    6647  6653  6655  6667  6671  6682  6701  6714  6727  6740  6753  6769  6776
                    6816  6818  6838  6876  6880  6882  6897  6935  6939  6941  6957  6996  7000
                    7002  7017  7033  7040  7042  7054  7065  7072  7074  7084  7089  7099  7109
                    7121  7130  7138  7146  7151  7160  7165  7179  7200  7214  7236  7241  7257
                    7262  7271  7277  7289  7294  7298  7300  7359  7453
F$HARD= 000004       1094#  7320  7357
F$HW  = 000013       1094#  1284  1305
F$INIT= 000006       1094#  3393  3478
F$JMP = 000050       1094#  3375  4536  4814  6671  6776
F$MOD = 000000       1094#  1102
F$MSG = 000011       1094#  2787  2794  2800  2808  2811  2820  2823  2832  2837  2844  2849  2856
                     2863  2874  2879  2889  2894  2902  2905  2920  2923  2941  2948  2959  2962
                     2972  2975  2985  2990  2999  3006  3024  3029  3036
F$PROT= 000021       1094#  1212  1216
F$PWR = 000017       1094#
F$RPT = 000012       1094#  3372  3379
F$SEG = 000003       1094#
F$SOFT= 000005       1094#  7448  7451
F$SRV = 000010       1094#  3598  3613  4539  4543  4546  4553  4556  4563  4566  4570
F$SUB = 000002       1094#  5321  5377  5380  5467  5470  5509
F$SW  = 000014       1094#  1318  1323
F$TEST= 000001       1094#  3571  3593  3628  3691  3703  3766  3778  3841  3853  3916  3928  3991
                     4003  4066  4079  4113  4125  4157  4213  4270  4292  4575  4591  4638  4651
                     4708  4721  4770  4788  4839  4853  4911  4928  5010  5024  5120  5135  5182
                     5197  5245  5259  5307  5319  5511  5526  5622  5633  5802  5819  5852  5867
                     5898  5914  5997  6011  6094  6110  6260  6278  6298  6311  6341  6354  6398
                     6415  6467  6481  6513  6533  6562  6580  6611  6627  6653  6668  6816  6839
                     6880  6898  6939  6958  7000  7018  7040  7055  7072  7085  7298

GENWRD  002432       1484#  2606  2684  2688  2760  6282*  6539*  6588*  6632*  6866*  6868*  6925*  6927*
                     6986*  6988*  7021*  7061*  7062*  7086*

GETBA   003576       1945#  2717  2731  2772  5598
GETCC   003514       1911#  2713  2727  2768  5593
GETDAT  003446       1881#  5101  5455  6189  6255  7187  7248  7297
GETOC   003670       1982#  2624  5558  7149  7260  7274
GETOUT  003242       1808#  2620  2709  2723  2764  5079  5350  5445  5496  5550  5587  5604  5671
                     5744  6162  6229  6734  7144  7163  7182  7218  7239  7255  7269  7292

GETPRM  014164       3424  3436#  3445
GETRKY  003372       1852#  4705  5091  5363  5506  5609  5755  6176  6242  6747
GSSREP  023740       5431#  5465
GWORD   004274       2112#  3635  3638  3658  3671  3682  3710  3713  3733  3746  3757  3785  3788
                     3808  3821  3832  3860  3863  3883  3896  3907  3935  3938  3958  3971  3982
                     4010  4013  4033  4046  4057

G$CNTO= 000200       1094#
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```
G$DELM= 000372          1094#
G$DISP= 000003          1094#
G$EXCP= 000400          1094#
G$HILI= 000002          1094#
G$LOLI= 000001          1094#
G$NO  = 000000          1094#
G$OFFS= 000400          1094#  7322  7327  7331  7335  7340  7345  7350
G$OFSI= 000376          1094#  7322  7327  7331  7335  7340  7345  7350
G$PRMA= 000001          1094#  7327  7331
G$PRMD= 000002          1094#  7322  7335  7340  7345  7350
G$PRML= 000000          1094#
G$RADA= 000140          1094#
G$RADB= 000000          1094#
G$RADD= 000040          1094#
G$RADL= 000120          1094#
G$RADO= 000020          1094#  7322  7327  7331  7335  7340  7345  7350
G$XFER= 000004          1094#
G$YES = 000010          1094#  7322  7327  7331  7335  7340  7345  7350
HELP  = 000000          1093#  1125  1212  1271  1587  3374  3378
HOE   = 100000 G        1407#
IBE   = 010000 G        1404#
IDU   = 000040 G        1397#
IER   = 020000 G        1405#
IFLAG   002334          1451#  4423* 4438  4459* 4474  4542* 4569*
IFTYP   002474          1513#  2507  2523  2538  3474* 3475*
IFTYPM  033355          7351   7421#
INTC0   021044 G        4408   4539#
INTC4   021060 G        4416   4546#
INTD0   021100 G        4447   4556#
INTD4   021120 G        4453   4566#
ISR   = 000100 G        1398#
IXE   = 004000 G        1403#
I$AU  = 000041          1094#  3541#  3544#
I$AUTO= 000041          1094#  3482#  3498#
I$CLN = 000041          1094#  3506#  3511#
I$DU  = 000041          1094#  3523#  3528#
I$HRD = 000041          7320#  7359#
I$INIT= 000041          1094#  3393#  3480#
I$MOD = 000040          1094#  1102#
I$MSG = 000041          1094#  2787#  2796#  2800#  2810#  2811#  2822#  2823#  2834#  2837#  2846#  2849#  2858#
                        2863#  2876#  2879#  2891#  2894#  2904#  2905#  2922#  2923#  2943#  2948#  2961#  2962#
                        2974#  2975#  2987#  2990#  3001#  3006#  3026#  3029#  3038#
I$PROT= 000040          1094#  1212#
I$PTAB= 000041          1094#
I$PWR = 000041          1094#
I$RPT = 000041          1094#  3372#  3381#
I$SEG = 000041          1094#  3570  3627  3702  3777  3852  3927  4002  4078  4124  4212  4291  4590
                        4650   4720  4787  4852  4927  5023  5134  5196  5258  5318  5320  5379  5469
                        5525   5632  5818  5866  5913  6010  6109  6277  6310  6353  6414  6480  6532
                        6579   6626  6667  6838  6897  6957  7017  7054  7084
I$SETU= 000041          1094#
I$SFT = 000041          7448#  7453#
I$SRV = 000041          1094#  3598#  3615#  4539#  4545#  4546#  4555#  4556#  4565#  4566#  4572#
I$SUB = 000041          1094#  3570  3627  3702  3777  3852  3927  4002  4078  4124  4212  4291  4590
                        4650   4720  4787  4852  4927  5023  5134  5196  5258  5318  5320#  5332  5343
                        5354   5366  5377#  5379#  5390  5402  5416  5438  5449  5458  5467#  5469#  5478
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		5489	5499	5509#	5511#	5525	5632	5818	5866	5913	6010	6109	6277	6310
		6353	6414	6480	6532	6579	6626	6667	6838	6897	6957	7017	7054	7084
I$TST =	000041	1094#	3570#	3593#	3595#	3627#	3691#	3693#	3702#	3766#	3768#	3777#	3841#	3843#
		3852#	3916#	3918#	3927#	3991#	3993#	4002#	4066#	4068#	4078#	4086	4098	4113#
		4115#	4124#	4132	4143	4157#	4159#	4212#	4229	4242	4250	4259	4268	4270#
		4272#	4291#	4303	4311	4326	4350	4366	4388	4432	4468	4502	4515	4531
		4536	4575#	4577#	4590#	4595	4609	4638#	4640#	4650#	4655	4665	4686	4700
		4708#	4710#	4720#	4730	4738	4746	4759	4770#	4772#	4787#	4793	4814	4822
		4832	4839#	4841#	4852#	4858	4885	4895	4911#	4913#	4927#	4941	4954	4971
		4983	4998	5010#	5012#	5023#	5030	5044	5059	5073	5083	5094	5104	5120#
		5122#	5134#	5139	5153	5166	5176	5182#	5184#	5196#	5201	5215	5228	5239
		5245#	5247#	5258#	5263	5277	5290	5307#	5309#	5318#	5320	5379	5425	5469
		5511#	5513#	5525#	5529	5539	5547	5555	5560	5571	5584	5590	5595	5600
		5606	5612	5622#	5624#	5632#	5637	5651	5664	5675	5701	5714	5724	5737
		5748	5759	5773	5786	5796	5802#	5804#	5818#	5824	5834	5842	5852#	5854#
		5866#	5871	5882	5892	5898#	5900#	5913#	5918	5932	5942	5952	5962	5972
		5982	5997#	5999#	6010#	6015	6029	6039	6049	6059	6069	6079	6094#	6096#
		6109#	6114	6128	6142	6155	6169	6182	6195	6209	6222	6235	6248	6260#
		6262#	6277#	6288	6296	6298#	6300#	6310#	6315	6325	6336	6341#	6343#	6353#
		6358	6372	6382	6393	6398#	6400#	6414#	6419	6430	6440	6450	6461	6467#
		6469#	6480#	6485	6496	6508	6513#	6515#	6532#	6547	6556	6562#	6564#	6579#
		6596	6605	6611#	6613#	6626#	6637	6647	6653#	6655#	6667#	6671	6682	6701
		6714	6727	6740	6753	6769	6776	6816#	6818#	6838#	6876	6880#	6882#	6897#
		6935	6939#	6941#	6957#	6996	7000#	7002#	7017#	7033	7040#	7042#	7054#	7065
		7072#	7074#	7084#	7089	7099	7109	7121	7130	7138	7146	7151	7160	7165
		7179	7200	7214	7236	7241	7257	7262	7271	7277	7289	7294	7298#	7300#
JMO	014614	3577*	3586	3596#	3599	3605*								
J$JMP =	000167	1094#	3375											
KMRLVL	002470	1509#	4407	4446										
KMRVEC	002462	1504#	4409	4448	4481									
KMTLVL	002470	1510#	4415	4452										
KMTVEC	002464	1506#	4417	4454	4483									
LASTR5	005136	2291	2301*	2308#										
LOE =	040000 G	1406#												
LOGDEV	002332	1450#	2326	3430*	3437*	3438	3440	3491	3675	3750	3825	3900	3975	4050
		4103	4148											
LOOPBK	033040	7341	7384#											
LOT =	000010 G	1395#												
LULOOP=	000010	1420#												
L$ACP	002110 G	1201#												
L$APT	002036 G	1159#												
L$AU	014502 G	1186	3541#											
L$AUT	002070 G	1185#												
L$AUTO	014430 G	1202	3482#											
L$CCP	002106 G	1199#												
L$CLEA	014472 G	1200	3506#											
L$CO	002032 G	1155#												
L$DEPO	002011 G	1137#												
L$DESC	002606 G	1192	1574#											
L$DESP	002076 G	1191#												
L$DEVP	002060 G	1177#												
L$DISP	002132 G	1162	1225#											
L$DLY	002116 G	1207#												
L$DTP	002040 G	1161#												
L$DTYP	002034 G	1157#												
L$DU	014476 G	1188	3523#											

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L$DUT	002072	G	1187#		
L$DVTY	002564	G	1178	1568#	
L$EF	002052	G	1172#		
L$ENVI	002044	G	1165#		
L$ETP	002102	G	1195#		
L$EXP1	002046	G	1167#		
L$EXP4	002064	G	1181#		
L$EXP5	002066	G	1183#		
L$HARD	032534	G	1144	7320	7321#
L$HIME	002120	G	1209#		
L$HPCP	002016	G	1143#		
L$HPTP	002022	G	1147#		
L$HW	002264	G	1148	1284	1285#
L$ICP	002104	G	1197#		
L$INIT	013774	G	1198	3393#	
L$LADP	002026	G	1151#		
L$LAST	037660	G	1152	7520#	
L$LOAD	002100	G	1193#		
L$LUN	002074	G	1189#		
L$MREV	C02050	G	1169#		
L$NAME	002000	G	1126#		
L$PRIO	002042	G	1163#		
L$PROT	002122	G	1204	1212#	
L$PRT	002112	G	1203#		
L$REPP	002062	G	1179#		
L$REV	002010	G	1135#		
L$RPT	013766	G	3372#		
L$SOFT	033446	G	7448	7449#	
L$SPC	002056	G	1175#		
L$SPCP	002020	G	1145#		
L$SPTP	002024	G	1149#		
L$STA	002030	G	1153#		
L$SW	002316	G	1318	1319#	
L$TEST	002114	G	1205#		
L$TIML	002014	G	1141#		
L$UNIT	002012	G	1139#	3438	
L10001	002314		1284	1305#	
L10002	002316		1318	1323#	
L10003	007374		2794#		
L10004	007426		2808#		
L10005	007464		2820#		
L10006	007522		2832#		
L10007	007550		2844#		
L10010	007576		2856#		
L10011	007644		2874#		
L10012	007704		2889#		
L10013	007736		2902#		
L10014	010020		2920#		
L10015	010112		2941#		
L10016	010160		2959#		
L10017	010222		2972#		
L10020	010264		2985#		
L10021	010322		2999#		
L10022	010420		3024#		
L10023	010446		3036#		
L10024	013772		3376	3379#	

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L10025  014426          3478#
L10026  014470          3496#
L10027  014474          3509#
L10030  014500          3526#
L10031  014502          3542#
L10032  014612          3593#
L10033  014662          3613#
L10034  015214          3691#
L10035  015546          3766#
L10036  016100          3841#
L10037  016432          3916#
L10040  016764          3991#
L10041  017316          4066#
L10042  017456          4087    4099    4113#
L10043  017616          4133    4144    4157#
L10044  020002          4230    4243    4251    4260    4269    4270#
L10045  021134          4304    4312    4327    4351    4367    4389    4433    4469    4503    4516    4532    4537    4575#
L10046  021056          4543#
L10047  021076          4553#
L10050  021116          4563#
L10051  021132          4570#
L10052  021246          4596    4610    4638#
L10053  021456          4656    4666    4687    4701    4708#
L10054  021722          4731    4739    4747    4760    4770#
L10055  022132          4794    4815    4823    4833    4839#
L10056  022364          4859    4886    4896    4911#
L10057  022616          4942    4955    4972    4984    4999    5010#
L10060  023102          5031    5045    5060    5074    5084    5095    5105    5120#
L10061  023210          5140    5154    5167    5177    5182#
L10062  023316          5202    5216    5229    5240    5245#
L10063  023432          5264    5278    5291    5307#
L10064  024160          5426    5511#
L10065  023574          5333    5344    5355    5367    5377#
L10066  024052          5391    5403    5417    5439    5450    5459    5467#
L10067  024156          5479    5490    5500    5509#
L10070  024606          5530    5540    5548    5556    5561    5572    5585    5591    5596    5601    5607    5613    5622#
L10071  025234          5638    5652    5665    5676    5702    5715    5725    5738    5749    5760    5774    5787    5797
                        5802#
L10072  025350          5825    5835    5843    5852#
L10073  025434          5872    5883    5893    5898#
L10074  025662          5919    5933    5943    5953    5963    5973    5983    5997#
L10075  026110          6016    6030    6040    6050    6060    6070    6080    6094#
L10076  026436          6115    6129    6143    6156    6170    6183    6196    6210    6223    6236    6249    6260#
L10077  026532          6289    6297    6298#
L10100  026652          6316    6326    6337    6341#
L10101  027020          6359    6373    6383    6394    6398#
L10102  027206          6420    6431    6441    6451    6462    6467#
L10103  027324          6486    6497    6509    6513#
L10104  027446          6548    6557    6562#
L10105  027610          6597    6606    6611#
L10106  027704          6638    6648    6653#
L10107  030332          6672    6683    6702    6715    6728    6741    6754    6770    6777    6816#
L10110  030574          6877    6880#
L10111  031036          6936    6939#
L10112  031300          6997    7000#
L10113  031416          7034    7040#
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L10114  031514          7066    7072#
L10115  032530          7090    7100    7110    7122    7131    7139    7147    7152    7161    7166    7180    7201    7215
                        7237    7242    7258    7263    7272    7278    7290    7295    7298#
L10116  032636          7320    7358#
L10117  033446          7448    7452#
MCLR  = 000100          1418#
MEFC    011200          3101#   4348    4386    4529
MEF1    010675          2789    3066#
MEF1A   011603          2993    3009    3150#
MEF11   011536          3018    3143#
MEF14   012021          1640    3180#
MEF15   012066          1683    3187#
MEF16A  012133          1924    3194#
MEF17A  012176          1960    3200#
MEF18   012301          2868    3212#
MEF18A  012242          1832    3206#
MEF19   012372          2883    3223#
MEF19A  012337          2747    3218#
MEF23   012460          2953    3233#
MEF3    011105          2802    3090#
MEF3A   011043          3084#   4227    4238
MEF30   012516          3239#   4812    4908    5994    6091
MEF31   012540          3242#   3688    3763    3838    3913    3988    4063
MEF32   012566          2252    3246#
MEF4    011125          3093#   4248
MEF5    011243          2814    3107#
MEF6    011336          2826    3118#
MEF7    011414          2297    3128#   4512
MEF8    011446          3133#   4551    4561
MEMEX   003744          2018#   6878    6937    6998
META    004222          2074#   6840    6899    6959
METB    004216          2043    2073#
METC    004202          2056    2068#
MFPC    011611          2865    2950    2992    3008    3152#
MFRI    011774          3175#
MFRO    011770          3174#
MGB     011730          3016    3168#
MINITR  004456          2187#   3483    4215
MINITS  004522          2219#   4298    4592    4652    4789    4854    4938    5027    5136    5198    5260    5329    5387
                        5475    5527    5634    5821    5868    5915    6012    6111    6284    6312    6355    6416    6482
                        6633    6873    6932    6993    7063    7087
MINIT1  004512          2217#   6544    6593    7030
MINTE   005066          2229    2237    2255    2265    2274    2280#
MINTR   004530          2218    2220#   6678
MIN1R   004502          2189    2191#
MIN2R   004554          2222    2224#
MODEA   027776          6688    6692#
MODEB   027734          6677#   6774
MODED   030032          6707#
MODEX   030226          6676    6775#
MODIN   030256          6789#
MODINT  002356          1460#
MODOUT  030262          6761    6792#
MODQ22  002376          1469#   1913    1949    2650    2671    3398*   6601*   6604*
MODTYP  030232          6693    6779#
MPCSR   002440          1491#   3450*
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MPIVEC  002462          1505#  3467*
MPOVEC  002464          1507#  3468*  3469*
MPRIOR  002470          1511#  3470*
MRDI    011660          2838   3160#
MRDO    011704          2850   3164#
MRFT    011630          3156#  4632   4683   5303
MR1     033454          2057   6280   6501   6538   6587   6628   6871   6930   6991   7023   7058   7470#
MR1E    033460          7471#
MR12    033460          7473#
MR12E   033714          7504#
MTFLG   007346          2687*  2705*  2756   2777#
M12F    011747          1858   3171#
M13F    011762          1738   2032   3173#  4764
M18F    012000          1724   1988   3176#  4754
M28F    012007          1817   3178#  4694
M30F    012014          1888   3179#  5687   6764
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PRI   = 002000 G        1402#
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PRI02 = 000100 G        1388#
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REG7    002540          1539#
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RET16   030570          6844   6879#
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RMVBB   005664          2425   2430#
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CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- USER SYMBOLS

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                4564#  4571#  4576#  4639#  4709#  4771#  4840#  4912#  5011#  5121#  5183#  5246#  5308#
                5378#  5468#  5510#  5512#  5623#  5803#  5853#  5899#  5998#  6095#  6261#  6299#  6342#
                6399#  6468#  6514#  6563#  6612#  6654#  6817#  6881#  6940#  7001#  7041#  7073#  7299#
                7359#  7453#
TABEN   006306   2561  2572  2585#
TABM    006262   2567  2578#
TESTAB  010624   2580  3058#
```

CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- USER SYMBOLS

TFM2A	013045	2914	3278#										
TFM20	012633	2896	3253#										
TFM21	012756	2906	3268#										
TFM22	013126	2924	3287#										
TFM22A	013214	2930	3296#										
TFM22B	013303	2935	3306#										
TFM24	013367	2966	3315#										
TFM25	013461	2979	3325#										
TLB1	017752	4256#	4266										
TLB10	021504	4724	4727#	4733									
TLB2	020106	4322#	4333										
TLB3	020242	4362#	4373										
TLB4	020500	4428#	4439										
TLB5	020622	4464#	4475										
TLB6	020722	4498#	4520										
TLB6A	020700	4493#	4534										
TLB7	004566	2227#	2233										
TLB8	004620	2235#	2242										
TLB9	005024	2272#	2276										
TMP0	C02544	1543#											
TMP1	002546	1544#											
TMP2	002550	1545#											
TMP3	002552	1546#											
TMP4	002554	1547#											
TMP5	002556	1548#											
TMP6	002560	1549#											
TMP7	002562	1550#											
TOUT	005070	1627	1670	2227	2235	2263	2272	2291#	4257	4324	4364	4430	4466	4500
		4728												
TOUTE	005120	2292	2300#											
TOUTEX	005130	2294	2302#											
TRIBH	002364	1463#	4935*	4936*	4960									
TRIBMX	002362	1462#	4928*	4931*	4936									
TRIBN	002360	1461#	1777	1825	2483	2484*	2596*	2648	2669	4934*	4959*	4960	4990*	5036*
		5145*	5207*	5269*	5327*	5386*	5484*	5531*	5576	5643*	5683	5877*	5924*	6021*
		6120*	6283*	6364*	6387	6425*	6455	6540*	6589*	6631*	6692*	6867*	6926*	6987*
		7026*	7056*	7094*	7105*									
TSSADD	002412	1475#	5024*	5051	5065	5089	5114	5116*	5326*	5338	5361	5373*	5374	5385*
		5396	5398	5408*	5409	5412	5432*	5433	5454	5464				
TSTCON	002476	1514#	2477	2487	2490	3472*	4802	4864	4877	6541	6590	6675	7027	
TXADD	002420	1479#	2668	2716	2737	2771	6280*	6538*	6587*	6628*	6871*	6930*	6991*	7023*
		7058*												
TXCC	002426	1482#	2674	2680	2712	2726	2753	2767	6281*	6537*	6586*	6627*	6872*	6931*
		6992*	7022*	7057*										
TXRXA	006476	2498	2594	2604	2615	2622	2626	2636#						
TXRXB	006462	2607	2632#											
TXRXC	006504	2628	2636	2641#										
TXRXEN	007344	2585	2637	2646	2667	2686	2700	2711	2715	2719	2725	2729	2733	2751
		2761	2766	2770	2774	2775#								
TXRXG	007074	2689	2706	2722#										
TXRXSR	005720	2477#	6553	6602	7038									
TXRX1	005746	2487#												
TXRX1A	005776	2491	2493#											
TXRX2	006340	2488	2590	2596#										
TXRX3	006346	2479	2600#	6294	6643	6874	6933	6994	7070					
TYEND	002420	1478#	5848											

```
TYLST   002414   1476#  5819
T$ARGC= 000004   1127#  1128#  1129#  1130#  1131#  1132#  2325#  2331   2332#  2340   2343#  2348   2350#
                 2354   2562#  2566   2573#  2577   2579#  2584   2788#  2793   2801#  2806   2812#  2818
                 2824#  2830   2838#  2842   2850#  2854   2864#  2872   2880#  2887   2895#  2900   2906#
                 2910   2911#  2918   2924#  2928   2929#  2934   2935#  2939   2949#  2957   2963#  2970
                 2976#  2983   2991#  2997   3007#  3013   3014#  3022   3030#  3034   3607#  3612   3673#
                 3680   3748#  3755   3823#  3830   3898#  3905   3973#  3980   4048#  4055   4101#  4108
                 4146#  4153
T$CODE= 013032   7322#  7327#  7331#  7335#  7340#  7345#  7350#
T$ERRN= 000055   1094#  1639#  1682#  1729#  1743#  1819#  1831#  1860#  1890#  1923#  1959#  1990#  2034#
                 2047#  2063#  2070#  2251#  2296#  2436#  2746#  3602#  3653#  3663#  3687#  3728#  3738#
                 3762#  3803#  3813#  3837#  3878#  3888#  3912#  3953#  3963#  3987#  4028#  4038#  4062#
                 4094#  4140#  4226#  4237#  4247#  4347#  4385#  4511#  4528#  4550#  4560#  4631#  4682#
                 4696#  4756#  4766#  4811#  4907#  5302#  5689#  5993#  6090#  6766#
T$EXCP= 000000   7322#  7327#  7331#  7335#  7340#  7345#  7350#  7355
T$FLAG= 000040   3375#  3377   4086#  4098#  4132#  4143#  4229#  4242#  4250#  4259#  4268#  4303#  4311#
                 4326#  4350#  4366#  4388#  4432#  4468#  4502#  4515#  4531#  4536#  4595#  4609#  4655#
                 4665#  4686#  4700#  4730#  4738#  4746#  4759#  4793#  4814#  4822#  4832#  4858#  4885#
                 4895#  4941#  4954#  4971#  4983#  4998#  5030#  5044#  5059#  5073#  5083#  5094#  5104#
                 5139#  5153#  5166#  5176#  5201#  5215#  5228#  5239#  5263#  5277#  5290#  5332#  5343#
                 5354#  5366#  5390#  5402#  5416#  5425#  5438#  5449#  5458#  5478#  5489#  5499#  5529#
                 5539#  5547#  5555#  5560#  5571#  5584#  5590#  5595#  5600#  5606#  5612#  5637#  5651#
                 5664#  5675#  5701#  5714#  5724#  5737#  5748#  5759#  5773#  5786#  5796#  5824#  5834#
                 5842#  5871#  5882#  5892#  5918#  5932#  5942#  5952#  5962#  5972#  5982#  6015#  6029#
                 6039#  6049#  6059#  6069#  6079#  6114#  6128#  6142#  6155#  6169#  6182#  6195#  6209#
                 6222#  6235#  6248#  6288#  6296#  6315#  6325#  6336#  6358#  6372#  6382#  6393#  6419#
                 6430#  6440#  6450#  6461#  6485#  6496#  6508#  6547#  6556#  6596#  6605#  6637#  6647#
                 6671#  6682#  6701#  6714#  6727#  6740#  6753#  6769#  6776#  6876#  6935#  6996#  7033#
                 7065#  7089#  7099#  7109#  7121#  7130#  7138#  7146#  7151#  7160#  7165#  7179#  7200#
                 7214#  7236#  7241#  7257#  7262#  7271#  7277#  7289#  7294#
T$GMAN= 000000   1094#
T$HILI= 000007   7322#  7326   7327#  7330   7331#  7334   7335#  7339   7340#  7344   7345#  7349   7350#
                 7354
T$LAST= 000001   1094#  7518#
T$LOLI= 000000   7322#  7325   7327#  7329   7331#  7333   7335#  7338   7340#  7343   7345#  7348   7350#
                 7353
T$LSYM= 010000   1094#  1306   1324   2795   2809   2821   2833   2845   2857   2875   2890   2903   2921
                 2942   2960   2973   2986   3000   3025   3037   3380   3479   3497   3510   3527   3543
                 3594   3614   3692   3767   3842   3917   3992   4067   4114   4158   4271   4544   4554
                 4564   4571   4576   4639   4709   4771   4840   4912   5011   5121   5183   5246   5308
                 5378   5468   5510   5512   5623   5803   5853   5899   5998   6095   6261   6299   6342
                 6399   6468   6514   6563   6612   6654   6817   6881   6940   7001   7041   7073   7299
                 7359   7453
T$LTNO= 000054   7521#
T$NEST= 000000   1094#  1102#  1212#  1216#  1284#  1305#  1318#  1323#  2787#  2794#  2800#  2808#  2811#
                 2820#  2823#  2832#  2837#  2844#  2849#  2856#  2863#  2874#  2879#  2889#  2894#  2902#
                 2905#  2920#  2923#  2941#  2948#  2959#  2962#  2972#  2975#  2985#  2990#  2999#  3006#
                 3024#  3029#  3036#  3372#  3379#  3393#  3478#  3482#  3496#  3506#  3509#  3523#  3526#
                 3541#  3542#  3571#  3593#  3598#  3613#  3628#  3691#  3703#  3766#  3778#  3841#  3853#
                 3916#  3928#  3991#  4003#  4066#  4079#  4113#  4125#  4157#  4213#  4270#  4292#  4539#
                 4543#  4546#  4553#  4556#  4563#  4566#  4570#  4575#  4591#  4638#  4651#  4708#  4721#
                 4770#  4788#  4839#  4853#  4911#  4928#  5010#  5024#  5120#  5135#  5182#  5197#  5245#
                 5259#  5307#  5319#  5321#  5377#  5380#  5467#  5470#  5509#  5511#  5526#  5622#  5633#
                 5802#  5819#  5852#  5867#  5898#  5914#  5997#  6011#  6094#  6110#  6260#  6278#  6298#
                 6311#  6341#  6354#  6398#  6415#  6467#  6481#  6513#  6533#  6562#  6580#  6611#  6627#
                 6653#  6668#  6816#  6839#  6880#  6898#  6939#  6958#  7000#  7018#  7040#  7055#  7072#
```

```
                    7085#  7298#  7320#  7357#  7448#  7451#
T$NS0 = 000000      1102#
T$NS1 = 000005      1212#  1216   1284#  1305   1318#  1323   2787#  2794   2800#  2808   2811#  2820   2823#
                    2832   2837#  2844   2849#  2856   2863#  2874   2879#  2889   2894#  2902   2905#  2920
                    2923#  2941   2948#  2959   2962#  2972   2975#  2985   2990#  2999   3006#  3024   3029#
                    3036   3372#  3379   3393#  3478   3482#  3496   3506#  3509   3523#  3526   3541#  3542
                    3571#  3593   3598#  3613   3628#  3691   3703#  3766   3778#  3841   3853#  3916   3928#
                    3991   4003#  4066   4079#  4113   4125#  4157   4213#  4270   4292#  4575   4591#  4638
                    4651#  4708   4721#  4770   4788#  4839   4853#  4911   4928#  5010   5024#  5120   5135#
                    5182   5197#  5245   5259#  5307   5319#  5511   5526#  5622   5633#  5802   5819#  5852
                    5867#  5898   5914#  5997   6011#  6094   6110#  6260   6278#  6298   6311#  6341   6354#
                    6398   6415#  6467   6481#  6513   6533#  6562   6580#  6611   6627#  6653   6668#  6816
                    6839#  6880   6898#  6939   6958#  7000   7018#  7040   7055#  7072   7085#  7298   7320#
                    7357   7448#  7451
T$NS2 = 000002      4539#  4543   4546#  4553   4556#  4563   4566#  4570   5321#  5377   5380#  5467   5470#
                    5509
T$PTNU= 000000      1094#
T$SAVL= 177777      1094#
T$SEGL= 177777      1094#
T$SUBN= C00000      1094#  3570#  3627#  3702#  3777#  3852#  3927#  4002#  4078#  4124#  4212#  4291#  4590#
                    4650#  4720#  4787#  4852#  4927#  5023#  5134#  5196#  5258#  5318#  5320#  5379#  5469#
                    5525#  5632#  5818#  5866#  5913#  6010#  6109#  6277#  6310#  6353#  6414#  6480#  6532#
                    6579#  6626#  6667#  6838#  6897#  6957#  7017#  7054#  7084#
T$TAGL= 177777      1094#
T$TAGN= 010120      1094#  1212#  1284#  1318#  2787#  2800#  2811#  2823#  2837#  2849#  2863#  2879#  2894#
                    2905#  2923#  2948#  2962#  2975#  2990#  3006#  3029#  3372#  3393#  3482#  3506#  3523#
                    3541#  3571#  3598#  3628#  3703#  3778#  3853#  3928#  4003#  4079#  4125#  4213#  4292#
                    4539#  4546#  4556#  4566#  4591#  4651#  4721#  4788#  4853#  4928#  5024#  5135#  5197#
                    5259#  5319#  5321#  5380#  5470#  5526#  5633#  5819#  5867#  5914#  6011#  6110#  6278#
                    6311#  6354#  6415#  6481#  6533#  6580#  6627#  6668#  6839#  6898#  6958#  7018#  7055#
                    7085#  7320#  7448#
T$TEMP= 000005      1216#  1226#  1227#  1228#  1229#  1230#  1231#  1232#  1233#  1234#  1235#  1236#  1237#
                    1238#  1239#  1240#  1241#  1242#  1243#  1244#  1245#  1246#  1247#  1248#  1249#  1250#
                    1251#  1252#  1253#  1254#  1255#  1256#  1257#  1258#  1259#  1260#  1261#  1262#  1263#
                    1264#  1265#  1266#  1267#  1268#  1269#  1270#  1305#  1323#  2794#  2808#  2820#  2832#
                    2844#  2856#  2874#  2889#  2902#  2920#  2941#  2959#  2972#  2985#  2999#  3024#  3036#
                    3375#  3376   3379#  3478#  3496#  3509#  3526#  3542#  3593#  3613#  3691#  3766#  3841#
                    3916#  3991#  4066#  4086#  4087   4098#  4099   4113#  4132#  4133   4143#  4144   4157#
                    4229#  4230   4242#  4243   4250#  4251   4259#  4260   4268#  4269   4270#  4303#  4304
                    4311#  4312   4326#  4327   4350#  4351   4366#  4367   4388#  4389   4432#  4433   4468#
                    4469   4502#  4503   4515#  4516   4531#  4532   4536#  4537   4543#  4553#  4563#  4570#
                    4575#  4595#  4596   4609#  4610   4638#  4655#  4656   4665#  4666   4686#  4687   4700#
                    4701   4708#  4730#  4731   4738#  4739   4746#  4747   4759#  4760   4770#  4793#  4794
                    4814#  4815   4822#  4823   4832#  4833   4839#  4858#  4859   4885#  4886   4895#  4896
                    4911#  4941#  4942   4954#  4955   4971#  4972   4983#  4984   4998#  4999   5010#  5030#
                    5031   5044#  5045   5059#  5060   5073#  5074   5083#  5084   5094#  5095   5104#  5105
                    5120#  5139#  5140   5153#  5154   5166#  5167   5176#  5177   5182#  5201#  5202   5215#
                    5216   5228#  5229   5239#  5240   5245#  5263#  5264   5277#  5278   5290#  5291   5307#
                    5332#  5333   5343#  5344   5354#  5355   5366#  5367   5377#  5390#  5391   5402#  5403
                    5416#  5417   5425#  5426   5438#  5439   5449#  5450   5458#  5459   5467#  5478#  5479
                    5489#  5490   5499#  5500   5509#  5511#  5529#  5530   5539#  5540   5547#  5548   5555#
                    5556   5560#  5561   5571#  5572   5584#  5585   5590#  5591   5595#  5596   5600#  5601
                    5606#  5607   5612#  5613   5622#  5637#  5638   5651#  5652   5664#  5665   5675#  5676
                    5701#  5702   5714#  5715   5724#  5725   5737#  5738   5748#  5749   5759#  5760   5773#
                    5774   5786#  5787   5796#  5797   5802#  5824#  5825   5834#  5835   5842#  5843   5852#
                    5871#  5872   5882#  5883   5892#  5893   5898#  5918#  5919   5932#  5933   5942#  5943
```

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```
                5952#  5953   5962#  5963   5972#  5973   5982#  5983   5997#  6015#  6016   6029#  6030
                6039#  6040   6049#  6050   6059#  6060   6069#  6070   6079#  6080   6094#  6114#  6115
                6128#  6129   6142#  6143   6155#  6156   6169#  6170   6182#  6183   6195#  6196   6209#
                6210   6222#  6223   6235#  6236   6248#  6249   6260#  6288#  6289   6296#  6297   6298#
                6315#  6316   6325#  6326   6336#  6337   6341#  6358#  6359   6372#  6373   6382#  6383
                6393#  6394   6398#  6419#  6420   6430#  6431   6440#  6441   6450#  6451   6461#  6462
                6467#  6485#  6486   6496#  6497   6508#  6509   6513#  6547#  6548   6556#  6557   6562#
                6596#  6597   6605#  6606   6611#  6637#  6638   6647#  6648   6653#  6671#  6672   6682#
                6683   6701#  6702   6714#  6715   6727#  6728   6740#  6741   6753#  6754   6769#  6770
                6776#  6777   6816#  6876#  6877   6880#  6935#  6936   6939#  6996#  6997   7000#  7033#
                7034   7040#  7065#  7066   7072#  7089#  7090   7099#  7100   7109#  7110   7121#  7122
                7130#  7131   7138#  7139   7146#  7147   7151#  7152   7160#  7161   7165#  7166   7179#
                7180   7200#  7201   7214#  7215   7236#  7237   7241#  7242   7257#  7258   7262#  7263
                7271#  7272   7277#  7278   7289#  7290   7294#  7295   7298#  7322#  7327#  7331#  7335#
                7340#  7345#  7350#  7357#  7451#
T$TEST= 000054  1094#  3556   3569   3570#  3618   3625   3627#  3693   3700   3702#  3768   3775   3777#
                3843   3850   3852#  3918   3925   3927#  3993   4000   4002#  4068   4077   4078#  4115
                4123   4124#  4160   4211   4212#  4274   4288   4291#  4579   4589   4590#  4641   4649
                4650#  4710   4719   4720#  4774   4786   4787#  4842   4851   4852#  4914   4925   4927#
                5013   5022   5023#  5124   5133   5134#  5186   5195   5196#  5249   5257   5258#  5309
                5317   5318#  5320   5379   5469   5515   5524   5525#  5625   5631   5632#  5807   5817
                5818#  5856   5865   5866#  5902   5912   5913#  6000   6009   6010#  6097   6108   6109#
                6265   6275   6277#  6301   6309   6310#  6344   6352   6353#  6404   6413   6414#  6470
                6479   6480#  6519   6531   6532#  6567   6578   6579#  6614   6625   6626#  6656   6666
                6667#  6823   6837   6838#  6882   6896   6897#  6942   6956   6957#  7003   7016   7017#
                7043   7053   7054#  7074   7083   7084#  7521
T$TSTM= 177777  1094#  1638   1681   1728   1742   1818   1830   1859   1889   1922   1958   1989   2033
                2046   2062   2069   2250   2295   2303   2330   2339   2347   2353   2435   2565   2576
                2583   2745   2792   2795   2805   2809   2817   2821   2829   2833   2841   2845   2853
                2857   2871   2875   2886   2890   2899   2903   2909   2917   2921   2927   2933   2938
                2942   2956   2960   2969   2973   2982   2986   2996   3000   3012   3021   3025   3033
                3037   3380   3410   3414   3418   3422   3441   3479   3492   3495   3497   3507   3510
                3525   3527   3543   3575   3588   3591   3594   3601   3611   3652   3662   3679   3686
                3692   3727   3737   3754   3761   3767   3802   3812   3829   3836   3842   3877   3887
                3904   3911   3917   3952   3962   3979   3986   3992   4027   4037   4054   4061   4067
                4086   4093   4098   4107   4114   4132   4139   4143   4152   4158   4225   4229   4236
                4242   4246   4250   4259   4268   4271   4303   4311   4326   4346   4350   4366   4384
                4388   4411   4419   4426   4432   4450   4456   4461   4468   4482   4484   4502   4510
                4515   4527   4531   4536   4541   4548   4549   4558   4559   4568   4576   4595   4609
                4630   4639   4655   4665   4681   4686   4695   4700   4709   4730   4738   4746   4755
                4759   4765   4771   4793   4810   4814   4822   4832   4840   4858   4885   4895   4906
                4912   4941   4954   4971   4983   4998   5011   5030   5044   5059   5073   5083   5094
                5104   5121   5139   5153   5166   5176   5183   5201   5215   5228   5239   5246   5263
                5277   5290   5301   5308   5321   5332   5343   5354   5366   5378   5380   5390   5402
                5416   5425   5438   5449   5458   5468   5470   5478   5489   5499   5510   5512   5529
                5539   5547   5555   5560   5571   5584   5590   5595   5600   5606   5612   5623   5637
                5651   5664   5675   5688   5701   5714   5724   5737   5748   5759   5773   5786   5796
                5803   5824   5834   5842   5853   5871   5882   5892   5899   5918   5932   5942   5952
                5962   5972   5982   5992   5998   6015   6029   6039   6049   6059   6069   6079   6089
                6095   6114   6128   6142   6155   6169   6182   6195   6209   6222   6235   6248   6261
                6288   6296   6299   6315   6325   6336   6342   6358   6372   6382   6393   6399   6419
                6430   6440   6450   6461   6468   6485   6496   6508   6514   6547   6556   6563   6596
                6605   6612   6637   6647   6654   6671   6682   6701   6714   6727   6740   6753   6765
                6769   6776   6817   6851   6876   6881   6910   6935   6940   6971   6996   7001   7033
                7041   7065   7073   7089   7099   7109   7121   7130   7138   7146   7151   7160   7165
                7179   7200   7214   7236   7241   7257   7262   7271   7277   7289   7294   7299
```

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```
T$TSTS= 000001    1094#  3571#  3628#  3703#  3778#  3853#  3928#  4003#  4079#  4125#  4213#  4292#  4591#
                  4651#  4721#  4788#  4853#  4928#  5024#  5135#  5197#  5259#  5319#  5526#  5633#  5819#
                  5867#  5914#  6011#  6110#  6278#  6311#  6354#  6415#  6481#  6533#  6580#  6627#  6668#
                  6839#  6898#  6958#  7018#  7055#  7085#

T$$AU = 010031    3541#  3542
T$$AUT= 010026    3482#  3496
T$$CLE= 010027    3506#  3509
T$$DU = 010030    3523#  3526
T$$HAR= 010116    7320#  7358
T$$HW = 010001    1284#  1305
T$$INI= 010025    3393#  3478
T$$MSG= 010023    2787#  2794   2800#  2808   2811#  2820   2823#  2832   2837#  2844   2849#  2856   2863#
                  2874   2879#  2889   2894#  2902   2905#  2920   2923#  2941   2948#  2959   2962#  2972
                  2975#  2985   2990#  2999   3006#  3024   3029#  3036
T$$PRO= 010000    1212#
T$$RPT= 010024    3372#  3375   3379
T$$SOF= 010117    7448#  7452
T$$SRV= 010051    3598#  3613   4539#  4543   4546#  4553   4556#  4563   4566#  4570
T$$SUB= 010067    5321#  5332   5343   5354   5366   5377   5380#  5390   5402   5416   5438   5449   5458
                  5467   5470#  5478   5489   5499   5509
T$$SW = 010002    1318#  1323
T$$TES= 010115    3571#  3593   3628#  3691   3703#  3766   3778#  3841   3853#  3916   3928#  3991   4003#
                  4066   4079#  4086   4098   4113   4125#  4132   4143   4157   4213#  4229   4242   4250
                  4259   4268   4270   4292#  4303   4311   4326   4350   4366   4388   4432   4468   4502
                  4515   4531   4536   4575   4591#  4595   4609   4638   4651#  4655   4665   4686   4700
                  4708   4721#  4730   4738   4746   4759   4770   4788#  4793   4814   4822   4832   4839
                  4853#  4858   4885   4895   4911   4928#  4941   4954   4971   4983   4998   5010   5024#
                  5030   5044   5059   5073   5083   5094   5104   5120   5135#  5139   5153   5166   5176
                  5182   5197#  5201   5215   5228   5239   5245   5259#  5263   5277   5290   5307   5319#
                  5425   5511   5526#  5529   5539   5547   5555   5560   5571   5584   5590   5595   5600
                  5606   5612   5622   5633#  5637   5651   5664   5675   5701   5714   5724   5737   5748
                  5759   5773   5786   5796   5802   5819#  5824   5834   5842   5852   5867#  5871   5882
                  5892   5898   5914#  5918   5932   5942   5952   5962   5972   5982   5997   6011#  6015
                  6029   6039   6049   6059   6069   6079   6094   6110#  6114   6128   6142   6155   6169
                  6182   6195   6209   6222   6235   6248   6260   6278#  6288   6296   6298   6311#  6315
                  6325   6336   6341   6354#  6358   6372   6382   6393   6398   6415#  6419   6430   6440
                  6450   6461   6467   6481#  6485   6496   6508   6513   6533#  6547   6556   6562   6580#
                  6596   6605   6611   6627#  6637   6647   6653   6668#  6671   6682   6701   6714   6727
                  6740   6753   6769   6776   6816   6839#  6876   6880   6898#  6935   6939   6958#  6996
                  7000   7018#  7033   7040   7055#  7065   7072   7085#  7089   7099   7109   7121   7130
                  7138   7146   7151   7160   7165   7179   7200   7214   7236   7241   7257   7262   7271
                  7277   7289   7294   7298

T1      014504 G  1226   3570#
T10     017620 G  1235   4212#
T11     020004 G  1236   4291#
T12     021136 G  1237   4590#
T13     021250 G  1238   4650#
T14     021460 G  1239   4720#
T14A    021666    4753   4761#
T14EX   021722    4751   4763   4769#
T15     021724 G  1240   4787#
T16     022134 G  1241   4852#
T17     022366 G  1242   4927#
T18     022620 G  1243   5023#
T19     023104 G  1244   5134#
T2      014664 G  1227   3627#
```

```
T20       023212 G          1245    5196#
T21       023320 G          1246    5258#
T22       023434 G          1247    5318#
T22.1     023434            5320#
T22.2     023576            5379#
T22.3     024054            5469#
T23       024162 G          1248    5525#
T24       024610 G          1249    5632#
T25       025236 G          1250    5818#
T26       025352 G          1251    5866#
T27       025436 G          1252    5913#
T28       025664 G          1253    6010#
T29       026112 G          1254    6109#
T3        015216 G          1228    3702#
T30       026440 G          1255    6277#
T31       026534 G          1256    6310#
T32       026654 G          1257    6353#
T33       027022 G          1258    6414#
T34       027210 G          1259    6480#
T35       C27326 G          1260    6532#
T36       027450 G          1261    6579#
T36END    027610            6581    6610#
T37       027612 G          1262    6626#
T38       027706 G          1263    6667#
T39       030334 G          1264    6838#
T4        015550 G          1229    3777#
T40       030576 G          1265    6897#
T41       031040 G          1266    6957#
T42       031302 G          1267    7017#
T422C     006162            2539    2550#
T43       031420 G          1268    7054#
T44       031516 G          1269    7084#
T5        016102 G          1230    3852#
T6        016434 G          1231    3927#
T7        016766 G          1232    4002#
T8        017320 G          1233    4078#
T9        017460 G          1234    4124#
T9BG      020020            4297#   4399
UAM     = 000200 G          1399#
VECTOR    032756            7332    7374#
V35TC     006132            2524    2538#
WAIT50    004244            1632    1675    2089#   2192    2231    2500    3486    4217    4621    4622    4623    4624    4675
                            4676    4798    4800    4855    4875    4876    4903    5296    5297    5615    5616    5988    6085
                            6679
WFPE      003016            1713#   4829    4882    4980    5007    5173    5236    5422    5721    5793    5839    5889    5949
                            5969    6046    6066    6333    6390    6458    6505
WORDT     002372            1467#   2163*   2418*   2432*   2433    2964    2976    3636*   3639*   3648    3659*   3660    3669
                            3683*   3684    3711*   3714*   3723    3734*   3735    3744    3758*   3759    3786*   3789*   3798
                            3809*   3810    3819    3833*   3834    3861*   3864*   3873    3884*   3885    3894    3908*   3909
                            3936*   3939*   3948    3959*   3960    3969    3983*   3984    4011*   4014*   4023    4034*   4035
                            4044    4058*   4059
WRDI      002732            1669#   2642    2663    4308    4606    4662    4735    4819    4892    5568    5831    6322    6379
                            6447    6493    7197
WRDIE     003014            1672    1674    1687#
WRDI1     002736            1670#   1677    1774
WRDO      002646            1626#   2019    2261    2395    2404    2698    4744
```

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```
WRDOE   002730  1629  1631  1644#
WRDO1   002652  1627# 1634  1714  1809
WRIBYT  002504  1517#
XX      022412  4930  4932#
XYZTC   006072  2508  2523#
X$ALWA= 000000  1094#
X$FALS= 000040  1094#
X$OFFS= 000400  1094#
X$TRUE= 000020  1094#
$BDDAT  002340  1453# 1718* 1719* 1720  1734* 1735  1812* 1813* 1814  1826* 1827  1853* 1854*
                1855  1882* 1883  1912* 1915* 1916* 1917  1946* 1947  1951* 1953  1983* 1984*
                1985  2022* 2023* 2024  2026  2029* 2030  2058* 2060  2740* 2742  2812  2824
                2866  2880  2911  2951  3014  4340* 4341  4378* 4379* 4495  4523  4689* 4690*
                4692  4748* 4749* 4750  4752  4761* 4762  4807* 4808  5682* 5684  6759* 6760*
                6762
$GDDAT  002336  1452# 1723* 1737* 1814  1825* 1827  1855  1883  1917  1947  1952* 1953  1985
                2028* 2030  2057* 2060  2244* 2247* 2248  2619* 2623* 2708* 2712* 2716* 2722*
                2726* 2730* 2741* 2742  2763* 2767* 2771* 2813  2825  2867  2881  2912  2952
                3015  4337* 4341  4375* 4493* 4523  4691* 4692  4704* 4806* 4808  5078* 5089*
                5090* 5100* 5349* 5361* 5362* 5444* 5454* 5495* 5505* 5549* 5557* 5586* 5592*
                5597* 5603* 5608* 5670* 5683* 5684  5743* 5754* 6161* 6175* 6188* 6228* 6241*
                6254* 6733* 6746* 6758* 6761* 6762  7143* 7148* 7162* 7181* 7186* 7216* 7238*
                7247* 7254* 7259* 7268* 7273* 7291* 7296*
$LSTIN= 000001  1104#
$LSTTA= 000001  1105#
$TMPO   002542  1542# 2895  2913  2929  6842* 6901* 6961*
.       = 037660 1093# 1572# 1581# 2377# 3376  4087  4099  4133  4144  4230  4243  4251  4260
                4269  4304  4312  4327  4351  4367  4389  4433  4469  4503  4516  4532  4537
                4596  4610  4656  4666  4687  4701  4731  4739  4747  4760  4794  4815  4823
                4833  4859  4886  4896  4942  4955  4972  4984  4999  5031  5045  5060  5074
                5084  5095  5105  5140  5154  5167  5177  5202  5216  5229  5240  5264  5278
                5291  5333  5344  5355  5367  5391  5403  5417  5426  5439  5450  5459  5479
                5490  5500  5530  5540  5548  5556  5561  5572  5585  5591  5596  5601  5607
                5613  5638  5652  5665  5676  5702  5715  5725  5738  5749  5760  5774  5787
                5797  5825  5835  5843  5872  5883  5893  5919  5933  5943  5953  5963  5973
                5983  6016  6030  6040  6050  6060  6070  6080  6115  6129  6143  6156  6170
                6183  6196  6210  6223  6236  6249  6289  6297  6316  6326  6337  6359  6373
                6383  6394  6420  6431  6441  6451  6462  6486  6497  6509  6548  6557  6597
                6606  6638  6648  6672  6683  6702  6715  6728  6741  6754  6770  6777  6877
                6936  6997  7034  7066  7090  7100  7110  7122  7131  7139  7147  7152  7161
                7166  7180  7201  7215  7237  7242  7258  7263  7272  7278  7290  7295  7503#
                7515#
```

CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- MACRO NAMES

CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- MACRO NAMES

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ENDAUT      1#  1094#  3496
ENDCLN      1#  1094#  3509
ENDCOM      1#  1094#
ENDDU       1#  1094#  3526
ENDHRD      1#  1094#  7357
ENDHW       1#  1094#  1305
ENDINI      1#  1094#  3478
ENDMOD      1#  1094#
ENDMSG      1#  1094#  2794  2808  2820  2832  2844  2856  2874  2889  2902  2920  2941  2959  2972
         2985   2999   3024  3036
ENDPRO      1#  1094#  1216
ENDPTA      1#  1094#
ENDRPT      1#  1094#  3379
ENDSEG      1#  1094#
ENDSET      1#  1094#
ENDSFT      1#  1094#  7451
ENDSRV      1#  1094#  3613  4543  4553  4563  4570
ENDSUB      1#  1094#  5377  5467  5509
ENDSW       1#  1094#  1323
ENDTST      1#  1094#  3593  3691  3766  3841  3916  3991  4066  4112  4156  4270  4575  4638  4708
         4769   4839   4910  5010  5120  5182  5245  5307  5511  5622  5802  5852  5898  5996  6093
         6260   6298   6341  6398  6467  6513  6562  6611  6653  6816  6880  6939  7000  7040  7072
         7298
EQUALS      1#  1094#  1340
ERRDF       1#  1094#  1638  1681  1728  1742  1818  1830  1859  1889  1922  1957  1989  2033  2046
         2062   2069   2295  2435  2745  3601  3652  3662  3686  3727  3737  3761  3802  3812  3836
         3877   3887   3911  3952  3962  3986  4027  4037  4061  4093  4139  4225  4236  4246  4346
         4384   4510   4527  4549  4559  4630  4681  4695  4755  4765  4810  4906  5301  5688  5992
         6089   6765
ERRHRD      1#  1094#
ERROR       1#  1094#
ERRSF       1#  1094#
ERRSOF      1#  1094#  2250
ERRTBL      1#  1094#
ESCAPE      1#  1094#  4086  4098  4132  4143  4229  4242  4250  4259  4267  4303  4311  4326  4350
         4366   4388   4432  4468  4502  4515  4531  4595  4609  4655  4665  4686  4700  4730  4738
         4746   4759   4793  4822  4832  4858  4885  4895  4941  4954  4971  4983  4998  5030  5044
         5059   5073   5083  5094  5104  5139  5153  5166  5176  5201  5215  5228  5239  5263  5277
         5290   5332   5343  5354  5366  5390  5402  5416  5425  5438  5449  5458  5478  5489  5499
         5529   5539   5547  5555  5560  5571  5584  5590  5595  5600  5606  5612  5637  5651  5664
         5675   5701   5714  5724  5737  5748  5759  5773  5786  5796  5824  5834  5842  5871  5882
         5892   5918   5932  5942  5952  5962  5972  5982  6015  6029  6039  6049  6059  6069  6079
         6114   6128   6142  6155  6169  6182  6195  6209  6222  6235  6248  6288  6296  6315  6325
         6336   6358   6372  6382  6393  6419  6430  6440  6450  6461  6485  6496  6508  6547  6556
         6596   6605   6637  6647  6682  6701  6714  6727  6740  6753  6769  6876  6935  6996  7033
         7065   7089   7099  7109  7121  7130  7138  7146  7151  7160  7165  7179  7200  7214  7236
         7241   7257   7262  7271  7277  7289  7294
EXIT        1#  1094#  3375  4536  4814  6671  6775
FEQUAL      1#  1094#
GETBYT      1#  1094#
GETPRI      1#  1094#
GETWOR      1#  1094#
GMANIA      1#  1094#
GMANID      1#  1094#
GMANIL      1#  1094#
GPHARD      1#  1094#  3440
```

CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- MACRO NAMES

```
GPRMA      1#  1094#  7327  7331
GPRMD      1#  1094#  7322  7335  7340  7345  7350
GPRML      1#  1094#
HEADER     1#  1094#  1126
INLOOP     1#  1094#
IOSETU     1#  1094#
IOSTAR     1#  1094#
KT11       1#  1094#
LASTAD     1#  1094#  7517
MANUAL     1#  1094#
MEMORY     1#  1094#
M$BYTE     1#  1094#  1126#  1132  1133  1134
M$CHEC     1#  1094#  3375#  4536#  4814#  6671#  6776#
M$CNTO     1#  1094#  7322#  7327#  7331#  7335#  7340#  7345#  7350#
M$COUN     1#  1094#  2325#  2332#  2343#  2350#  2562#  2573#  2579#  2788#  2801#  2812#  2824#  2838#  2850#
        2864#  2880#  2895#  2906#  2911#  2924#  2929#  2935#  2949#  2963#  2976#  2991#  3007#  3014#  3030#
        3607#  3673#  3748#  3823#  3898#  3973#  4048#  4101#  4146#
M$DATA     1#  1094#  1126#  1135  1137  1139  1141  1143  1145  1147  1149  1151  1153  1155  1157
        1159  1161  1163  1165#  1167  1169  1172  1175  1177  1179  1181  1183  1185  1187  1189
        1191  1193  1195  1197  1199  1201  1203  1205  1207  1209  1568#  1574#
M$DECR     1#  1094#  1216#  1305#  1323#  2794#  2808#  2820#  2832#  2844#  2856#  2874#  2889#  2902#  2920#
        2941#  2959#  2972#  2985#  2999#  3024#  3036#  3379#  3478#  3496#  3509#  3526#  3542#  3593#  3613#
        3691#  3766#  3841#  3916#  3991#  4066#  4113#  4157#  4270#  4543#  4553#  4563#  4570#  4575#  4638#
        4708#  4770#  4839#  4911#  5010#  5120#  5182#  5245#  5307#  5377#  5467#  5509#  5511#  5622#  5802#
        5852#  5898#  5997#  6094#  6260#  6298#  6341#  6398#  6467#  6513#  6562#  6611#  6653#  6816#  6880#
        6939#  7000#  7040#  7072#  7298#  7357#  7451#
M$DEFA     1#  1094#  7322#  7327#  7331#  7335#  7340#  7345#  7350#
M$ENDE     1#  1094#  1305#  1323#  2794#  2808#  2820#  2832#  2844#  2856#  2874#  2889#  2902#  2920#  2941#
        2959#  2972#  2985#  2999#  3024#  3036#  3379#  3478#  3496#  3509#  3526#  3542#  3593#  3613#  3691#
        3766#  3841#  3916#  3991#  4066#  4113#  4157#  4270#  4543#  4553#  4563#  4570#  4575#  4638#  4708#
        4770#  4839#  4911#  5010#  5120#  5182#  5245#  5307#  5377#  5467#  5509#  5511#  5622#  5802#  5852#
        5898#  5997#  6094#  6260#  6298#  6341#  6398#  6467#  6513#  6562#  6611#  6653#  6816#  6880#  6939#
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CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- MACRO NAMES

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CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- MACRO NAMES

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CZDMIC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- MACRO NAMES

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CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- MACRO NAMES

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                5183    5201#   5215#   5228#   5239#   5245#   5246    5263#   5277#   5290#   5301    5307#   5308    5320#   5321
                5332#   5343#   5354#   5366#   5377#   5378    5379#   5380    5390#   5402#   5416#   5425#   5438#   5449#   5458#
                5467#   5468    5469#   5470    5478#   5489#   5499#   5509#   5510    5511#   5512    5529#   5539#   5547#   5555#
                5560#   5571#   5584#   5590#   5595#   5600#   5606#   5612#   5622#   5623    5637#   5651#   5664#   5675#   5688
                5701#   5714#   5724#   5737#   5748#   5759#   5773#   5786#   5796#   5802#   5803    5824#   5834#   5842#   5852#
                5853    5871#   5882#   5892#   5898#   5899    5918#   5932#   5942#   5952#   5962#   5972#   5982#   5992    5997#
                5998    6015#   6029#   6039#   6049#   6059#   6069#   6079#   6089    6094#   6095    6114#   6128#   6142#   6155#
                6169#   6182#   6195#   6209#   6222#   6235#   6248#   6260#   6261    6288#   6296#   6298#   6299    6315#   6325#
                6336#   6341#   6342    6358#   6372#   6382#   6393#   6398#   6399    6419#   6430#   6440#   6450#   6461#   6467#
                6468    6485#   6496#   6508#   6513#   6514    6547#   6556#   6562#   6563    6596#   6605#   6611#   6612    6637#
                6647#   6653#   6654    6671#   6682#   6701#   6714#   6727#   6740#   6753#   6765    6769#   6776#   6816#   6817
                6850#   6851    6876#   6880#   6881    6909#   6910    6935#   6939#   6940    6970#   6971    6996#   7000#   7001
                7033#   7040#   7041    7065#   7072#   7073    7089#   7099#   7109#   7121#   7130#   7138#   7146#   7151#   7160#
                7165#   7179#   7200#   7214#   7236#   7241#   7257#   7262#   7271#   7277#   7289#   7294#   7298#   7299
M$TLAB             1#   1094#   1638#   1681#   1728#   1742#   1818#   1830#   1859#   1889#   1922#   1958#   1989#   2033#   2046#
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CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- MACRO NAMES

2062# 2069# 2250# 2295# 2303# 2330# 2339# 2347# 2353# 2435# 2565# 2576# 2583# 2745# 2792#
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3904# 3911# 3917# 3952# 3962# 3979# 3986# 3992# 4027# [illegible] 4054# 4061# 4067# 4086# 4093#
4098# 4107# 4114# 4132# 4139# 4143# 4152# 4158# 4225# [illegible] 4236# 4242# 4246# 4250# 4259#
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M$WL 1# 1094# 1165# 1174 1224# 1226 1227 1228 1229 1230 1231 1232 1233 1234 1235
1236 1237 1238 1239 1240 1241 1242 1243 1244 1245 1246 1247 1248 1249 1250
1251 1252 1253 1254 1255 1256 1257 1258 1259 1260 1261 1262 1263 1264 1265
1266 1267 1268 1269 1638# 1639 1640 1641 1681# 1682 1683 1684 1728# 1729 1730
1731 1742# 1743 1744 1745 1818# 1819 1820 1821 1830# 1831 1832 1833 1859# 1860

```
                1861    1862    1889#   1890    1891    1892    1922#   1923    1924    1925    1958#   1959    1960    1961    1989#
                1990    1991    1992    2033#   2034    2035    2036    2046#   2047    2048    2049    2062#   2063    2064    2065
                2069#   2070    2071    2072    2250#   2251    2252    2253    2295#   2296    2297    2298    2435#   2436    2437
                2438    2745#   2746    2747    2748    3375#   3601#   3602    3603    3604    3652#   3653    3654    3655    3662#
                3663    3664    3665    3686#   3687    3688    3689    3727#   3728    3729    3730    3737#   3738    3739    3740
                3761#   3762    3763    3764    3802#   3803    3804    3805    3812#   3813    3814    3815    3836#   3837    3838
                3839    3877#   3878    3879    3880    3887#   3888    3889    3890    3911#   3912    3913    3914    3952#   3953
                3954    3955    3962#   3963    3964    3965    3986#   3987    3988    3989    4027#   4028    4029    4030    4037#
                4038    4039    4040    4061#   4062    4063    4064    4093#   4094    4095    4096    4139#   4140    4141    4142
                4225#   4226    4227    4228    4236#   4237    4238    4239    4246#   4247    4248    4249    4346#   4347    4348
                4349    4384#   4385    4386    4387    4510#   4511    4512    4513    4527#   4528    4529    4530    4536#   4549#
                4550    4551    4552    4559#   4560    4561    4562    4630#   4631    4632    4633    4681#   4682    4683    4684
                4695#   4696    4697    4698    4755#   4756    4757    4758    4765#   4766    4767    4768    4810#   4811    4812
                4813    4814#   4906#   4907    4908    4909    5301#   5302    5303    5304    5688#   5689    5690    5691    5992#
                5993    5994    5995    6089#   6090    6091    6092    6671#   6765#   6766    6767    6768    6776#   7322#   7327#
                7331#   7335#   7340#   7345#   7350#   7518    7519
M$XFER            1#    1094#
NEWTST          1095#   3556    3618    3693    3768    3843    3918    3993    4068    4115    4160    4274    4579    4641    4710
                4774    4842    4914    5013    5124    5186    5249    5309    5515    5625    5807    5856    5902    6000    6097
                6265    6301    6344    6404    6470    6519    6567    6614    6656    6823    6882    6942    7003    7043    7074
OPEN              1#    1094#
POINTE            1#    1094#   1124
PRINTB            1#    1094#   2788    2801    2812    2824    2838    2850    2864    2880    2895    2906    2911    2924    2929
                2935    2949    2963    2976    2991    3007    3014    3030
PRINTF            1#    1094#   2562    2573    2578    3673    3748    3823    3898    3973    4048    4101    4146
PRINTS            1#    1094#
PRINTX            1#    1094#   2324    2332    2343    2349    3606
READBU            1#    1094#
READEF            1#    1094#   3409    3413    3417    3421
RFLAGS            1#    1094#
SETPRI            1#    1094#   4425    4460    4540    4547    4557    4567    6850    6909    6970
SETVEC            1#    1094#   3571    4407    4415    4446    4452
SLASH             1#    1094#
STARS             1#    1094#
SVC               1#    1094#
TOR             1599#   4256    4324    4364    4430    4466    4500    4727
WFE             1691#   4829    4882    4980    5173    5236    5422    5721    5793    5839    5889    5949    5969    6046    6066
                6333    6390    6458    6505
WFR             1689#   4308    4606    4662    4735    4819    4892    5568    5831    6322    6379    6447    6493    7197
WFRO            1690#
XFER              1#    1094#   3375#   4536#   4814#   6671#   6776#
XFERF             1#    1094#
XFERT             1#    1094#
ZZ              3556#   3558    3618#   3620    3693#   3695    3768#   3770    3843#   3845    3918#   3920    3993#   3995    4068#
                4070    4115#   4117    4160#   4162    4274#   4276    4579#   4581    4641#   4643    4710#   4712    4774#   4776
                4842#   4844    4914#   4916    5013#   5015    5124#   5126    5186#   5188    5248#   5251    5309#   5311    5515#
                5517    5625#   5627    5807#   5809    5856#   5858    5902#   5904    6000#   6002    6097#   6099    6264#   6267
                6301#   6303    6344#   6346    6404#   6406    6470#   6472    6518#   6521    6566#   6569    6614#   6616    6656#
                6658    6823#   6825    6882#   6884    6942#   6944    7003#   7005    7043#   7045    7074#   7076
```

. ABS. 037660 000

ERRORS DETECTED: 0

CZDMTC.P11 25-MAR-81 08:24 CROSS REFERENCE TABLE -- MACRO NAMES

```
CZDMTC.BIN,CZDMTC.SEQ/CRF/SOL=SVC34R.MAC,CZDMTC.P11
RUN-TIME: 32 40 5 SECONDS
RUN-TIME RATIO: 116/77=1.4
CORE USED:  21K  (41 PAGES)
```