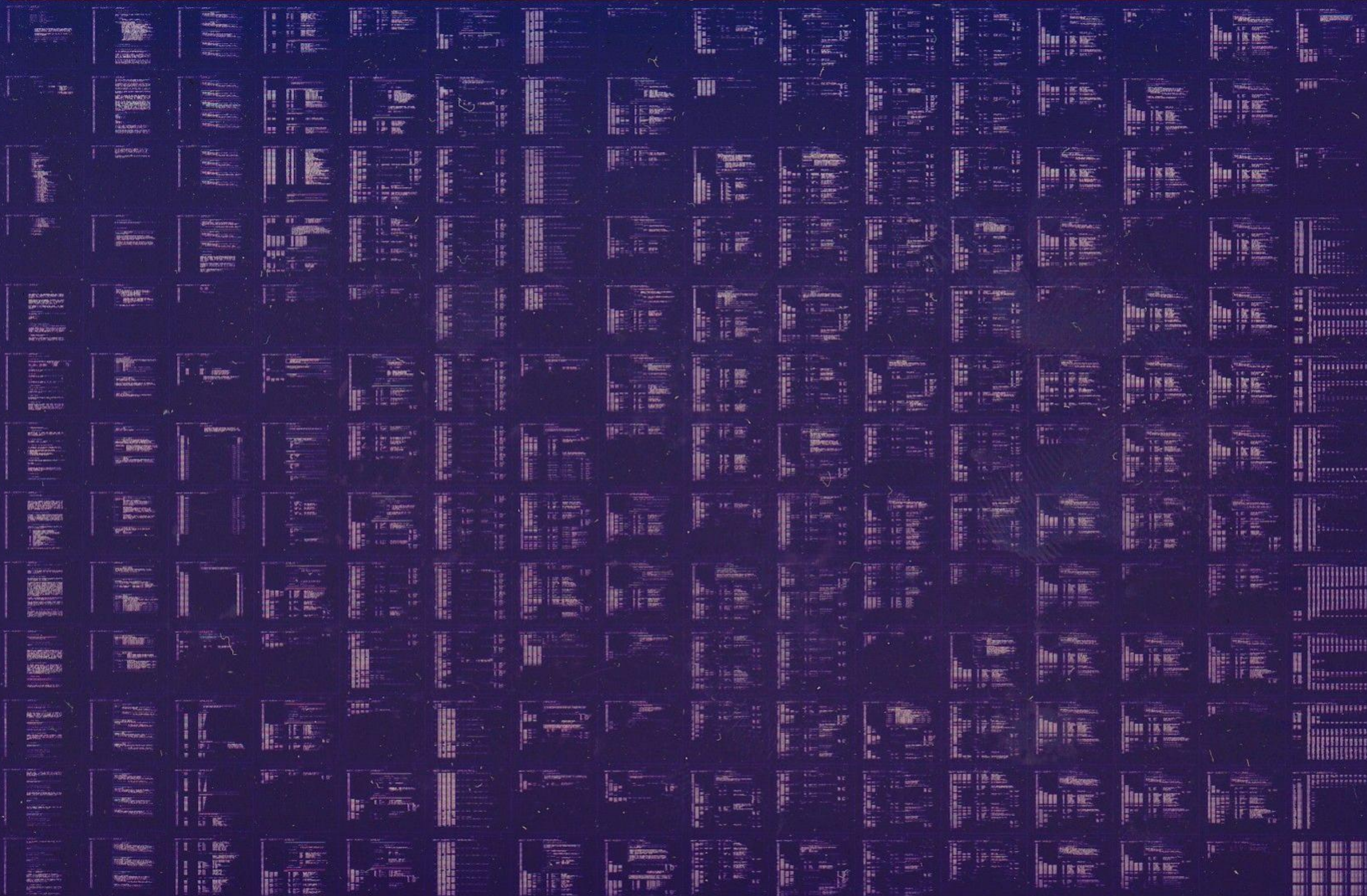


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CVDPVCO

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IDENTIFICATION

PRODUCT CODE: AC-S033C-MC
PRODUCT NAME: CVDPVCO DVP11 FUNC DIAG
PRODUCT DATE: OCTOBER 1980
MAINTAINER: DIAGNOSTIC ENGINEERING
AUTHOR: MIKE O'CONNOR

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REVISION HISTORY:

REV	DATE	AUTHOR	REASON
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B	OCT. 80	MIKE OCONNOR	1. CHANGE CHARACTER LENGTH IN TEST 37 2. CHANGE TIMEOUT IN TEST 29 3. ENHANCEMENTS
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1.0 INTRODUCTION

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 SL..E.

THROUGH DIALOGUE WITH THE OPERATOR, THE PROGRAM WILL ALLOW MODIFICATION OF DEVICE PARAMETERS, SUCH AS LSI-BUS 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 DPV11 FUNCTIONAL DIAGNOSTIC TESTS:

A LSI11 OR PDP11/03
16K MEMORY
CONSOLE TERMINAL
DPV11

3.0 PRELIMINARY PROGRAM REQUIREMENTS

IT IS ASSUMED THAT THE PROCESSOR IS IN PROPER WORKING CONDITION.

THE DEVICE ADDRESS AND THE INTERRUPT VECTOR MUST BE KNOWN BEFORE ANSWERING THE USER DIALOGUE. THE USER SHOULD ALSO KNOW WHETHER THE CPU IS A LSI11 (M7264), A LSI11/2 (M7270), OR A LSI11/23 (M8186). FINALLY THE USER MUST DECIDE THE TYPE OF TURNAROUND IN ORDER TO DETERMINE THE CONNECTOR (IF ANY) IS NECESSARY.

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

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PROGRAM WILL NOT EXCEED 16K OF MEMORY.

4.2 EXECUTION TIME

EXECUTION TIME IS DEPENDENT ON THE PROCESSOR SPEED AND THE TYPE OF LOOPBACK
 THE FOLLOWING ARE THE TIMES TO COMPLETE THE 1ST PASS:

	RS423 (OR INTERNAL)	RS422
LSI11 (KD11-F M7264 MODULE):	10 SECONDS	30 SEC.
LSI11/2 (KD11-HA M7270 MODULE):	10 SECONDS	30 SEC.
LSI11/23(KDF11-AA M8186 MODULE):	7 SECONDS	5 SEC.

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

THERE IS NO MEMORY MANAGEMENT USE IN THIS DIAGNOSTIC.

4.7 MEMORY PARITY OPTION

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

4.8 ERROR LOGGING

AT THE END OF EACH PASS ON ALL UNITS, THE PROGRAM PRINTS OUT
 THE CUMULATIVE TOTAL NUMBER OF ERRORS SINCE THE LAST START OR
 RESTART COMMAND.

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.

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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 CHECK AND SIMPLE EXECUTION

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

- A) LOAD AND START DIAGNOSTIC USING RUN COMMAND
- B) RECEIVE DIAGNOSTIC SUPERVISOR IDENTIFICATION AND PROMPT (DRS-C>)
- 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 AND THE PROGRAM IS STARTED, THE FOLLOWING IDENTIFICATION IS TYPED :

DRS LOADED
DIAG. RUN-TIME SERVICES

DR>

THE OPERATOR THEN PROCEEDS BY TYPING ONE OR MORE OF THE COMMANDS DESCRIBED IN THE FOLLOWING SECTION 6.3. (FOR MORE DETAILED 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:

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<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 OCCURANCE 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

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

EXAMPLE:

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

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

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6.3.2 RESTART COMMAND

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

6.3.2.1 TESTS, PASS, AND FLAGS SWITCHES

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

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

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

6.3.2.3 EFFECT OF RESTART COMMAND

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

6.3.3 CONTINUE COMMAND

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

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

<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.

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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

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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>

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

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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 OPERATOR
 DIALOGUES- HARD CORE QUESTIONS (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 4 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.

1. ADDRESS : (O) 160010?

THIS IS THE ADDRESS AT WHICH THE DPV CSR REGISTERS RESIDE
 ON THE LSI-BUS. THE ALLOWABLE RANGE IS 160000-177776

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(OCTAL), AND THE DEFAULT VALUE IS 160010.

2. VECTOR : (0) 300 ?

THIS IS THE ADDRESS OF THE INPUT INTERRUPT VECTOR FOR THIS DEVICE. THE ALLOWABLE RANGE IS 000-674 (OCTAL), AND THE DEFAULT VALUE IS 300.

3. LOOPBACK .

0 = INTERNAL, 1 = RS423, 2 = RS422
 3 = LOCAL MODEM LOOP, 4 = REMOTE MODEM LOOP (0) 1?

THIS IS THE USER SELECTED LOOPBACK. THE DEFAULT IS RS423. THE FOLLOWING SHOULD BE CONSIDERED:

- A. INTERNAL LOOPBACK RUNS THE DIAGNOSTIC THROUGH THE USYMT MAINTENANCE MODE LOOPBACK. THE DRIVERS WILL NOT BE TESTED. NO CONNECTOR IS REQUIRED.
- B. RS423 REQUIRES A M3260 ONBOARD CONNECTOR OR THE BC05C CABLE AND THE M3259 CONNECTOR. THIS TURNAROUND WILL PROVIDE A 2K CLOCK FOR DIAGNOSTICS. ALL TESTS SHOULD BE ABLE TO BE RUN ON ALL PROCESSORS.
- C. RS422 REQUIRES A MODIFIED M3260 ONBOARD CONNECTOR. THIS TURNAROUND WILL PROVIDE A 50K CLOCK FOR DIAGNOSTICS. THE TESTS RUN WILL DEPEND ON THE PROCESSOR.
 - 1. THE LSI11/23 SHOULD RUN ALL TESTS.
 - 2. THE LSI11/2 SHOULD RUN ALL TESTS EXCEPT TESTS 29-41.
 - 3. THE LSI11 WITHOUT PROCESSOR MEMORY REFRESH SHOULD RUN ALL TESTS EXCEPT TESTS 29-41.
 - 4. THE LSI11 WITH PROCESSOR MEMORY REFRESH SHOULD RUN ALL TESTS EXCEPT TESTS 29-43.
- D. LOOPBACK THROUGH THE MODEM SHOULD ONLY BE ATTEMPTED IF THE MODEM SUPPORTS THAT TYPE OF LOOPBACK.

6.3.13 SOFTWARE PARAMETERS

NO SOFTWARE PARAMETER QUESTIONS ARE ASKED BY TIS DIAGNOSTIC

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 "0 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

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THE FIRST P-TABLE) UNTIL THE STRING OF VALUES IS EXHAUSTED. THE LAST VALUE IN THE STRING BECOMES THE NEW DEFAULT AND IS USED '0 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 (0) ? 16
 UNIT 0
 <QUESTION 1> ? 75
 <QUESTION 2> ? 0-6
 <QUESTION 3> ? 76

UNIT 7
 <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 7 THRU THE END ARE GOING TO BE AFFECTED (NOTE THAT THIS PIECE OF INFORMATION IS PRINTED OUT FOR THE OPERATOR IN THE FORM "UNIT XX" AT THE BEGINNING OF EACH SERIES). QUESTION 1 IS RESPONDED TO

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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 AN 11 IN SLOT 12, AND GETS THE VALUES 13,14,15 IN
TABLES 13 THRU 15. SLOT THREE GETS THE VALUE 77 IN TABLES 7
THRU 15.

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

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7.0 DEVICE INFORMATION TABLES

SEE THE GLOBAL EQUATES SECTION FOR DEFINITIONS OF REGISTERS IN THE DPV
AND BIT DEFINITIONS WITHIN THOSE REGISTERS.

8.0 TEST DESCRIPTIONS

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*****  
;*          TEST 1 - DPV-11  
;* VERIFY THAT ADDRESSING THE 4 LSI-BUS CSRS DOES NOT CAUSE A NON-  
;* EXISTENT MEMORY TRAP.  
;*  
;* THE DPV IS AN COMMUNICATION DEVICE RESIDING ON A LSI-BUS.  
;* COMMUNICATION BETWEEN THE MAIN CPU AND THE DPV IS ACCOMPLISHED  
;* THROUGH A SET OF FOUR 16-BIT LSI-BUS CONTROL AND STATUS REGISTERS  
;* (CSRS). THE FOUR REGISTERS ARE ASSIGNED ADDRESSES IN THE I/O PAGE  
;* FLOATING ADDRESS SPACE: 76XXX0 - 76XXX6  
;*  
;* AN ERROR IN THIS TEST COULD MEAN THAT THE DEVICE IS INCORRECTLY  
;* CONFIGURED, THAT THE ADDRESS IS WRONG OR THAT THE CRYSTAL CLOCK  
;* ON THE DPV IS NOT WORKING. THE SHIFT REGISTER CLOCK IS NEEDED  
;* FOR THE LS164 (E15) IN ORDER TO PROVIDE THE BUS REPLY (BRPLY/L ON  
;* PIN 2F?).  
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2991 ;*****
2992 ;*          TEST 2 - DPV-11
2993 ;* DPV RESET
2994 ;* RESET THE DPV AND ENSURE THAT ALL REGISTERS ARE IN THEIR
2995 ;* PROPER INITIALIZATION STATE. THE RESET IS ASYNCHRONOUS TO ALL
2996 ;* DATA SET TIMING AND ANY DATA PORT ACCESSSES. THE FOLLOWING
2997 ;* WILL BE CHECKED BY THE RESET SUBROUTINE:
2998 ;*     1. ALL BITS IN THE DATA PORT REGISTERS ARE CLEARED.
2999 ;*     2. ALL OUTPUT INDICATORS ARE CLEARED.
3000 ;*     3. TRANSMIT BUFFER EMPTY (TBE) IS SET
3001 ;*
3002 ;* SUBTEST 1 - AFTER RESET, CHECK THAT MAINTENANCE MODE AND
3003 ;*              TRANSMITTER CAN BE SET. ALSO CHECK THAT TRANSMITTER
3004 ;*              BUFFER EMPTY (TBE) IS CLEARED WHEN TDSR IS ACCESSED
3005 ;*              WITHOUT SETTING TRANSMITTER ENABLE.
3006 ;* SUBTEST 2 - ON THE FIRST PASS ONLY, CHECK THAT A BUS RESET. DOES
3007 ;*              A DPV11 RESET.
3008 ;*
3009 ;* NOTE: DATA MODE, CTS, RR (RECEIVER READY) AND IC (INCOMING CALL)
3010 ;*       ARE UNAFFECTED BY A RESET.
3011 ;*
3012 ;*****
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3014 ;*****
3015 ;*          TEST 3 - DPV-11
3016 ;* WRITE/READ DATA PATTERNS
3017 ;* THIS TEST IS INTENDED TO TEST THE READ/WRITE BITS IN THE CSRS. THERE
3018 ;* IS NO INTENTION TO CHECK THE USYNR/T; IT IS DESIRED TO ONLY CHECK THE
3019 ;* READING AND WRITING OF THE CSRS. IN ALL THE SUBTESTS THE BITS ARE
3020 ;* CHECKED TOGETHER AND INDIVIDUALLY.
3021 ;* SUBTEST 1 - RXCSR (LOW BYTE CSR0)
3022 ;*          CHECK BITS 0-6
3023 ;* SUBTEST 2 - PCR (HIGH BYTE CSR4)
3024 ;*          CHECK BITS 0-7
3025 ;* SUBTEST 3 - TDSR (LOW BYTE OF CSR6) - TRANSMIT DATA BUFFER
3026 ;*          BITS 0-7
3027 ;* SUBTEST 4 - TDSR (HIGH BYTE OF CSR6) - TRANSMIT STATUS REGISTER.
3028 ;*          BITS 0-3
3029 ;* SUBTEST 5 - TDSR - CHECK BYTE OP SIGNAL FOR USYNRT
3030 ;*
3031 ;*****
3032
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3035 ;*****
3036 ;*          TEST 4 - DMR-11
3037 ;* TRANSMIT ENABLE/ TRANSMIT ACTIVE
3038 ;* AFTER A DEVICE RESET, SET TRANSMIT START OF MESSAGE (TSOM). ENSURE
3039 ;* THAT TRANSMIT ACTIVE (TXACT) IS SET.
3040 ;*
3041 ;* TXACT IS USED TO INDICATE THE CURRENT STATE OF THE TRANSMITTER
3042 ;* DATA PATH. THIS BIT WILL BE ASSERTED WHEN BOTH THE TRANSMITTER IS
3043 ;* ENABLED AND TSOM ARE INTERNALLY SYNCHRONIZED. TXACT WILL BE CLEARED
3044 ;* UPON RESET OR WHEN THE TRANSMITTER ENTERS THE IDLE STATE.
3045 ;*
3046 ;*****
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3050 ;*****
3051 ;*          TEST 5 - DPV-11
3052 ;* TRANSMIT BUFFER EMPTY
3053 ;* VERIFY THAT TBE (TRANSMIT BUFFER EMPTY) IS ASSERTED WHENEVER
3054 ;* THE DEVICE IS RESET OR WHENEVER THE TDSR IS AVAILABLE FOR DATA.
3055 ;* TBE IS CLEARED AFTER WRITING TO THE TDSR.
3056 ;*
3057 ;*****

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3060 ;*****
3061 ;*          TEST 6 - DPV-11
3062 ;* TRANSMIT INTERRUPT
3063 ;* VERIFY THAT A TRANSMIT INTERRUPT IS RECEIVED WHEN TRANSMIT
3064 ;* BUFFER EMPTY (TBE) IS ASSERTED.
3065 ;*
3066 ;*****
3067
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3071 ;*****
3072 ;*          TEST 7 - DPV-11
3073 ;* RECEIVER ENABLE, RECEIVER ACTIVE AND RECEIVER DATA READY
3074 ;*          MODE: BCP, 8 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK
3075 ;* ENABLE THE RECEIVER. AFTER TRANSMITTING A CHARACTER WAIT FOR
3076 ;* RECEIVER DATA AVAILABLE AND CHECK THAT THE RECEIVER IS ACTIVE.
3077 ;* AFTER CLEARING RECEIVER ENABLE, ENSURE THAT THE RECEIVER IS INACTIVE.
3078 ;*
3079 ;* RECEIVER ENABLE - CONTROLS THE OPERATION OF THE RECEIVER DATA PATH (RDP)
3080 ;* RECEIVER ACTIVE - THIS OUTPUT IS ASSERTED WHEN THE RDP PRESENTS THE 1ST
3081 ;*                   DATA CHARACTER OF A MESSAGE TO THE USYRT. IT REMAINS
3082 ;*                   ASSERTED UNTIL THE RDP ENTERS THE IDLE STATE..
3083 ;* RECEIVE DATA   - THIS OUTPUT IS SET WHEN THE RDP HAS ASSEMBLED A DATA
3084 ;*                   CHARACTER THAT IS READY TO BE PRESENTED.
3085 ;*****
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3090 ;*****
3091 ;*          TEST 8 - DPV-11
3092 ;* RECEIVE DATA INTERRUPT
3093 ;*          MODE: BCP, 8 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK
3094 ;* ENABLE THE RECEIVER AND SET RECEIVER INTERRUPT. TRANSMIT DATA.
3095 ;* CHECK THAT THE RECEIVE INTERRUPT WAS GENERATED. AFTER THE INTERRUPT
3096 ;* WAS GENERATED DISABLE THE RECEIVER. CHECK THAT THE RECEIVER BECOMES
3097 ;* INACTIVE.
3098 ;*
3099 ;*****
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;*          TEST 9 - DPV-11
;* THERE ARE 3 SUBTESTS IN THIS TEST WHICH ARE INTENDED TO CHECK
;* RECEIVER STATUS.
;* SUBTEST 1 - REOM (RECEIVE END OF MESSAGE)
;*          THIS SUBTEST WILL TRANSMIT A DATA MESSAGE THAT IS
;*          ENDED WITH A TEOM (TRANSMIT END OF MESSAGE). A
;*          CHECK WILL BE MADE THAT THE RECEIVER GETS THE DATA
;*          AND THAT THE REOM IS RECEIVED WHEN RECEIVE
;*          STATUS IS AVAILABLE.
;*
;* SUBTEST 2 - RECEIVER OVERRUN
;*          THIS SUBTEST WILL TRANSMIT DATA CORRECTLY. THE
;*          RECEIVER AFTER BECOMING ACTIVE WILL NOT SERVICE
;*          THE RECEIVE BUFFER CORRECTLY. THIS SHOULD RESULT IN
;*          A RECEIVE OVERRUN. THIS SUBTEST WILL ENSURE THAT
;*          WHEN RECEIVE STATUS IS AVAILABLE, THE RECEIVER OVERRUN
;*          IS SET.
;*
;* SUBTEST 3 - RECEIVER ABORT
;*          THIS SUBTEST WILL TRANSMIT A DATA MESSAGE THAT IS ENDED
;*          WITH A TRANSMIT ABORT. THE SUBTEST WILL ENSURE THAT
;*          RECEIVE STATUS AVAILABLE IS RECEIVED AND THAT THE
;*          ABORT IS RECEIVED.
;*
*****

*****
;*          TEST 10 - DPV-11
;* THIS TEST WILL ENSURE THAT INTERRUPTS MAY BE GENERATED WHEN
;* RECEIVE STATUS IS AVAILABLE. EACH OF THE FOLLOWING SUBTESTS
;* WILL GENERATE THE STATUS AS FOLLOWS:
;* SUBTEST 1 - REOM
;* SUBTEST 2 - RECEIVER OVERRUN
;* SUBTEST 3 - RECEIVER ABORT
;*
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3145 ;*****
3146 ;*          TEST 11 - DPV-11
3147 ;* RECEIVE AND TRANSMIT INTERRUPT
3148 ;* TRANSMIT AND RECEIVE DATA USING INTERRUPT ROUTINES. THIS TEST
3149 ;* WILL TRANSMIT 4 DATA CHARACTERS. AFTER ENSURING THAT A TRANSMIT
3150 ;* INTERRUPT WAS COMPLETED, THE TEST WILL CHECK TO MAKE SURE THAT AT
3151 ;* LEAST 1 RECEIVE INTERRUPT WAS GENERATED.
3152 ;*
3153 ;*****
3154
3155
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3157
3158 ;*****
3159 ;*          TEST 12 - DPV-11
3160 ;* MODEM STATUS
3161 ;* IF A PROPER TURNAROUND (H3259 OR H3260) IS ON, THIS TEST WILL
3162 ;* CHECK THAT THE FOLLOWING MODEM SIGNALS ARE TURNED AROUND
3163 ;* 1. RTS (REQUEST TO SEND)      TURNED AROUND TO CTS (CLEAR TO SEND)
3164 ;*                                & RR (RECEIVER READY)
3165 ;* 2. DTR (DATA TERMINAL READY) TURNED AROUND TO IC (INCOMING CALL OR RING)
3166 ;* 3. SF (SELECT FREQUENCY)     TURNED AROUND TO SQ (SIGNAL QUALITY)
3167 ;* 4. LL (LOCAL LOOPBACK)       TURNED AROUND TO DM (DATA MODE)
3168 ;*
3169 ;*****
3170
3171
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3173
3174 ;*****
3175 ;*          TEST 13 - DPV-11
3176 ;* MODEM STATUS INTERRUPT
3177 ;* IF A PROPER TURNAROUND (H3259 OR H3260) IS ON, THIS TEST WILL CHECK
3178 ;* THAT THE FOLLOWING SUBTESTS WORK CORRECTLY.
3179 ;* SUBTEST 1 - SET DTR (DATA TERMINAL READY), LOCAL LOOP (LL), RTS (REQUEST
3180 ;*                TO SEND) WITH ONLY RECEIVE INTERRUPT ENABLED. ENSURE THAT AN
3181 ;*                INTERRUPT IS NOT RECEIVED.
3182 ;* SUBTEST 2 - SET DTR, LL AND RTS WITH ONLY DATA SET INTERRUPT ENABLED.
3183 ;*                ENSURE THAT AN INTERRUPT IS NOT RECEIVED.
3184 ;* SUBTEST 3 - SET DTR, LL AND RTS WITHOUT ANY INTERRUPTS ENABLED. ENSURE
3185 ;*                THAT AN INTERRUPT IS NOT RECEIVED.
3186 ;* SUBTEST 4 - SET RTS WITH RECEIVE AND DATA SET INTERRUPT ENABLED. ENSURE
3187 ;*                THAT AN INTERRUPT IS RECEIVED.
3188 ;* SUBTEST 5 - SET DTR WITH RECEIVE AND DATA SET INTERRUPT ENABLED. ENSURE
3189 ;*                THAT AN INTERRUPT IS RECEIVED.
3190 ;* SUBTEST 6 - SET LL WITH RECEIVE AND DATA SET INTERRUPT ENABLED. ENSURE
3191 ;*                THAT AN INTERRUPT IS RECEIVED.
3192 ;*
3193 ;*****
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;*          TEST 14 - DPV-11
;* RECEIVE AND MODEM STATUS INTERRUPTS
;* CHANGE THE MODEM STATUS WHILE HANDLING A RECEIVE INTERRUPT.
;* ENSURE THAT THE MODEM STATUS INTERRUPT IS RECEIVED.
;* SUBTEST 1 - CHANGE RTS DURING THE RECEIVE INTERRUPT. ENSURE THAT
;*               THE DATA SET INTERRUPT WAS RECEIVED.
;* SUBTEST 2 - CHANGE DTR DURING THE RECEIVE INTERRUPT. ENSURE THAT
;*               THE DATA SET INTERRUPT WAS RECEIVED.
;* SUBTEST 3 - CHANGE LL DURING THE RECEIVE INTERRUPT. ENSURE THAT
;*               THE DATA SET INTERRUPT WAS RECEIVED.
;*
*****

*****
;*          TEST 15 - DPV-11
;* SUBTEST 1 - SECONDARY ADDRESS
;*   SEGMENT 1 - SELECT SECONDARY ADDRESS AND SEND THE CORRECT
;*               ADDRESS. CHECK THE DATA IS PROPERLY RECEIVED.
;*   SEGMENT 2 - SELECT SECONDARY ADDRESS AND SEND A MESSAGE WITHOUT
;*               SENDING USING THE SECONDARY ADDRESS. CHECK THAT A
;*               TIME OUT IS RECEIVED.
;*
;* SUBTEST 2 - ALL PARTIES ADDRESSING
;*   SEGMENT 1 - SELECT ALL PARTIES AND SECONDARY ADDRESS. SEND A
;*               MESSAGE USING THE ALL PARTIES ADDRESS. ENSURE THAT
;*               THE MESSAGE IS CORRECTLY RECEIVED.
;*   SEGMENT 2 - SELECT ALL PARTIES AND SECONDARY ADDRESS. SEND A
;*               MESSAGE WITHOUT ALL PARTIES OR SECONDARY ADDRESS.
;*               CHECK THAT A TIME OUT IS RECEIVED.
;*   SEGMENT 3 - SELECT ALL PARTIES AND SECONDARY ADDRESS. SEND A
;*               MESSAGE WITH A SECONDARY ADDRESS. CHECK THAT A
;*               TIME OUT IS RECEIVED.
;*
*****
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3236 ;*****
3237 ;*          TEST 16 - DPV-11
3238 ;* ABORT TEST
3239 ;* SUBTEST 1 - ABORT WITH IDLE CLEAR. ABORT CHARACTERS TRANSMITTED WHEN
3240 ;*              THE ABORT BIT IS ASSERTED.
3241 ;*              SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 1,
3242 ;*              5 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
3243 ;*
3244 ;* SUBTEST 2 - ABORT WITH IDLE SET. FLAGS TRANSMITTED WHEN THE ABORT BIT
3245 ;*              IS ASSERTED.
3246 ;*              SELECTED OPTIONS: BOP MODE, NO ERROR CHECKING, IDLE SET,
3247 ;*              5 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
3248 ;*
3249 ;*****
3250
3251 ;*****
3252 ;*          TEST 17 - DPV-11
3253 ;* EXTENDED CONTROL AND ADDRESSING TEST
3254 ;* CHECK THAT THE RECEIVER CAN RECOGNIZE EXTENDED ADDRESSING AND CONTROL
3255 ;* CHARACTERS.
3256 ;*              SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 1,
3257 ;*              3 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK,
3258 ;*              EXTENDED CONTROL AND ADDRESSING SELECTED
3259 ;*
3260 ;*****
3261
3262 ;*****
3263 ;*          TEST 18 - DPV-11
3264 ;* TRANSMIT GO AHEAD
3265 ;* TERMINATE A MESSAGE USING TRANSMIT GO AHEAD. CHECK THAT THE RECEIVE
3266 ;* ABORT BIT IS SET WHEN THE END OF MESSAGE IS RECEIVED.
3267 ;*              SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 1, LOOP SET,
3268 ;*              5 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
3269 ;*
3270 ;*****
3271
3272 ;*****
3273 ;*          TEST 19 - DPV-11
3274 ;* ASSEMBLED BIT COUNT
3275 ;* TRANSMIT VARIOUS BIT LENGTHS WHILE RECEIVING AN 8 BIT CHARACTER.
3276 ;* ENSURE THAT THE ASSEMBLED BIT COUNT (ABC) IS CORRECT UPON THE END
3277 ;* OF MESSAGE.
3278 ;*              SELECTED OPTIONS: BOP MODE, NO ERROR CHECKING, VARIOUS BIT
3279 ;*              LENGTH CHARACTERS, MAINTENANCE MODE LOOPBACK.
3280 ;*
3281 ;*****
3282
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```

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```

;*****
;*          TEST 20 - DPV-11
;* SPECIAL SPACE SEQUENCE
;* START A MESSAGE USING A SPECIAL SPACE SEQUENCE. CHECK THAT THE
;* MESSAGE IS CORRECTLY TRANSMITTED AND RECEIVED.
;* NOTE: CERTAIN USYNRTS ONLY TRANSMIT A SPECIAL START SEQUENCE WHEN
;* TRANSMIT START AND END OF MESSAGE ARE SET BY A BYTE OPERATION.
;*
;*      SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 1,
;*                        5 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
;*
;*****

;*****
;*          TEST 21 - DPV-11
;* SYNCH CHARACTER
;* CHECK THAT A SYNCH CHARACTER OF 271 CAN BE USED TO COMMENCE A MESSAGE.
;* VERIFY THAT THE MESSAGE IS CORRECTLY TRANSMITTED AND RECEIVED.
;*      SELECTED OPTIONS: BCP MODE, VRC-EVEN PARITY,
;*                        7 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
;*
;*****

;*****
;*          TEST 22 - DPV-11
;* SYNCH FROM TRANSMIT DATA PATH
;* TRANSMIT A MESSAGE USING THE SYNCH FROM THE TRANSMIT DATA PATH.
;* VERIFY THAT THE MESSAGE IS CORRECTLY TRANSMITTED AND RECEIVED.
;*      SELECTED OPTIONS: BCP MODE, VRC-ODD PARITY, IDLE SET
;*                        5 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
;*
;*****

;*****
;*          TEST 23 - DPV-11
;* STRIP SYNCHS
;* SEND MORE THAN 2 SYNCHS WITH THE STRIP SYNCH BIT SET. CHECK THAT
;* THE MESSAGE IS CORRECTLY TRANSMITTED AND RECEIVED.
;*      SELECTED OPTIONS: BCP MODE, VRC-ODD PARITY, STRIP SYNCH SET
;*                        6 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
;*
;*****

```

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;*****
;*          TEST 24 - DPV-11
;* CRC-CCITT PRESET TO ONES.
;* CHECK TO ENSURE THAT THE ERROR CHECK BIT (BIT 15 OF RDSR) IS
;* SET WHEN AN ABORT IS RECEIVED. IN BOP MODE THIS BIT IS SET WHEN THE
;* CRC IS IN ERROR. THE ERROR CHECK BIT SHOULD BE ZERO WHEN REOM=1,
;* IF THE CRC WERE CORRECTLY RECEIVED. BY FORCING AN ABORT WE INTENTIONALLY
;* LOOK AT THE ERROR BIT WHEN IT SHOULD BE IN AN ERROR STATE.
;*   SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 1, LOOP SET,
;*                     4 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
;*
;*****

;*****
;*          TEST 25 - DPV-11
;* CRC-CCITT PRESET TO ZERO.
;* CHECK TO ENSURE THAT THE ERROR CHECK BIT (BIT 15 OF RDSR) IS
;* SET WHEN AN ABORT IS RECEIVED. IN BOP MODE THIS BIT IS SET WHEN THE
;* CRC IS IN ERROR. THE ERROR CHECK BIT SHOULD BE ZERO WHEN REOM=1,
;* IF THE CRC WERE CORRECTLY RECEIVED. BY FORCING AN ABORT WE INTENTIONALLY
;* LOOK AT THE ERROR BIT WHEN IT SHOULD BE IN AN ERROR STATE.
;*   SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 0, LOOP SET,
;*                     8 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
;*
;*****

;*****
;*          TEST 26 - DPV-11
;* CRC-16 PRESET TO 0
;*
;* SUBTEST 1 - CRC-16 ERROR
;* CHECK TO ENSURE THAT THE ERROR CHECK BIT (BIT 15 OF RDSR) IS
;* CLEAR IF THE RECEIVER IS SHUTDOWN BEFORE THE CRC IS RECEIVED.
;* IN BCP MODE THIS BIT IS CLEAR WHEN THE CRC IS IN ERROR.
;* THE ERROR CHECK BIT SHOULD BE SET WHEN THE LAST CHARACTER IS RECEIVED.
;* IF THE CRC WERE GOOD.
;*   SELECTED OPTIONS: BCP MODE, CRC-16 PRESET TO 0, LOOP SET,
;*                     8 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
;*
;* SUBTEST 2 - CRC-16 CHECK
;* CHECK THAT THE CORRECT CRC-16 IS RECEIVED FOR THE DATA MESSAGE.
;* THE CRC FOR THIS DATA MESSAGE WAS PREDETERMINED.
;*
;*****

```

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```

;*****
;*          TEST 27 - DPV-11
;* VRC ODD PARITY ERROR
;* BY SELECTING DIFFERENT CHARACTER LENGTHS IN THE RECEIVER AND
;* TRANSMITTER, CAUSE A PARITY ERROR TO OCCUR.
;*   SELECTED OPTIONS: BCP MODE, VRC-ODD PARITY, XMIT=7 &
;*                     RCV=6 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
;*
;*****

;*****
;*          TEST 28 - DPV-11
;* VRC EVEN PARITY ERROR
;* BY SELECTING DIFFERENT CHARACTER LENGTHS IN THE RECEIVER AND
;* TRANSMITTER, CAUSE A PARITY ERROR TO OCCUR.
;*   SELECTED OPTIONS: BCP MODE, VRC-EVEN PARITY, XMIT=5 &
;*                     RCV=4 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
;*
;*****

;*****
;*          TEST 29 - DPV-11
;* DATA TEST
;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE WITHOUT THE USE OF INTERRUPT
;* SERVICE ROUTINES. CHECK THAT THE DATA IS CORRECT.
;*   SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ONES,
;*                     8 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
;*
;*****

;*****
;*          TEST 30 - DPV-11
;* BOP DATA TEST
;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
;* DATA IS CORRECTLY RECEIVED.
;*   SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ZERO,
;*                     6 BIT CHARACTERS, USER SELECTED LOOPBACK.
;*
;*****

;*****
;*          TEST 31 - DPV-11
;* BOP DATA TEST
;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
;* DATA IS CORRECTLY RECEIVED.
;*   SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ONES,
;*                     5 BIT CHARACTERS, USER SELECTED LOOPBACK.
;*
;*****
```

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```
*****
;
;      TEST 32 - DPV-11
;
; BOP DATA TEST
; TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE.  CHECK THAT THE
; DATA IS CORRECTLY RECEIVED.
;      SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ZERO,
;                        7 BIT CHARACTERS, USER SELECTED LOOPBACK.
;
; *****
;
; *****
;
;      TEST 33 - DPV-11
;
; BOP DATA TEST
; TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE.  CHECK THAT THE
; DATA IS CORRECTLY RECEIVED.
;      SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ONES,
;                        8 BIT CHARACTERS, USER SELECTED LOOPBACK
;
; *****
;
; *****
;
;      TEST 34 - DPV-11
;
; BOP DATA TEST
; TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE.  CHECK THAT THE
; DATA IS CORRECTLY RECEIVED.
; NOTE: CERTAIN USYNRTS ONLY TRANSMIT A SPECIAL START SEQUENCE WHEN
;       TRANSMIT START AND END OF MESSAGE ARE SET BY A BYTE OPERATION.
;      SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ONES,
;                        6 BIT CHARACTERS, USER SELECTED LOOPBACK.
;
; *****
;
; *****
;
;      TEST 35 - DPV-11
;
; BOP DATA TEST
; TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE.  CHECK THAT THE
; DATA IS CORRECTLY RECEIVED.
;      SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ZEROS,
;                        7 BIT CHARACTERS, USER SELECTED LOOPBACK.
;
; *****
;
; *****
;
;      TEST 36 - DPV-11
;
; BOP DATA TEST
; TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE.  CHECK THAT THE
; DATA IS CORRECTLY RECEIVED.
;      SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ZERO, LOOP SET,
;                        8 BIT CHARACTERS, USER SELECTED LOOPBACK.
;
; *****
```

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;*****
;*          TEST 37 - DPV-11
;* BCP DATA TEST
;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
;* DATA IS CORRECTLY RECEIVED.
;*      SELECTED OPTIONS: BCP MODE, VRC-ODD PARITY, IDLE BIT SET
;*                        6 BIT CHARACTERS, USER SELECTED LOOPBACK.
;*
;*****

;*****
;*          TEST 38 - DPV-11
;* BCP DATA TEST
;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
;* DATA IS CORRECTLY RECEIVED.
;*      SELECTED OPTIONS: BCP MODE, VRC-EVEN PARITY,
;*                        5 BIT CHARACTERS, USER SELECTED LOOPBACK.
;*
;*****

;*****
;*          TEST 39 - DPV-11
;* BCP DATA TEST
;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
;* DATA IS CORRECTLY RECEIVED.
;*      SELECTED OPTIONS: BCP MODE, CRC-16 PRESET TO ONES, STRIP SYNCHS,
;*                        7 BIT CHARACTERS, USER SELECTED LOOPBACK.
;*
;*****

;*****
;*          TEST 40 - DPV-11
;* BCP DATA TEST
;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
;* DATA IS CORRECTLY RECEIVED.
;*      SELECTED OPTIONS: BCP MODE, CRC-16 PRESET TO ONES,
;*                        8 BIT CHARACTERS, USER SELECTED LOOPBACK.
;*
;*****
```

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```

3528
3529 ;*****
3530 ;*          TEST 41 - DPV-11
3531 ;* DDCHP DATA TEST
3532 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE USING THE
3533 ;* DDCHP MESSAGE FORMAT. CHECK THAT THE DATA IS CORRECTLY RECEIVED
3534 ;* AND THAT THE CRC CHARACTERS ARE RECEIVED IN THE PROPER DDCHP
3535 ;* ORDER.
3536 ;*          SELECTED OPTIONS: BCP MODE, CRC-16 PRESET TO ONES, STRIP SYNCHS
3537 ;*                               8 BIT CHARACTERS, USER SELECTED LOOPBACK.
3538 ;*
3539 ;*****
3540
3541 ;*****
3542 ;*          TEST 42 - DPV-11
3543 ;* BCP DATA TEST
3544 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
3545 ;* DATA IS CORRECTLY RECEIVED.
3546 ;*          SELECTED OPTIONS: BCP MODE, CRC-16 PRESET TO ONES,
3547 ;*                               5 OR 8 BIT CHARACTERS, USER SELECTED LOOPBACK.
3548 ;*
3549 ;*****
3550
3551 ;*****
3552 ;*          TEST 43 - DPV-11
3553 ;* BOP DATA TEST
3554 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
3555 ;* DATA IS CORRECTLY RECEIVED.
3556 ;*          SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ONES,
3557 ;*                               5 OR 8 BIT CHARACTERS, USER SELECTED LOOPBACK.
3558 ;*
3559 ;*****
3560

```

9.0 ERROR INFORMATION

9.1 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 EXAMPLE PROVIDES A TYPICAL ERROR REPORT, WHICH DESCRIBES AN "TIME OUT" ERROR, AND PROVIDES THE PC OF THE ERROR CALL AND THE PC OF THE CALL TO THE SUBROUTINE REPORTING IT, THE FAILING REGISTER NAME, AND DEVICE REGISTER CONTENTS :

```

DPV DVC FTL ERR 00002 ON UNIT 00 TST 020 SUB 000 PC: 004756
TIME OUT - DURING INTERRUPT EXERCISE
ERROR IN SUBROUTINE CALLED AT PC: 031706
RXCSR: 000160

```

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RDSR : 000000
TXCSR: 122432
TDSR : 001402

DPV EOP 1
1 CUMULATIVE ERRORS

a

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18-2
CVDPVC.P11 16-AUG-84 14:18 PROGRAM DOCUMENT

```
3609          002000          .-2000
3610
3611
3612
3613
3614          .MCALL  SVC
3615 002000          SVC          ; INITIALIZE SUPERVISOR MACROS
3616
3617
3618 002000          BGNMOD
3619
3620
3621          000001      $LSTIN= 1      ; LIST INSTRUCTIONS
3622          000001      $LSTTAG= 1
3623          000001      SVCINS= 1      ; LIST INSTRUCTIONS, SHIFTED RIGHT
3624          000001      SVCTST= 1      ; LIST TEST TAGS, SHIFTED RIGHT
3625          000001      SVCSUB= 1      ; LIST SUBTEST TAGS, SHIFTED RIGHT
3626          000001      SVCGBL= 1      ; LIST GLOBAL TAGS, SHIFTED RIGHT
3627          000001      SVCTAG= 1      ; LIST OTHER TAGS, SHIFTED RIGHT
3628
3629          ; CHANGE THE VALUES OF THE SVC... SYMBOLS TO BE ZERO IF YOU WISH
3630          ; TO ALIGN THE MACRO CALLS AND THEIR EXPANSIONS. CHANGE THE
3631          ; SYMBOLS TO BE MINUS-ONE TO NOT LIST THE EXPANSIONS. YOU MAY
3632          ; CHANGE THE SYMBOLS AT ANY POINT IN YOUR PROGRAM.
3633
3634 002000          POINTER BGNDU
3635
3643
3644
3645
```

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 CVDPVC.P11 16-AUG-84 14:18 PROGRAM HEADER

3647 .SBTTL PROGRAM HEADER

3648 :
 3649 : THE PROGRAM HEADER MACRO CHARACTERIZES THIS DIAGNOSTIC. THE
 3650 : HEADER MACRO'S ARGUMENTS ARE FILE NAME, RELEASE LEVEL, PATCH
 3651 : DISPOSITION OF THE MOST RECENT PATCH, MAXIMUM TEST TIME IN SEC.,
 3652 : AND THE TYPE OF DIAGNOSTIC (0-SEQUENTIAL, 1-EXERCISER). THESE
 3653 : ARGUMENTS ARE IN RESPECTIVE ORDER.
 3654 :--

3655
 3656
 3657 002000 HEADER CVDPV,C,0,200.,0

(4) 002000
 (4) 002000 103
 (4) 002001 126
 (4) 002002 104
 (4) 002003 120
 (4) 002004 126
 (6) 002005 000
 (6) 002006 000
 (5) 002007 000
 (5) 002010
 (4) 002010 103
 (5) 002011
 (4) 002011 060
 (5) 002012
 (4) 002012 000000
 (5) 002014
 (4) 002014 000310
 (5) 002016
 (4) 002016 040250
 (5) 002020
 (4) 002020 000000
 (5) 002022
 (4) 002022 002254
 (5) 002024
 (4) 002024 000000
 (5) 002026
 (4) 002026 040540
 (5) 002030
 (4) 002030 000000
 (5) 002032
 (4) 002032 000000
 (5) 002034
 (4) 002034 000000
 (5) 002036
 (4) 002036 000000
 (5) 002040
 (4) 002040 002124
 (5) 002042
 (4) 002042 000000
 (5) 002044
 (4) 002044 000000
 (5) 002046
 (4) 002046 000000
 (5) 002050
 (4) 002050 003

L\$NAME::
 .ASCII /C/
 .ASCII /V/
 .ASCII /D/
 .ASCII /P/
 .ASCII /V/
 .BYTE 0
 .BYTE 0
 .BYTE 0
 L\$REV::
 .ASCII /C/
 L\$DEPO::
 .ASCII /O/
 L\$UNIT::
 .WORD 0
 L\$TIML::
 .WORD 200.
 L\$HPCP::
 .WORD L\$HARD
 L\$SPCP::
 .WORD 0
 L\$HPTP::
 .WORD L\$HW
 L\$SPTP::
 .WORD 0
 L\$LADP::
 .WORD L\$LAST
 L\$STA::
 .WORD 0
 L\$CO::
 .WORD 0
 L\$DTYP::
 .WORD 0
 L\$APT::
 .WORD 0
 L\$DTP::
 .WORD L\$DISPATCH
 L\$PRIO::
 .WORD 0
 L\$ENVI::
 .WORD 0
 L\$EXP1::
 .WORD 0
 L\$MREV::
 .BYTE C\$REVISION

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18-4
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(3) 002051 003
 (5) 002052
 (4) 002052 000000
 (5) 002054 000000
 (5) 002056
 (4) 002056 000000
 (5) 002060
 (4) 002060 003674
 (5) 002062
 (4) 002062 000000
 (5) 002064
 (4) 002064 000000
 (5) 002066
 (4) 002066 000000
 (5) 002070
 (4) 002070 000000
 (5) 002072
 (4) 002072 017750
 (5) 002074
 (4) 002074 000000
 (5) 002076
 (4) 002076 003702
 (5) 002100
 (4) 002100 104035
 (5) 002102
 (4) 002102 000000
 (5) 002104
 (4) 002104 015372
 (5) 002106
 (4) 002106 016564
 (5) 002110
 (4) 002110 016500
 (5) 002112
 (4) 002112 015364
 (5) 002114
 (4) 002114 000000
 (5) 002116
 (4) 002116 000000
 (5) 002120
 (4) 002120 000000

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.EVEN

	.BYTE	C\$EDIT
L\$EF::	.WORD	0
	.WORD	0
L\$SPC::	.WORD	0
L\$DEVP::	.WORD	L\$DVTYP
L\$REPP::	.WORD	0
L\$EXP4::	.WORD	0
L\$EXP5::	.WORD	0
L\$AUT::	.WORD	0
L\$DUT::	.WORD	L\$DU
L\$LUN::	.WORD	0
L\$DESP::	.WORD	L\$DESC
L\$LOAD::	EMT	E\$LOAD
L\$ETP::	.WORD	0
L\$ICP::	.WORD	L\$INIT
L\$CCP::	.WORD	L\$CLEAN
L\$ACP::	.WORD	L\$AUTO
L\$PRT::	.WORD	L\$PROT
L\$TEST::	.WORD	0
L\$DLY::	.WORD	0
L\$HIME::	.WORD	0

CVDPVCO DPCV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18-5
 CVDPVC.P11 16-AUG-84 14:18 DISPATCH TABLE

.SBTTL DISPATCH TABLE

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

DISPATCH 43

3676
 3677
 3678
 3679
 3680
 3681
 3682
 3683 002122
 (4) 002122 000053
 (3) 002124
 (6) 002124 020030
 (6) 002126 020434
 (6) 002130 020660
 (6) 002132 021410
 (6) 002134 021752
 (6) 002136 022204
 (6) 002140 022362
 (6) 002142 022614
 (6) 002144 023112
 (6) 002146 024120
 (6) 002150 025234
 (6) 002152 025500
 (6) 002154 025770
 (6) 002156 026700
 (6) 002160 030004
 (6) 002162 030714
 (6) 002164 031240
 (6) 002166 031412
 (6) 002170 031622
 (6) 002172 032072
 (6) 002174 032240
 (6) 002176 032424
 (6) 002200 032610
 (6) 002202 032774
 (6) 002204 033164
 (6) 002206 033352
 (6) 002210 033770
 (6) 002212 034160
 (6) 002214 034350
 (6) 002216 034746
 (6) 002220 035122
 (6) 002222 035304
 (6) 002224 035474
 (6) 002226 035646
 (6) 002230 036022
 (6) 002232 036204
 (6) 002234 036366
 (6) 002236 036570
 (6) 002240 036772
 (6) 002242 037174
 (6) 002244 037352
 (6) 002246 037624
 (6) 002250 040034

.WORD 43
 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

3684
 3691

CVDPVC0 DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18-6
 CVDPVC.P11 16-AUG-84 14:18 DEFAULT HARDWARE P-TABLE

.SBTTL DEFAULT HARDWARE P-TABLE

;/;;;
 ;/ THE DEFAULT HARDWARE P-TABLE CONTAINS DEFAULT VALUES FOR
 ;/ THE TEST-DEVICE PARAMETERS.
 ;/;;;

BGNHW DFPTBL

3700 002252
 (3) 002252 000003
 (3) 002254
 (3) 002254

.WORD L10000-L\$HW/2
 L\$HW::
 DFPTBL::

3701
 3702 002254 160010
 3703 002256 000300
 3704 002260 000001

.WORD 160010
 .WORD 300
 .WORD 1

;DPV11 CSR UNIBUS ADDRESS
 ;DPV11 INTERRUPT VECTOR
 ;TURNAROUND (DEFAULT = RS423)

3705
 3706
 3707 002262
 (3) 002262

ENDHW

L10000:

3708
 3709
 3710
 3711
 3712
 3713
 3714
 3715
 3716

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18.7
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL EQUATES SECTION

.SBTTL GLOBAL EQUATES SECTION

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

EQUALS

; BIT DIFINITIONS

; BIT15== 100000
 BIT14== 40000
 BIT13== 20000
 BIT12== 10000
 BIT11== 4000
 BIT10== 2000
 BIT09== 1000
 BIT08== 400
 BIT07== 200
 BIT06== 100
 BIT05== 40
 BIT04== 20
 BIT03== 10
 BIT02== 4
 BIT01== 2
 BIT00== 1

; BIT9== BIT09
 BIT8== BIT08
 BIT7== BIT07
 BIT6== BIT06
 BIT5== BIT05
 BIT4== BIT04
 BIT3== BIT03
 BIT2== BIT02
 BIT1== BIT01
 BIT0== BIT00

; EVENT FLAG DEFINITIONS

; EF32:EF17 RESERVED FOR SUPERVISOR TO PROGRAM COMMUNICATION

; EF.START== 32. ; START COMMAND WAS ISSUED
 EF.RESTART== 31. ; RESTART COMMAND WAS ISSUED
 EF.CONTINUE== 30. ; CONTINUE COMMAND WAS ISSUED
 EF.NEW== 29. ; A NEW PASS HAS BEEN STARTED
 EF.PWR== 28. ; A POWER-FAIL/POWER-UP OCCURRED

; PRIORITY LEVEL DEFINITIONS

; PRI07== 340
 PRI06== 300
 PRI05== 240
 PRI04== 200
 PRI03== 140

3718
 3719
 3720
 3721
 3722
 3723
 3724
 3725 002262

(1)
 (1)
 (1)
 (1) 100000
 (1) 040000
 (1) 020000
 (1) 010000
 (1) 004000
 (1) 002000
 (1) 001000
 (1) 000400
 (1) 000200
 (1) 000100
 (1) 000040
 (1) 000020
 (1) 000010
 (1) 000004
 (1) 000002
 (1) 000001
 (1)
 (1) 001000
 (1) 000400
 (1) 000200
 (1) 000100
 (1) 000040
 (1) 000020
 (1) 000010
 (1) 000004
 (1) 000002
 (1) 000001
 (1)
 (1)
 (1)
 (1)
 (1) 000040
 (1) 000037
 (1) 000036
 (1) 000035
 (1) 000034
 (1)
 (1)
 (1)
 (1)
 (1) 000340
 (1) 000300
 (1) 000240
 (1) 000200
 (1) 000140

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18-8
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL EQUATES SECTION

```

(1)      000100      PRI02== 100
(1)      000040      PRI01== 40
(1)      000000      PRI00== 0
(1)      ;
(1)      ;OPERATOR FLAG BITS
(1)      ;
(1)      000004      EVL==      4
(1)      000010      LOT==      10
(1)      000020      ADR==      20
(1)      000040      IDU==      40
(1)      000100      ISR==      100
(1)      000200      UAM==      200
(1)      000400      BOE==      400
(1)      001000      PNT==     1000
(1)      002000      PRI==     2000
(1)      004000      IXE==     4000
(1)      010000      IBE==    10000
(1)      020000      IER==    20000
(1)      040000      LOE==    40000
(1)      100000      MOE==   100000
3726      ;*****
3727
3728      ;*****
3729      ;SWITCH REGISTER OPTIONS
3730
3731      100000      SW15=    100000
3732      040000      SW14=    40000
3733      020000      SW13=    20000
3734      010000      SW12=    10000
3735      004000      SW11=    4000
3736      002000      SW10=    2000
3737      001000      SW09=    1000
3738      000400      SW08=    400
3739      000200      SW07=    200
3740      000100      SW06=    100
3741      000040      SW05=    40
3742      000020      SW04=    20
3743      000010      SW03=    10
3744      000004      SW02=    4
3745      000002      SW01=    2
3746      000001      SW00=    1
3747
3748      ;*****
3749      ;CSR AND STATUS WORD DEFINITIONS
3750
3751      ;RXCSR - CSRO (EXTERNAL REGISTER) READ/WRITE BITS 0 - 6
3752
3753      000001      SF=      BIT0      ;SELECT FREQUENCY.
3754      000001      RL=      BIT0      ;REMOTE LOOPBACK - IF WIRE WRAPPED
3755      ;SELECTED
3756      000002      DTR=      BIT1      ;DATA TERMINAL READY R/W
3757      000004      RTS=      BIT2      ;REQUEST TO SEND R/W
3758      000010      LL=      BIT3      ;LOCAL LOOPBACK
3759      000020      RXENA=    BIT4      ;RECEIVER ENALBLE R/W
3760      000040      DSITEN=  BIT5      ;DATA SET INTERRUPT ENABLE R/W
3761      000100      RXITEN=  BIT6      ;RECEIVER INTERRUPT ENABLE R/W

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18-9
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL EQUATES SECTION

```

3762                                ;** BITS 7 - 15  READ ONLY **
3763      000200      RDATA= BIT7      ;RECEIVE DATA READY  READ ONLY
3764      000400      SFR=   BIT8      ;SYNCH OR FLAG DETECT  READ ONLY
3765      001000      DM=    BIT9      ;DATA MODE  READ ONLY
3766      002000      RSTARY= BIT10     ;RECEIVER STATUS READY  READ ONLY
3767      004000      RXACT=  BIT11     ;RECEIVER ACTIVE  READ ONLY
3768      010000      RR=    BIT12     ;RECEIVER READY  READ ONLY
3769      020000      CTS=   BIT13     ;CLEAR TO SEND  READ ONLY
3770      040000      IC=    BIT14     ;INCOMING CALL  READ ONLY
3771      100000      OSCNG= BIT15     ;DATA SET CHANGE  READ ONLY
3772
3773
3774      ;;PCSR - CSR2  (INTERNAL USNYR/T REGISTERS 4 AND 5)  WRITE ONLY
3775
3776                                ;BITS 0-7 SYNCH CHARACTER OR SECONDARY STATION
3777                                ;ADDRESS.  LOWER BYTE OF THE PCSAR IS THE
3778                                ;SYNCH CHARACTER USED WITH IN BCP MODE  OR
3779                                ;THE SECONDARY ADDRESS USED IN BOP MODE.
3780
3781                                ;BITS 8-10 ERROR DETECTION SELECTION
3782      000000      CCITT1= 0          ;CRC CCITT INITIALIZED TO ONES
3783      000400      CCITT0= BIT8      ;CRC CCITT INITIALIZED TO ZEROS
3784      001400      CRC16= BIT8:BIT9  ;CRC 16
3785      002000      VRC0=   BIT10     ;VRC ODD PARITY
3786      002400      VRCE=   BIT8:BIT10 ;VRC EVEN PARITY
3787      003400      NOERR= BIT8:BIT9:BIT10 ;ALL ERROR DETECTION INHIBITED.
3788      001000      NONE1= BIT9      ;NOT USED
3789      003000      NONE2= BIT9:BIT10 ;NOT USED
3790
3791      004000      IDLE=   BIT11     ;IDLE MODE SELECT
3792      010000      SECADR= BIT12     ;SECONDARY ADDRESS SELECT
3793      020000      SSYNCH= BIT13     ;STRIP SYNCH - BCP
3794      020000      LOOP=   BIT13     ;LOOP MODE - BOP
3795      040000      PROTO=  BIT14     ;PROTOCOL SELECT.
3796      100000      APA=    BIT15     ;ALL PARTIES ADDRESSED.
3797
3798
3799      ;;RDSR - CSR2  (INTERNAL USNYR/Y REGISTERS 0 AND 1)  READ ONLY
3800
3801                                ;BITS 0-7 RECEIVE DATA BUFFER
3802      000400      RSDM=   BIT8      ;RECEIVED START OF MESSAGE.
3803      001000      REOM=   BIT9      ;RECEIVED END OF MESSAGE.
3804      002000      RABORT= BIT10     ;RECEIVER ABORT OR GO AHEAD
3805      004000      ROVER=  BIT11     ;RECEIVER OVERRUN.
3806                                ;BITS 12-14 ASSEMBLED BIT COUNT (ABC)
3807      000000      ALL=    0          ;ALL BITS VALID
3808      010000      ONE=   BIT12     ;ONE BIT VALID
3809      020000      TWO=   BIT13     ;TWO BITS VALID
3810      030000      THREE= BIT12:BIT13 ;THREE BITS VALID
3811      040000      FOUR=  BIT14     ;FOUR BITS VALID
3812      050000      FIVE=  BIT12:BIT14 ;FIVE BI'S VALID
3813      060000      SIX=   BIT13:BIT14 ;SIX BITS VALID
3814      070000      SEVEN= BIT12:BIT13:BIT14 ;SEVEN BITS VALID
3815
3816      100000      ERR=    BIT15     ;ERROR CHECK
3817

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18-10
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL EQUATES SECTION

```

3818
3819      ;;TXCSR - CSR4 (EXTERNAL LO BYTE - INTERNAL 7 HI BYTE) READ/WRITE
3820
3821      000001      RESET= BIT0      ;DEVICE RESET - WRITE ONLY
3822      000002      TXACT= BIT1      ;TRANSMITTER ACTIVE - READ ONLY
3823      000004      TBE= BIT2      ;TRANSMITTER BUFFER EMPTY - READ ONLY
3824      000010      MM= BIT3      ;MAINTENANCE MODE - R/W
3825      000020      TXENA= BIT4      ;TRANSMITTER ENABLE - R/W
3826      000040      SQ= BIT5      ;SIGNAL QUALITY -READ ONLY
3827      000040      TM= BIT5      ;TEST MODE - READ ONLY WIRE WRAPPED FOR
3828                                     ;TEST MODE
3829      000100      TXIE= BIT6      ;TRANSMIT INTERRUPT ENABLE - R/W
3830
3831      ;;PCR - HI BYTE CSR4 (INTERNAL USNYR/T REGISTER 7)
3832
3833      000010      EXCON= BIT3      ;EXTENDED CONTROL FIELD
3834      000020      EXADD= BIT4      ;EXTENDED ADDRESS FIELD.
3835
3836      ;;TDCSR - CSR6 (INTERNAL USNYR/T REGISTERS 7 AND 7) READ/WRITE
3837
3838                                     ;BITS 0-7 TRANSMITTER DATA
3839      000400      TSM= BIT8      ;TRANSMIT START OF MESSAGE - R/W
3840      001000      TEOM= BIT9      ;TRANSMIT END OF MESSAGE - R/W
3841      002000      TXABO= BIT10      ;TRANSMIT ABORT - R/W
3842      004000      TGA= BIT11      ;TRANSMIT GO AHEAD - R/W
3843                                     ;BITS 12 - 14 RESERVED
3844      100000      TERR= BIT15      ;TRANSMIT DATA LATE ERROR. - READ ONLY
3845
3846
3847
3848      ;*****
3849      ;*****
3850      ; MISC. EQUATES
3851
3852      000226      SYN= 226      ;DDCMP SYNCH CHARACTER
3853      000207      RETURN= 207      ;RETURN FROM SUB. (= JSR PC)
3854      100000      BOP= BIT15      ;BIT SET IN MODE WHEN IN BOP MODE
3855      000015      CR= 15      ;ASCII CARRIAGE RETURN
3856      000012      LF= 12      ;ASCII LINE FEED
3857      000007      MFPT= 7      ;OPCODE FOR LSI 11/23 TO MOVE PROCESSOR TYPE
3858                                     ;TO R0 R0=3 MEANS LSI 11/23 - ILLEGAL INSTRUCTION
3859                                     ;ON AN LSI 11 OR LSI 11/2
3860      000332      CRCLO= 332      ;LOW BYTE OF CRC IN TEST 26.
3861      000266      CRCHI= 266      ;HIGH BYTE OF CRC IN TEST 26.
3862

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18-11
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL DATA SECTION

```

3864 .SBTTL GLOBAL DATA SECTION
3865
3866 ;////////////////////////////////////
3867 ;/ THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
3868 ;/ IN MORE THAN ONE TEST.
3869 ;////////////////////////////////////
3870
3871
3872
3873 ;*****
3874 ;DPV11 VECTOR AND REGISTER INDIRECT POINTERS
3875 RCVEC: .WORD 0 ;DPV11 RECEIVER INTERRUPT VECTOR
3876 XMTVEC: .WORD 0 ;DPV11 TRANSMITTER INT. VECTOR
3877 CSR0: .WORD 0 ;POINTER TO DPV11 CSR0
3878 CSR2: .WORD 0 ;POINTER TO DPV11 CSR2
3879 CSR4: .WORD 0 ;POINTER TO DPV11 CSR4
3880 CSR6: .WORD 0 ;POINTER TO DPV11 CSR6
3881 CSR1: .WORD 0 ;POINTER TO HIGH BYTE OF CSR0
3882 CSR3: .WORD 0 ;POINTER TO HIGH BYTE OF CSR2
3883 CSR5: .WORD 0 ;POINTER TO HIGH BYTE OF CSR4
3884 CSR7: .WORD 0 ;POINTER TO HIGH BYTE OF CSR6
3885
3886 RXCSR= CSR0 ;RECEIVER CSR (READ/WRITE)
3887 PCSAR= CSR2 ;PARAMETER CONTROL SYNCH/ADDRESS REG.
3888 ; (WRITE ONLY)
3889 RDSR= CSR2 ;RECEIVE DATA/STATUS REGISTER (READ ONLY)
3890 TXCSR= CSR4 ;TRANSMITTER CSR (READ/WRITE)
3891 TDSR= CSR6 ;TRANSMIT DATA/STATUS REGISTER (READ ONLY)
3892 PCR= CSR5 ;PCR = PARAMETER CONTROL REGISTER
3893
3894 ;OTHER HARDWARE PARAMETERS
3895
3896 TURN: .WORD 0 ;TURN AROUND TYPE (0-7)
3897
3898 ;*****
3899 ;PROGRAM CONTROL PARAMETERS
3900
3901
3902
3903 FRSTIM: .WORD 0 ;FLAG=0 IF PROGRAM JUST LOADED
3904 FRSPAS: .WORD 0 ;FLAG=0 IF FIRST PASS AFTER LOAD
3905 STARES: .WORD 0 ;FLAG=0 IF 1ST TIME THRU AFTER STA OR RES
3906
3907
3908
3909 ;*****
3910 ;PROGRAM VARIABLES
3911
3912 ;* MISCELLANEOUS STORAGE
3913 ABORT: .WORD 0 ;FLAG TO ALLOW AN ABORT TO BE ISSUED.
3914 BITS: .WORD 0 ;BITS TO BE SET IN THE CSR REGISTER
3915 COUNTER: .WORD 0 ;COUNTER FOR # OF CHARACTERS TO RCV. (RDATA2)
3916 CPU: .WORD 0 ;PROCESSOR TYPE
3917 ; (3 = LSI11/23, 0 = LSI 11 OR LSI 11/2)
3918 DATA: .WORD 0 ;COUNTER FOR # OF DATA CHARACTERS TRANSMITTED.
3919 ERROR: .WORD 0 ;ERROR STORAGE

```

CVDPVCO DVP11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18-12
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL DATA SECTION

3920	002332	000000	EXERR: .WORD	0	;FLAG THAT AN ERROR IS EXPECTED IN DATA
3921	002334	000000	FLAG: .WORD	0	;SCRATCH WORD USED FOR MISC. FLAG IN SUB.
3922	002336	000000	HEADER: .WORD	0	;FLAG USED TO MARK DDCHP HEADER.
3923	002340	000000	HIGH: .WORD	0	;FLAG USED TO INDICATE HIGH SPEED ISR WHEN SET
3924	002342	000000	IPCR: .WORD	0	;IMAGE OF PCR
3925	002344	000000	IPCSAR: .WORD	0	;IMAGE OF PCSAR
3926	002346	000000	IRXCSR: .WORD	0	;IMAGE OF RXCSR
3927	002350	000000	IRDSR: .WORD	0	;IMAGE OF RDSR.
3928	002352	000000	LENGTH: .WORD	0	;CHARACTER LENGTH.
3929	002354	000000	LOGDEV: .WORD	0	;LOGICAL DEVICE NUMBER
3930	002356	000000	MAINT: .WORD	0	;MAINTENANCE MODE LOOPBACK FLAG
3931	002360	000000	MCFLAG: .WORD	0	;WORD USED IN TO TRACK MODEM CONTROL INT.
3932	002362	000000	MODE: .WORD	0	;PROTOCOL TYPE
3933	002364	000000	NESTPC: .WORD	0	;FLAG TO NOTIFY WHEN A SUBR IS NESTED
3934	002366	000000	NXMFLG: .WORD	0	;WORD USED WHEN ADDRESS IS NXM.
3935	002370	000000	OVER: .WORD	0	;FLAG TO ALLOW RECEIVE OVERRUN.
3936	002372	000000	PSTACK: .WORD	0	;CONTAINS BASE LEVEL PROGRAM SP
3937	002374	000000	REG: .WORD	0	;STORAGE OF A CSR ADDRESS
3938	002376	000000	RFLAG: .WORD	0	;WORD USED IN RECEIVE ROUTINE.
3939	002400	000000	RSAVE: .WORD	0	;TEMPORARY LOCATION TO SAVE RDSR ON INTERRUPT
3940	002402	000000	RXINI: .WORD	0	;RECEIVER INITIALIZATION
3941	002404	000000	RXINIT: .WORD	0	;RECEIVER INITIALIZATION WITH INT ENABLED.
3942	002406	000000	RXMINI: .WORD	0	;RECEIVER INIT WITH MAINTENANCE LOOPBACK.
3943	002410	000000	SAVE: .WORD	0	;SCRATCH WORD USED FOR MISC. STORAGE IN SUB.
3944	002412	000000	SAVTIM: .WORD	0	;STORAGE TO SAVE TIMER VALUE
3945	002414	000000	START: .WORD	0	;CONTER FOR # OF START CHARACTERS TO XMIT.
3946	002416	000000	SUBRPC: .WORD	0	;PC OF SUBR CALL FOR ERROR REPORTS
3947	002420	000000	TEMP: .WORD	0	;SCRATCH WORD USED FOR MISC. STORAGE IN SUB.
3948	002422	000000	TEND: .WORD	0	;TRANSMIT END
3949	002424	000000	TFLAG: .WORD	0	;WORD USED IN TRANSMIT INTERRUPT ROUTINE
3950	002426	000000	TIMEO: .WORD	0	;FLAG TO MARK TIME OUT IN DATA SUBROUTINE.
3951	002430	000000	TIMER: .WORD	0	;TIMER VALUE
3952	002432	000000	TOGGLE: .WORD	0	;FLAG TO ALLOW TOGGLE OF RTS IN TEST.
3953	002434	000000	TSTART: .WORD	0	;TRANSMIT START
3954	002436	000000	TXINI: .WORD	0	;TRANSMITTER INITIALIZATION
3955	002440	000000	TXINIT: .WORD	0	;TRANSMITTER INITIALIZATION WITH INT ENABLED.
3956	002442	000000	TXMINI: .WORD	0	;TRANSMITTER INIT WITH MAINTENANCE LOOPBACK
3957					
3958					
3959					
3960					
3961					
3962					
3963					
3964			.EVEN		
3965					
3966			;;*****		
3967			;;*****		
3968			;;MODEM CONTROL		
3969					
3970	002444	000012	MODEM: .BLKW 10.		;BUFFER AREA FOR MODEM STATUS
3971					
3972			;;*****		
3973			;;*****		
3974			;;BUFFER AREA		
3975					

CVDPVCO DVPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18-13
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL DATA SECTION

```

3976 002470 000000 XTYPE: .WORD 0 ;POINTER TO DATA TYPE TO LOAD INTO XMIT BUFFER
3977 002472 000000 XCOUNT: .WORD 0 ;# OF CHARACTERS TO TRANSMIT.
3978 002474 000000 ECOUNT: .WORD 0 ;# OF CHARACTERS FOR END OF MSG. IN BCP MODE.
3979 002476 000000 XMITD: .WORD 0 ;# OF CHARACTERS TRANSMITTED.
3980 002500 000000 RCOUNT: .WORD 0 ;# OF CHARACTERS RECEIVED.
3981
3982
3983 ;*****
3984 ; ** CCITT PSUEDO-RANDOM TEST PATTERN **
3985 ; THE FOLLOWING 32 WORDS TRANSLATE INTO A 512 BIT PATTERN
3986 ; THAT WAS GENERATED ACCORDING TO CCITT RECOMMENDATION V.52. THIS
3987 ; PATTERN WAS GENERATED BY A 9 BIT SHIFT REGISTER (INITIALIZED
3988 ; AS 15) WHOSE 5TH AND 9TH BITS ARE XORED. THIS XOR RESULT IS SHIFTED
3989 ; INTO THE 1ST BIT OF THE REGISTER AS THE REGISTER IS SHIFTED RIGHT.
3990 ; THE 9TH BIT (OR BIT SHIFTED OUT) IS SHIFTED INTO THE BIT PATTERN.
3991 ; NOTE: CCITT RECOMMENDED 511 BITS, I'VE EXTENDED THIS BY 1 BIT TO END
3992 ; ON A WORD BOUNDARY.
3993 002502 $CCITT:
3994 002502 177603 157427 031011 .WORD 177603,157427,031011
3995 002510 047321 163715 105221 .WORD 047321,163715,105221
3996 002516 143325 142304 040041 .WORD 143325,142304,040041
3997 002524 014116 052606 172334 .WORD 014116,052606,172334
3998 002532 105025 123754 111337 .WORD 105025,123754,111337
3999 002540 111523 030030 145064 .WORD 111523,030030,145064
4000 002546 137642 143531 063617 .WORD 137642,143531,063617
4001 002554 135015 066730 026575 .WORD 135015,066730,026575
4002 002562 052012 053627 070071 .WORD 052012,053627,070071
4003 002570 151172 165044 031605 .WORD 151172,165044,031605
4004 002576 166632 016741 .WORD 166632,016741
4005
4006 ;*****
4007 ; ALPHANUMERIC DATA
4008
4009 002602 041101 042103 043105 ALPHA: .ASCIZ /ABCDEFGHIJKLMNPOQRSTUVWXYZ0123456789/
002610 044107 045111 046113
002616 047115 050117 051121
002624 052123 053125 054127
002632 055131 030460 031462
002640 032464 033466 034470
002646 000
4010 000045 ACCOUNT= .-ALPHA ;CHARACTER COUNT
4011 002650 .EVEN
4012
4013 ;*****
4014 ; DDCHP BUFFER
4015
4016 002650 201 DDCHP: .BYTE 201 ;SOH (START OF HEADER)
4017 002651 064 000 .BYTE 64,0 ;COUNT AND FLAGS (BITS 0 AND 1 FLAGS)
4018 002653 000 .BYTE 0 ;RESPONSE NUMBER
4019 002654 000 .BYTE 0 ;TRANSMIT NUMBER
4020 002655 001 .BYTE 1 ;STATION ADDRESS
4021 000006 DDCHP1= .-DDCHP
4022
4023 002656 042104 046503 020120 DMSG: .ASCII /DDCHP MESSAGE/ ;2 BYTES OF CRC16
002664 042515 051523 043501
002672 105

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 18-14
CVDPVC.P11 16-AUG-84 14:18 GLOBAL DATA SECTION

;2 BYTES OF CRC16

4024			DDCMP2=	.-DDMSG	
4025	000015				
4026					
4027	002674			.EVEN	
4028			;*****		
4029			; TRANSMIT BUFFER		
4030					
4031	002674	000400	XMTBUF:	.BLKB 256.	
4032					
4033			;*****		
4034			; RECEIVE BUFFER		
4035					
4036	003274	000400	RCVBUF:	.BLKB 256.	;256. BYTE BUFFER
4037		000400	RSIZE=	.-RCVBUF	
4038				.EVEN	
4039					
4040					

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 19
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL TEXT SECTION

```

4043 .SBTTL GLOBAL TEXT SECTION
4044
4045 ;*****
4046 ;# THE GLOBAL TEXT SECTION CONTAINS FORMAT STATEMENTS,
4047 ;# MESSAGES, AND ASCII INFORMATION THAT ARE USED IN
4048 ;# MORE THAN ONE TEST.
4049 ;*****
4050
4051 ;*****
4052 ;# NAMES OF DEVICES SUPPORTED BY PROGRAM
4053 ;*****
4054 ;*****
4055         003674          DEVTYP <DPV11>
4056         (4) 003674
4057         (3) 003674 050104 030526 000061
4058         (2)
4059
4060 ;*****
4061 ;# TITLE OF PROGRAM
4062 ;*****
4063         003702          DESCRIPT <DIAGNOSTIC TESTS>
4064         (4) 003702
4065         (3) 003702 044504 043501 047516
4066         (3) 003710 052123 041511 052040
4067         (3) 003716 051505 051524 000
4068         (2) 003724
4069
4070 ;*****
4071 ;# L$DVTYP::
4072 ;# .ASCIZ /DPV11/
4073 ;# .EVEN
4074
4075 ;*****
4076 ;# L$DESC::
4077 ;# .ASCIZ /DIAGNOSTIC TEST
4078 ;# .EVEN
4079
4080 ;
4081 ; FORMAT STATEMENTS USED IN PRINT CALLS
4082 ;

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 19-1
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4080 .SBTTL GLOBAL SUBROUTINES
4081
4082 ;////////////////////
4083 ;// THE GLOBAL SUBROUTINES ARE CALLED BY MORE THAN ONE TEST
4084 ;////////////////////
4085
4086 ;*****
4087 ;
4088 ;
4089 ;*****
4090
4091 ;*****
4092 ; CALL MACRO - CALL ROUTINE = JSR PC, ROUTINE
4093 ; (NOTE: RETURN IS EQUATED TO A RTS PC)
4094 ;
4095 ;*****
4096 .MACRO CALL ROUTIN
4097 .IF B, ROUTIN
4098 .ERROR ROUTINE; ## MISSING ROUTINE-EXPANSION ABORT ##
4099 .MEXIT
4100 .ENDC
4101 JSR PC,ROUTIN
4102 .ENDM
4103
4104 ;*****
4105 ; PUSH REGS MACRO
4106 ;
4107 ;*****
4108 .MACRO PUSH REGS
4109 .IRP X,<REGS>
4110 MOV X,-(SP) ;PUSH REG ON STACK.
4111 .ENDR
4112 .ENDM PUSH
4113
4114 ;*****
4115 ; POP REGS MACRO
4116 ;
4117 ;*****
4118 .MACRO POP REGS
4119 .IRP X,<REGS>
4120 MOV (SP)+,X ;POP REG OFF STACK.
4121 .ENDR
4122 .ENDM POP
4123
4124 ;*****
4125 ; WAIT MACRO
4126 ;
4127 ;*****
4128 .MACRO WAIT #BIT,ADDRESS
4129 .IF B, #BIT
4130 .ERROR ROUTINE; ## MISSING ROUTINE-EXAPNSION ABORT ##
4131 .MEXIT
4132 .ENDC
4133
4134
4135

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      .NLIST
      .LIST ME
      .LIST

      .IF      B, ADDRESS
      .IF      IDN $BIT, TBE
      JSR      PC,$WAIT
      .WORD    TBE
      .WORD    TXCSR
      .IFF
      JSR      PC,$WAIT
      .WORD    $BIT
      .WORD    RXCSR
      .ENDC
      .IFF
      JSR      PC,$WAIT
      .WORD    $BIT
      .WORD    ADDRESS
      .ENDC

      .NLIST ME
      .ENDM

;*****
; DELAY MACRO
;*****

      .MACRO $DELAY $TIME
      .IF      B, $TIME
      .ERROR ROUTINE; ** MISSING ROUTINE-EXAPNSION ABORT **
      .MEXIT
      .ENDC

      .NLIST
      .LIST ME
      .LIST

      JSR      PC,$DLAY
      .WORD    $TIME

      .NLIST ME
      .ENDM

```

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 CVDPVC.P11 16-AUG-84 14:18 GLOBAL SUBROUTINES

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4191 ;*****
4192 ;*****
4193 ;
4194 ;           SUBROUTINE $WAIT
4195 ;
4196 ;           FUNCTION - TO WAIT FOR A BIT TO BE SET IN A GIVEN
4197 ;                     ADDRESS (USUALLY A DPV REGISTER).
4198 ;
4199 ;           CALLING FORMAT:      JSR      PC,$WAIT
4200 ;                               .WORD    ;BIT
4201 ;                               .WORD    ;ADDRESS
4202 ;
4203 ;           ENTRY CONDITIONS -
4204 ;
4205 ;           EXIT CONDITIONS - EXIT WHEN BIT SET OR UPON TIME OUT.
4206 ;                           IF TIME OUT, PRINT TIME OUT ERROR.
4207 ;
4208 ;           CALLED BY           - TESTS 4,5,7
4209 ;
4210 ;           REGISTERS DESTROYED - R0-R2 SAVED AND RESTORED
4211 ;
4212 ;*****
4213 ;*****
4214 $WAIT:
4215
4216 003724      MOV      (SP),SUBRPC      ;SAVE THE PC THAT CALLED THE ROUTINE.
4217 003724 011637 002416      SUB      #4,SUBRPC      ;CORRECT THE PC.
4218 003730 162737 000004 002416      MOV      @SP,BITS      ;SAVE THE BITS THAT WE ARE CHECKING.
4219 003736 017637 000000 002320      ADD      #2,(SP)      ;UPDATE THE ADDRESS ON THE STACK.
4220 J03744 062716 000002      MOV      @SP,REG      ;SAVE THE ADDRESS OF THE CSR POINTER
4221 003750 017637 000000 002374      MOV      @REG,REG      ;SAVE THE ACTUAL CSR ADDRESS.
4222 003756 017737 176412 002374      ADD      #2,(SP)      ;UPDATE THE ADDRESS ON THE STACK.
4223 003764 062716 000002      PUSH     <R2,R1,R0>      ;PUSH REGS ON THE STACK
4224 003770      CLR      R0      ;USE R0 AS A LOOP TIMER.
4225 003776 005000
4226
4227 004000      10$:
4228 004000 017701 176370      MOV      @REG,R1      ;SAVE THE CONTENTS OF THE CSR.
4229 004004 033701 002320      BIT      BITS,R1      ;IS THE BIT SET ?
4230 004010 001026      BNE      20$      ;BRANCH IF SET
4231 004012      BREAK      ;BREAK FOR SUPERVISOR.
4232 004012 104422      DEC      R0      ;DECREMENT TIMER
4233 004014 005300      BNE      10$      ;CONTINUE IF TIMER NOT EXPIRED.
4234 004016 001370      MOV      R1,R2      ;SAVE EXPECTED RESULTS FOR ERROR MESSAGE.
4235 004022 053702 002320      BIS      BITS,R2      ;SET THE EXPECTED BITS.
4236 004026      ERDF      0,EMG1,ERRG12      ;PRINT TIME OUT ERROR.
4237 004026 104455      TRAP      C$BRK
4238 004030 000000      .WORD    0
4239 004032 013462      .WORD    EMG1
4240 004034 010214      .WORD    ERRG12
4241 004036 032737 000004 002320      BIT      #TBE,BITS      ;WERE WE WAITING FOR TBE?
4242 004044 001410      BEQ      20$      ;IF NOT, EXIT.
4243 004046      PRINTB   #FMS1      ;SUGGEST THAT THE XMIT CLOCK IS INOP.
4244 004046 012746 004102      MOV      #FMS1,-(SP)
4245 004052 012746 000001      MOV      #1,-(SP)

```


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4250 ;*****
4251 ;*****
4252 ;
4253 ;           SUBROUTINE $RESET
4254 ;
4255 ;           FUNCTION - TO PERFORM A MASTER RESET AND TO CHECK THAT
4256 ;                     THE DPV IS IN THE PROPER INIT STATE.
4257 ;
4258 ;           CALLING FORMAT:      JSR      PC,$RESET
4259 ;
4260 ;           ENTRY CONDITIONS -
4261 ;
4262 ;           EXIT CONDITIONS - DEVICE IS RESET CORRECTLY OR AN ERROR IS REPORTED
4263 ;
4264 ;           CALLED BY           - TESTS 2-43
4265 ;
4266 ;           REGISTERS NOT AFFECTED
4267 ;
4268 ;*****
4269 ;*****
4270 $RESET:
4271 004136 012777 000001 176126 MOV    $RESET,$TXCSR ;RESET THE DPV.
4272 004136 105777 176116 TSTB   $RXCSR ;IS THE RECEIVE CSR = 0?
4273 004144 001015 BNE     10$ ;IF NOT ERROR.
4274 004150 005777 176112 TST     $RDSR ;IS THE RECEIVE STATUS AND DATA REG = 0?
4275 004152 001012 BNE     10$ ;IF NOT, ERROR.
4276 004156 032777 000004 176104 BIT     #4,$TXCSR ;IS TBE SET?
4277 004160 001406 BEQ     10$ ;IF NOT, ERROR.
4278 004166 105777 176106 TSTB   $PCR ;IS THE PARAMETER CONTROL REG = 0?
4279 004170 001003 BNE     10$ ;IF NOT, ERROR.
4280 004174 005777 176072 TST     $TDSR ;IS THE XMIT STATUS AND DATA REG = 0?
4281 004176 001413 BEQ     20$ ;IF YES - RESET OK.
4282 004202 011637 002416 10$: MOV    (SP),SUBRPC ;FLAG WHERE THIS SUBR. WAS CALLED.
4283 004204 162737 000004 002416 SUB     #4,SUBRPC ;ADJUST THE PC
4284 004216 104455 ERRDF  !,EMG3,ERRG11 ;PRINT ERROR MESSAGE
4285 004216 000001 (4) 004220 013540 TRAP   C$ERDF
4286 004222 007572 (5) 004222 007572 .WORD 1
4287 004224 005037 002416 (5) 004224 007572 .WORD EMG3
4288 004232 017737 176030 002444 CLR     SUBRPC ;CLEAR THE FLAG .WORD ERRG11
4289 004232 042737 006760 002444 20$: MOV    $RXCSR,MODEM ;SAVE THE MODEM STATUS.
4290 004240 032777 000040 176016 BIC     #6760,MODEM ;CLEAR ALL BUT MODEM
4291 004246 001417 BEQ     30$ ;IS TEST MODE SET?
4292 004254 052737 000040 002444 BIT     #TM,$TXCSR ;IF NOT OK
4293 004256 000040 002444 BIS     #TM,MODEM ;OTHERWISE SET TM IN MODEM
4294 ;ALSO CHECK FOR -12V

```

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4295	004264	122777	000162	176004	CMPB	#162,BCSR1	;ARE RING, CTS, CD AND DM ALSO SET?	
4296	004272	001010			BNE	30\$	;IF NOT, PROBABLY HAVE -12V	
4297	004274				PRINTB	#FMG9	;PROMPT USER TO CHECK -12V.	
(7)	004274	012746	011522					MOV #FMG9,-(SP)
(6)	004300	012746	000001					MOV #1,-(SP)
(3)	004304	010600						MOV SP,R0
(4)	004306	104414						TRAP C\$PNTB
(4)	004310	062706	000004					ADD #4,SP
4298	004314			30\$:				
4299								
4300	004314	000207			RETURN			
4301								

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 CVDPVC.P11 16-AUG-84 14:18 GLOBAL SUBROUTINES

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4303 ;*****
4304 ;*****
4305 :
4306 :               SUBROUTINE #BUFRS
4307 :
4308 :               FUNCTION - TO SET UP THE TRANSMIT BUFFER WITH A DATA
4309 :                          PATTERN AND TO CLEAR THE RECEIVE BUFFER
4310 :
4311 :               CALLING FORMAT:      JSR      PC,#BUFRS
4312 :
4313 :
4314 :               ENTRY CONDITIONS - IPCSAR  = IMAGE OF THE PCSAR (CSR 2 OF THE DPV)
4315 :                                IPCR      = IMAGE OF THE PCR (CSR 5 OF THE DPV)
4316 :                                XTYPE     = ADDRESS OF THE XMIT TYPE
4317 :                                XCOUNT    = # OF CHARACTERS TO TRANSMIT
4318 :                                LENGTH    = CHARACTER LENGTH
4319 :                                MODE      = PROTOCOL TYPE (BCP OR BOP)
4320 :
4321 :
4322 :               EXIT CONDITIONS - ECOUNT   = # OF CHARACTERS TO TRANSMIT (MODIFIED
4323 :                                XCOUNT)
4324 :                                XMTBUF    = CONTAINS XMIT DATA TYPE PATTERN
4325 :                                RCVBUF    = RECEIVE BUFFER CLEARED
4326 :
4327 :               CALLED BY      - TESTS 15-40
4328 :
4329 :               REGISTERS R1-R4 DESTROYED
4330 :
4331 ;*****
4332 ;*****
4333 #BUFRS:
4334 004316 013701 002352      MOV     LENGTH,R1      ;GET THE CHARACTER LENGTH
4335 004322 013702 002470      MOV     XTYPE,R2      ;ADDRESS OF DATA TYPE
4336 004326 012703 002674      MOV     #XMTBUF,R3     ;ADDRESS OF TRANSMIT BUFFER.
4337 004332 013704 002472      MOV     XCOUNT,R4     ;CHARACTER COUNT.
4338 004336 005737 002362      TST     MODE          ;WHAT MODE?
4339 004342 001444             BEQ     10$            ;IF BCP, SKIP ADDRESS CHECK.
4340
4341 004344 032737 100000 002344  BIT     #APA,IPCSAR    ;IS APA DESIRED?
4342 004352 001403             BEQ     5$            ;IF NOT CHECK SECONDARY ADDRESS.
4343 004354 112723 000377      MOVB    #377,(R3)+    ;PUT APA IN THE XMIT BUFFER
4344 004360 000422             BR      7$
4345 004362             5$:
4346 004362 032737 010000 002344  BIT     #SECADR,IPCSAR ;IS THE SECONDARY ADDRESS DESIRED?
4347 004370 001403             BEQ     6$            ;IF NOT - JUST LOAD DATA
4348 004372 113723 002344      MOVB    IPCSAR,(R3)+  ;PUT SECONDARY ADDRESS IN THE XMIT BUFFER.
4349 004376 000413             BR      7$
4350 004400             6$:
4351 004400 112223             MOVB    (R2)+,(R3)+    ;LOAD ADDRESS CHARACTER
4352 004402 032737 000020 002342  BIT     #EXADD,IPCR    ;IS EXTENDED ADDRESS REQUESTED?
4353 004410 001406             BEQ     7$            ;BR IF NOT
4354 004412 142763 000001 177777  BICB    #BIT0,-1(R3) ;MAKE SURE THE LSB OF THE ADDRESS IS 0
4355 004420 112223             MOVB    (R2)+,(R3)+    ;GET THE EXTENDED ADDRESS BYTE.
4356 004422 005237 002472      INC     XCOUNT        ;COMPENSATE TRANSMIT COUNT.
4357 004426             7$:
4358 004426 112223             MOVB    (R2)+,(R3)+    ;LOAD CONTROL CHARACTER

```

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4359 004430 032737 000010 002342      BIT      @EXCON,IPCR      ;IS EXTENDED CONTROL DESIRED?
4360 004436 001403                      BEQ      B1              ;BR IF NOT
4361 004440 112223                      MOV      (R2), (R3),      ;LOAD EXTENDED CONTROL
4362 004442 005237 002472      INC      XCOUNT      ;COMPENSATE TRANSMIT COUNT
4363 004446                      81:
4364 004446 062737 000002 002472      ADD      @2,XCOUNT      ;COMPENSATE TRANSMIT COUNT
4365 004454                      101:
4366 004454 013737 002472 002474      MOV      XCOUNT,ECOUNT      ;TRANSMIT COUNT IS THE END COUNT IN BCP MODE.
4367 004462                      111:
4368 004462 112213                      MOV      (R2), (R3)      ;SAVE THE DATA IN THE TRANSMIT BUFFER
4369 004464 146123 004514                      BIC      MASK(R1), (R3),      ;CLEAR UNUSED BITS (DEPENDS ON CHAR LENGTH)
4370 004470 005304                      DEC      R4              ;DECREMENT COUNTER.
4371 004472 001373                      BNE      111          ;LOOP UNTIL THE TRANSMIT BUFFER IS LOADED.
4372
4373 004474 012701 003274                      MOV      @RCVBUF,R1      ;GET THE ADDRESS OF THE RECEIVE BUFFER
4374 004500 012702 000400                      MOV      @RSIZE,R2      ;GET THE LENGTH OF THE BUFFER.
4375 004504                      201:
4376 004504 105021                      CLR      (R1),          ;CLEAR THE ENTIRE BUFFER
4377 004506 005302                      DEC      R2              ;DECREMENT THE COUNTER
4378 004510 001375                      BNE      201          ;LOOP UNTIL THE ENTIRE RECEIVE BUFFER IS CLEAR
4379
4380 004512 000207                      RETURN
4381
4382 004514      000      376      374  MASK:  .BYTE  0,376,374,370,360,340,300,200,0
      004517      370      360      340
      004522      300      200      000
4383 004526                      .EVEN
4384

```

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4442                                     ;SET VECTORS WITH THE HIGH SPEED ISRS
4443 SETVEC XMTVEC, #XDATA2, #PRI04 ;HIGH SPEED BOP XMIT ISR.
(7) 004604 012746 000200 MOV #PRI04, -(SP)
(6) 004610 012746 017512 MOV #XDATA2, -(SP)
(5) 004614 013746 002264 MOV XMTVEC, -(SP)
(4) 004620 012746 000003 MOV #3, -(SP)
(3) 004624 104437 TRAP C$SVEC
(2) 004626 062706 000010 ADD #10, SP
4444 SETVEC RCVEC, #RDATA2, #PRI04 ;HIGH SPEED RECV VECTOR
(7) 004632 012746 000200 MOV #PRI04, -(SP)
(6) 004636 012746 017164 MOV #RDATA2, -(SP)
(5) 004642 013746 002262 MOV RCVEC, -(SP)
(4) 004646 012746 000003 MOV #3, -(SP)
(3) 004652 104437 TRAP C$SVEC
(2) 004654 062706 000010 ADD #10, SP
4445 004660 042737 000040 002404 BIC #DSITEN, RXINIT ;IGNORE DATA SET INTERRUPTS IN HIGH SPEED.
4446 004666 013737 002472 002322 MOV XCOUNT, COUNTER ;SET UP COUNTER FOR INT SERVICE ROUTINE RDATA2
4447 004674 000426 BR 74
4448 54: SETVEC XMTVEC, #XDATA, #PRI04 ;XMIT VECTOR
4449 (7) 004676 012746 000200 MOV #PRI04, -(SP)
(6) 004702 012746 017340 MOV #XDATA, -(SP)
(5) 004706 013746 002264 MOV XMTVEC, -(SP)
(4) 004712 012746 000003 MOV #3, -(SP)
(3) 004716 104437 TRAP C$SVEC
(2) 004720 062706 000010 ADD #10, SP
4450 SETVEC RCVEC, #RDATA, #PRI04 ;RECV VECTOR
4451 (7) 004724 012746 000200 MOV #PRI04, -(SP)
(6) 004730 012746 016732 MOV #RDATA, -(SP)
(5) 004734 013746 002262 MOV RCVEC, -(SP)
(4) 004740 012746 000003 MOV #3, -(SP)
(3) 004744 104437 TRAP C$SVEC
(2) 004746 062706 000010 ADD #10, SP
4452 74: SETPRI #PRI00 ;ENABLE INTERRUPTS
4453 (3) 004752 012700 000000 MOV #PRI00, R0
4454 (3) 004756 104441 TRAP C$SPRI
4455 004760 005737 002356 TST MAINT ;SET MAINTENANCE MODE?
4456 004764 001407 BEQ #DATA1 ;BR IF NOT
4457 004766 053777 002406 175272 BIS RXMINI, #RXCSR ;INIT RECEIVER WITH MAINTENANCE MODE
4458 004774 053777 002442 175270 BIS TXMINI, #TXCSR ;INIT TRANSMITTER WITH MAINT. MODE.
4459 005002 000411 BR #GO
4460 005004 053777 002404 175254 #DATA1: BIS RXINIT, #RXCSR ;ISSUE RECEIVER INIT (DETERMINED IN INIT CODE)
4461 005012 053777 002440 175252 BIS TXINIT, #TXCSR ;ISSUE XMIT INIT (DETERMINED IN INIT CODE)
4462 005020 052737 000040 002404 BIS #DSITEN, RXINIT ;RESET THE DATA SET INTERRUPT (MAY BE CLEARED
4463 ;IF THIS IS A HIGH SPEED TEST).
4464 005026 #GO: MOV (SP), SUBRPC ;FLAG WHERE THIS SUBR. WAS CALLED.
4465 005032 011637 002416 SUB #4, SUBRPC ;ADJUST THE PC
4466 005032 162737 000004 002416 MOV TIMER, R4 ;SET UP TIMER
4467 005040 013704 002430
4468 005044 84: MOV #5000, R5 ;INNER LOOP COUNTER
4469 005044 012705 005000
4470 005050 104: TST #TDSR ;IS THERE A TRANSMITTER ERROR?
4471 005050 005777 175220

```

4472	005054	100426		BMI	20:	;BR IF YES
4473	005056	005737	002376	TST	RFLAG	;IS THE RECEIVER DONE?
4474	005062	001033		BNE	22:	;EXIT LOOP IF YES
4475	005064	005305		DEC	R5	;DECREMENT INNER LOOP COUNTER
4476	005066	001370		BNE	10:	;LOOP UNTIL DONE
4477	005070	022737	000002 002306	CMP	#2,TURN	;IS THIS RS422?
4478	005076	001401		BEG	11:	;IF YES - DON'T ALLOW A SUPERVISOR BREAK.
4479	005100			BREAK		;BREAK FOR SUPERVISOR INTERRUPT
(3)	005100	104422				TRAP C\$BRK
4480	005102		11:			
4481	005102	005304		DEC	R4	;DECREMENT OUTSIDE LOOP COUNTER
4482	005104	001357		BNE	8:	;LOOP UNTIL DONE
4483	005106	005237	002426	INC	TIMEO	;SET TIME OUT FLAG.
4484						
4485	005112	005737	002332	TST	EXERR	;WAS AN ERROR EXPECTED?
4486	005116	001036		BNE	25:	;IF YES - EXIT WITHOUT ERROR MESSAGE.
4487	005120			ERROF	2,EMG2,ERRG2	;TIME OUT
(4)	005120	104455				TRAP C\$ERDF
(5)	005122	000002				.WORD 2
(5)	005124	013473				.WORD EMG2
(5)	005126	006700				.WORD ERRG2
4488	005130	000422		BR	24:	
4489	005132		20:			
4490	005132	042777	000020 175132	BIC	#TXENA,BTXCSR	;DISABLE THE TRANSMITTER.
4491	005140			ERROF	3,EMG30,ERRG2	;TRANSMIT UNDERRUN
(4)	005140	104455				TRAP C\$ERDF
(5)	005142	000003				.WORD 3
(5)	005144	014766				.WORD EMG30
(5)	005146	006700				.WORD ERRG2
4492	005150	000412		BR	24:	
4493	005152		22:			
4494	005152	005737	002376	TST	RFLAG	;WAS THIS THE END OF MESSAGE?
4495	005156	100016		BPL	25:	;OK - IF YES
4496	005160	005737	002332	TST	EXERR	;WAS AN ERROR EXPECTED?
4497	005164	001013		BNE	25:	;IF YES - EXIT WITHOUT ERROR MESSAGE.
4498	005166			ERROF	4,EMG31,ERRG2	;RECEIVER ERROR
(4)	005166	104455				TRAP C\$ERDF
(5)	005170	000004				.WORD 4
(5)	005172	015004				.WORD EMG31
(5)	005174	006700				.WORD ERRG2
4499	005176		24:			
4500	005176	012737	000001 002330	MOV	#1,ERROR	;FLAG ERROR
4501	005204	005037	002416	CLR	SUBRPC	;CLEAR THE SUBR PC FLAG
4502	005210	000261		SEC		;SET CARRY - ERROR
4503	005212	000403		BR	30:	
4504						

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```
4505 005214          25+:
4506 005214 000241          CLC          ;CLEAR CARRY - NO ERROR
4507 005216 005037 002416    CLR          SUBRPC      ;CLEAR THE SUBR PC FLAG
4508 005222          30+:
4509 005222 052777 000001 175042 BIS      #RESET,DTXCSH ;RESET THE DPV
4510 005230          CLRVEC  XMTVEC      ;RESTORE VECTORS
      (3) 005230 013700 002264          MOV      XMTVEC,R0
      (3) 005234 104436          TRAP      C#CVEC
4511 005236          CLRVEC  RCVEC      ;
      (3) 005236 013700 002262          MOV      RCVEC,R0
      (3) 005242 104436          TRAP      C#CVEC
4512 005244 000207          RETURN
4513
```

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4515 ;*****
4516 ;*****
4517 ;
4518 ;           SUBROUTINE  #CHECK
4519 ;
4520 ;           FUNCTION - AFTER A DATA TRANSMISSION CHECK
4521 ;                     1. THE ERROR CHECK BIT 2. THAT THE XMIT AND RCV
4522 ;                     CHARACTER COUNTS ARE EQUAL 3. THAT THE XMIT AND
4523 ;                     RCV BUFFERS ARE IDENTICAL
4524 ;
4525 ;           CALLING FORMAT:          JSR      PC,#CHECK
4526 ;                                   JSR      PC,#CHK1
4527 ;
4528 ;
4529 ;           ENTRY CONDITIONS - IRDSR  = IMAGE OF THE LAST RECEIVED RDSR
4530 ;                               XCOUNT = TRANSMIT CHARACTER COUNT.
4531 ;                               RCOUNT = RECEIVER CHARACTER COUNT.
4532 ;                               XMTBUF  = THE TRANSMIT BUFFER STARTING ADDRESS.
4533 ;                               RCVBUF  = THE RECEIVE BUFFER STARTING ADDRESS.
4534 ;                               MODE    = PROTOCOL MODE: 0 = BCP,  NONO = BOP
4535 ;
4536 ;
4537 ;           EXIT CONDITIONS - IF ERROR DETECTED, A MESSAGE WILL BE OUTPUT.
4538 ;
4539 ;           CALLED BY          - #CHECK - TESTS 15, 17-23, 29-40
4540 ;                               #CHK1  - TESTS 41-43
4541 ;
4542 ;           REGISTERS R1 - R3 DESTROYED
4543 ;
4544 ;*****
4545 ;*****
4546 005246 #CHECK:
4547 ;           .ENABL  LSB          ;ENABLE LOCAL SYMBOL BLOCK.
4548 ;
4549 005246 005737 002340          TST      HIGH          ;IS THIS A HIGH SPEED TEST (HIGH SPEED ISRS)
4550 005252 001046                BNE      5#           ;IF YES SKIP CRC ERROR CHECK AND
4551 005254 005737 002362          TST      MODE          ;IS THIS BCP MODE?
4552 005260 001404                BEQ      1#           ;BR IF YES
4553 005262 005737 002350          TST      IRDSR         ;IS THE ERROR BIT SET (BIT 15)
4554 005266 100410                BMI      3#           ;IF YES - CRC ERROR.
4555 005270 000421                BR       4#
4556 005272
4557 005272 032737 002000 002344 1#: BIT      #BIT10,IPCSAR ;WAS CRC16 USED? (ONLY TIME BIT 10 IS SET)
4558 005300 001015                BNE      4#           ;IF NOT DON'T CHECK BIT.
4559 005302 005737 002350          TST      IRDSR         ;IS THE ERROR BIT SET (BIT 15)?
4560 005306 100412                BMI      4#           ;IF YES - OK
4561 005310
4562 005310 011637 002416          MOV      (SP),SUBRPC    ;FLAG WHERE THIS SUBR. WAS CALLED.
4563 005314 162737 000004 002416 SUB      #4,SUBRPC    ;ADJUST THE PC
4564 005322          ERROF      5,EMG37,ERRG1 ;CRC ERROR
4565 (4) 005322 104455
4566 (5) 005324 000005
4567 (5) 005326 015226
4568 (5) 005330 006652
4569 005332 000444
4570 005334          BR       30#
4571
4572 TRAP      C#ERDF
4573 .WORD     5
4574 .WORD     EMG37
4575 .WORD     ERRG1

```

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```

4567 005334 023737 002472 002500      CMP      XCOUNT,RCOUNT      ;ARE THE CHARACTER COUNTS THE SAME.
4568 005342 001412                      BEQ        5$              ;IF YES - CONTINUE
4569 005344 011637 002416              MOV      (SP),SUBRPC      ;FLAG WHERE THIS SUBR. WAS CALLED.
4570 005350 162737 000004 002416      SUB      #4,SUBRPC      ;ADJUST THE PC
4571 005356                      ERDF      6,EMG25,ERRG14      ;CHARACTER COUNTS DIFFERENT
      (4) 005356 104455                      TRAP      C$ERDF
      (5) 005360 000006                      .WORD      6
      (5) 005362 014725                      .WORD      EMG25
      (5) 005364 010760                      .WORD      ERRG14
4572 005366 000426                      BR        30$
4573 005370                      5$:
4574 005370 012701 002674              MOV      #XMTBUF,R1      ;GET THE ADDRESS OF THE XMIT BUFFER.
4575 005374 012702 003274              MOV      #RCVBUF,R2      ;GET THE ADDRESS OF THE RECV BUFFER.
4576 005400 013703 002472              MOV      XCOUNT,R3      ;GET THE CHARACTER COUNT
4577 005404                      $CHK1:
4578 005404 122122                      CMPB     (R1)+,(R2)+      ;ARE THE CHARACTERS THE SAME
4579 005406 001003                      BNE      20$              ;IF NOT, REPORT THE ERROR
4580 005410 005303                      DEC      R3              ;DECREMENT THE COUNT.
4581 005412 001414                      BEQ      30$              ;LOOP UNTIL DONE
4582 005414 000773                      BR        $CHK1
4583 005416                      20$:
4584 005416 011637 002416              MOV      (SP),SUBRPC      ;FLAG WHERE THIS SUBR. WAS CALLED.
4585 005422 162737 000004 002416      SUB      #4,SUBRPC      ;ADJUST THE PC
4586 005430 005301                      DEC      R1              ;POINT TO DATA IN ERROR
4587 005432 005302                      DEC      R2              ;POINT TO DATA IN ERROR.
4588 005434                      ERDF      7,EMG26,ERRG3      ;CHARACTERS DON'T MATCH
      (4) 005434 104455                      TRAP      C$ERDF
      (5) 005436 000007                      .WORD      7
      (5) 005440 014753                      .WORD      EMG26
      (5) 005442 007014                      .WORD      ERRG3
4589 005444                      30$:
4590 005444 005037 002416              CLR      SUBRPC          ;CLEAR THE SUBR PC FLAG
4591                      .DSABL      LSB      ;DISABLE LOCAL SYMBOL BLOCK.
4592 005450 000207                      RETURN
4593

```

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```

4595 ;*****
4596 ;*****
4597 ;
4598 ;           SUBROUTINE #MODEM
4599 ;
4600 ;           FUNCTION - TO PRINT OUT THE MODEM STATUS FROM A TEST
4601 ;
4602 ;           CALLING FORMAT:          JSR     PC, #MODEM
4603 ;
4604 ;
4605 ;           ENTRY CONDITIONS - ERROR = FLAG SET IF THERE WAS AN ERROR IN #DATA
4606 ;                               MCFLAG = # OF MODEM CONTROL INTERRUPTS RECEIVED.
4607 ;                               ALSO USED AS THE INDEX INTO THE MODEM
4608 ;                               STATUS TABLE.
4609 ;                               MODEM = ADDRESS OF MODEM STATUS TABLE
4610 ;
4611 ;
4612 ;           EXIT CONDITIONS - IF THERE IS AN ERROR OR MORE THAN 1 MODEM
4613 ;                               CONTROL INTERRUPT, PRINT OUT MODEM STATUS.
4614 ;                               OTHERWISE, UNEVENTFUL EXIT.
4615 ;
4616 ;           CALLED BY          - TESTS 30-40
4617 ;
4618 ;           REGISTERS R1-R3 DESTROYED
4619 ;
4620 ;*****
4621 ;*****
4622 #MODEM:
4623     MOV     (SP), SUBRPC          ;FLAG WHERE THIS SUBR. WAS CALLED.
4624     SUB     #4, SUBRPC           ;ADJUST THE PC
4625     TST     ERROR                ;WAS THERE AN ERROR IN THE #DATA ROUTINE
4626     BNE     1$                  ;IF YES PRINT OUT STATUS
4627     CMP     #1, MCFLAG           ;WAS THERE MORE THAN 1 MODEM CONTROL INT?
4628     BGE     3$                  ;IF NOT - SKIP PRINT OUT
4629     ERROF   8, EMG40, ERRG1      ;MULTIPLE INTERRUPTS RECEIVED
4630     PRINTB  #MODEM, MCFLAG      ;PRINT THE NUMBER OF INTERRUPTS.
4631     MOV     MCFLAG, -(SP)
4632     MOV     #MODEM, (SP)
4633     MOV     #2, -(SP)
4634     MOV     SP, R0
4635     TRAP    C$PNTB
4636     ADD     #6, SP
4637     MOV     #MODEM6, -(SP)
4638     MOV     #1, -(SP)
4639     MOV     SP, R0
4640     TRAP    C$PNTB
4641     ADD     #4, SP
4642     ;WERE MORE THAN NINE INTERRUPTS RECEIVED?
4643     ;IF NOT, SKIP THE NEXT MESSAGE.
4644     ;ONLY PRINT OUT 9 INTERRUPTS
4645     ;INFORM THE USER INTERRUPTS DISABLED.
4646     ;
4647     ;
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```

4636
4637 005574 012701 002444      MOV    #MODEM,R1      ;ADDRESS OF MODEM STATUS
4638 005600                      PRINTB  #FMODE0
      (7) 005600 012746 006115      MOV    #FMODE0,-(SP)
      (6) 005604 012746 000001      MOV    #1,-(SP)
      (3) 005610 010600              MOV    SP,R0
      (4) 005612 104414              TRAP   C$PNTB
      (4) 005614 062706 000004      ADD     #4,SP
4639 005620                      PRINTB  #FMODE1      ;PRINT INITIAL MODEM STATUS
      (7) 005620 012746 006144      MOV    #FMODE1,-(SP)
      (6) 005624 012746 000001      MOV    #1,-(SP)
      (3) 005630 010600              MOV    SP,R0
      (4) 005632 104414              TRAP   C$PNTB
      (4) 005634 062706 000004      ADD     #4,SP
4640 005640                      PRINTB  #FMODE2
      (7) 005640 012746 006233      MOV    #FMODE2,-(SP)
      (6) 005644 012746 000001      MOV    #1,-(SP)
      (3) 005650 010600              MOV    SP,R0
      (4) 005652 104414              TRAP   C$PNTB
      (4) 005654 062706 000004      ADD     #4,SP
4641 005660 005002              CLR     R2      ;CLEAR COUNTER
4642 005662      5$:
4643 005662 012703 006420      MOV    #MMASK,R3
4644 005666 012704 000012      MOV    #10.,R4      ;# OF BITS TO CHECK IN THE MODEM STATUS
4645
4646 005672      10$:
4647 005672 032311              BIT     (R3)+,(R1)      ;CHECK THE BIT
4648 005674 001011              BNE     12$      ;IS IT SET?
4649 005676              PRINTB  #FMODE3      ;IF NOT, PRINT A 0
      (7) 005676 012746 006257      MOV    #FMODE3,-(SP)
      (6) 005702 012746 000001      MOV    #1,-(SP)
      (3) 005706 010600              MOV    SP,R0
      (4) 005710 104414              TRAP   C$PNTB
      (4) 005712 062706 000004      ADD     #4,SP
4650 005716 000410              BR      15$
4651 005720      12$:
4652 005720              PRINTB  #FMODE4      ;PRINT A 1
      (7) 005720 012746 006266      MOV    #FMODE4,-(SP)
      (6) 005724 012746 000001      MOV    #1,-(SP)
      (3) 005730 010600              MOV    SP,R0
      (4) 005732 104414              TRAP   C$PNTB
      (4) 005734 062706 000004      ADD     #4,SP
4653 005740      15$:
4654 005740 005304              DEC     R4      ;DECREMENT BIT COUNTER
4655 005742 001353              BNE     10$      ;LOOP UNTIL DONE.
4656
4657
4658 005744 005737 002360      TST     MCFLAG      ;IS THIS THE LAST STATUS
4659 005750 001416              BEQ     30$      ;IF YES, EXIT
4660 005752 005721              TST     (R1)+      ;INCREMENT MODEM STATUS POINTER.
4661 005754 005337 002360      DEC     MCFLAG      ;DECREMENT MC FLAG
4662 005760 005202              INC     R2      ;INCREMENT COUNTER.
4663
4664 005762              PRINTB  #FMODE5,R2      ;PRINT NEXT MODEM
      (8) 005762 010246              MOV    R2,-(SP)
      (7) 005764 012746 006275      MOV    #FMODE5,-(SP)

```

Address	Hex	Hex	Hex	Hex	Label	Text	Assembly	Comment
(6)	005770	012746	000002					
(3)	005774	010600						
(4)	005776	104414						
(4)	006000	062706	000006					
4665	006004	000726						
4666	006006				304:	BR 54		
4667	006006					PRINTB #FMG6		;PRINT CARRIAGE RETURN.
(7)	006006	012746	011410					
(6)	006012	012746	000001					
(3)	006016	010600						
(4)	006020	104414						
(4)	006022	062706	000004					
4668	006026				354:			
4669	006026	000207				RETURN		
4670								
4671	006030	040445	052516	041115	FMODEM:	.ASCIZ	/ANUMBER OF MODEM CONTROL INTERRUPTS RECEIVED: #D2#N/	
	006036	051105	047440	020106				
	006044	047515	042504	020115				
	006052	047503	052116	047522				
	006060	020114	047111	042524				
	006066	051122	050125	051524				
	006074	051040	041505	044505				
	006102	042526	035104	022440				
	006110	031104	047045	000				
4672	006115	045	022516	046501	FMODE0:	.ASCIZ	/N#AMODEM STATUS#N#S14/	
	006122	042117	046505	051440				
	006130	040524	052524	022523				
	006136	022516	030523	000064				
4673	006144	040445	020040	020040	FMODE1:	.ASCIZ	/A RL DTR RTS LL TM DSR CD CTS RING CNG/	
	006152	051040	020114	042040				
	006160	051124	020040	052122				
	006166	020123	020040	046114				
	006174	020040	052040	020115				
	006202	042040	051123	020040				
	006210	041440	020104	041440				
	006216	051524	020040	044522				
	006224	043516	041440	043516				
	006232	000						
4674	006233	045	022516	046501	FMODE2:	.ASCIZ	/N#AMODEM ON RESET:/	
	006240	042117	046505	047440				
	006246	020116	042522	042523				
	006254	035124	000					
4675	006257	045	032123	040445	FMODE3:	.ASCIZ	/S4#A0/	
	006264	000060						
4676	006266	051445	022464	030501	FMODE4:	.ASCIZ	/S4#A1/	
	006274	000						
4677	006275	045	022516	046501	FMODE5:	.ASCIZ	/N#AMODEM CHANGE #D1#A:/	
	006302	042117	046505	041440				
	006310	040510	043516	020105				
	006316	042045	022461	035101				
	006324	000						
4678	006325	045	025101	020052	FMODE6:	.ASCIZ	/A** MODEM CONTROL INTERRUPT DISABLED AFTER 9 CHANGES **#N/	
	006332	047515	042504	020115				
	006340	047503	052116	047522				
	006346	020114	047111	042524				
	006354	051122	050125	020124				

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006362	044504	040523	046102
006370	042105	040440	052106
006376	051105	034440	041440
006404	040510	043516	051505
006412	025040	022452	000116

4679

4680

4681

006420	000001	000002	000004
006426	000010	000040	001000
006434	010000	020000	040000
006442	100000		

.EVEN

MMASK:

.WORD

;MASKS OF EACH BIT

SF,DTR,RTS,LL,TM,DM,RR,CTS,IC,DSCNG

4682

4683

4684

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```

4686 ;*****
4687 ;*****
4688 :
4689 :           SUBROUTINE $TURN
4690 :
4691 :           FUNCTION - DETERMINE IF TURNAROUND IS AVAILABLE
4692 :
4693 :           CALLING FORMAT:           JSR      PC,$TURN
4694 :
4695 :           ENTRY CONDITIONS -         TURN - 0 = TURNAROUND OFF
4696 :                                     STARES = START RESTART COUNT
4697 :
4698 :
4699 :
4700 :
4701 :           EXIT CONDITIONS -          TURNAROUND ON - CARRY CLEAR (DO THE TEST)
4702 :                                     TURNAROUND OFF - CARRY SET (DON'T DO THE TEST)
4703 :                                     IF TURNAROUND OFF AND IF ON FIRST PASS, OUTPUT
4704 :                                     A MESSAGE TO THE USER.
4705 :
4706 :
4707 :           CALLED BY           - TESTS 12 - 14
4708 :
4709 :           REGISTERS NOT EFFECTED
4710 :
4711 ;*****
4712 ;*****
4713 $TURN:
4714 006444 005737 002306      TST      TURN          ;IS THERE A TURNAROUND
4715 006450 001022            BNE      5$             ;IF YES - CLEAR CARRY TO DO THE TEST.
4716 006452 022737 000001 002314  CMP      #1,STARES      ;IS THIS THE FIRST PASS
4717 006460 001014            BNE      1$             ;IF NOT, DON'T OUTPUT MESSAGE JUST SET FLAG.
4718 006462            PRINTX  #FMGO,L$TEST,LOGDEV ;INFORM THE USER THAT TEST CAN'T BE RUN
4719 (9) 006462 013746 002354            MOV      LOGDEV,-(SP)
4720 (8) 006466 013746 002114            MOV      L$TEST,(SP)
4721 (7) 006472 012746 011070            MOV      #FMGO,-(SP)
4722 (6) 006476 012746 000003            MOV      #3,-(SP)
4723 (3) 006502 010600            MOV      SP,RO
4724 (4) 006504 104415            TRAP     C$PNTX
4725 (4) 006506 062706 000010            ADD      #10,SP
4726 ;WITHOUT THE TURNAROUND.
4727 1$:
4728 006512 000261            SEC
4729 006514 000401            BR      10$             ;FLAG NOT TO DO THE TEST.
4730 5$:
4731 006516 000241            CLC
4732 10$:
4733 006520 000207            RETURN
4734 006520 000207            RETURN

```

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```

4730      ;*****
4731      ;*****
4732      ;
4733      ;          SUBROUTINE $SPEED
4734      ;
4735      ;          FUNCTION - DETERMINE IF THE TEST CAN BE RUN WITH
4736      ;                      WITH THE SELECTED TURNAROUND AND/OR PROCESSOR.
4737      ;
4738      ;          CALLING FORMAT:          JSR      PC,$SPEED
4739      ;
4740      ;          ENTRY CONDITIONS -
4741      ;                      TURN = 1 - RS423
4742      ;                      TURN = 2 - RS422
4743      ;                      CPU  = 0 - LSI 11 OR LSI 11/2
4744      ;                      CPU  = 3 - LSI 11/23
4745      ;
4746      ;
4747      ;          EXIT CONDITIONS -
4748      ;                      OK TO RUN TEST - CARRY CLEAR
4749      ;                      DON'T RUN TEST - CARRY SET
4750      ;                      IF TEST CAN'T BE RUN, THE USER WILL BE
4751      ;                      INFORMED ON THE FIRST PASS.
4752      ;
4753      ;          CALLED BY          - $SPEED CALLED BY TESTS 29 - 41
4754      ;
4755      ;          REGISTERS NOT EFFECTED
4756      ;*****
4757      ;*****
4758      $SPEED:
4759      006522      005737      002324      TST      CPU      ;IS THIS A LSI 11/23?
4760      006526      001024      BNE      5$      ;IF YES - CLEAR CARRY TO DO THE TEST.
4761      006530      022737      000002      002306      CMP      #2,TURN ;IS THIS RS422?
4762      006536      001020      BNE      5$      ;IF NOT - CLEAR CARRY AND DO THE TEST.
4763      006540      022737      000001      002314      CMP      #1,STARES ;IS THIS THE FIRST PASS?
4764      006546      001012      L$      1$      ;IF NOT, DON'T OUTPUT MESSAGE JUST SET FLAG.
4765      006550      PRINTX      #FMG27,L$TEST ;INFORM THE USER THAT THE TEST CAN'T BE RUN
4766      (8) 006550      013746      002114      MOV      L$TEST,-(SP)
4767      (7) 006554      012746      013011      MOV      #FMG27,-(SP)
4768      (6) 006560      012746      000002      MOV      #2,-(SP)
4769      (3) 006564      010600      MOV      SP,R0
4770      (4) 006566      104415      TRAP      C$PNTX
4771      (4) 006570      062706      000006      ADD      #6,SP
4772      ;WITH THIS CPU AND RS422.
4773      1$:
4774      006574      000261      SEC
4775      006576      000401      BR      10$      ;FLAG NOT TO DO THE TEST.
4776      ;BR TO RETURN.
4777      5$:
4778      006600      000241      CLC
4779      ;FLAG TO DO THE TEST.
4780      10$:
4781      006602      000207      RETURN
4782      4774
4783      4775

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 20-18
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL SUBROUTINES

```

4777 ;*****
4778 ;*****
4779 ;
4780 ;           SUBROUTINE $DLAY
4781 ;
4782 ;           FUNCTION - TO SAVE PROGRAM SPACE BY USING ONLY 1
4783 ;                     EXPANSION OF THE SUPERVISOR MACRO "DELAY"
4784 ;
4785 ;           CALLING FORMAT:      JSR      PC,$DLAY
4786 ;                               .WORD    #
4787 ;
4788 ;           ENTRY CONDITIONS -   B(SP) = # OF DELAY LOOPS TO USE.
4789 ;
4790 ;
4791 ;
4792 ;           EXIT CONDITIONS -
4793 ;
4794 ;           CALLED BY           - TESTS  2, 5-9, 12, 13
4795 ;
4796 ;           REGISTER R0 RESTORED
4797 ;
4798 ;*****
4799 ;*****
4800 ;
4801 006604                                $DLAY:
4802 006604 017600 000000                MOV     B(S'),R0          ;GET THE # OF DELAY LOOPS
4803 006610 062716 000002                ADD     #2,(SP)          ;UPDATE THE PC
4804 006614
4805 006614 101:                          DELAY 1                ;1 DELAY LOOP
4806 (2) 006614 012727 000001                                MOV     #1,(PC).
4807 (2) 006620 000000                                .WORD    0
4808 (2) 006622 013727 002116                                MOV     L$DLY,(PC).
4809 (2) 006626 000000                                .WORD    0
4810 (2) 006630 005367 177772                                DEC     -6(PC)
4811 (2) 006634 001375                                BNE     .-4
4812 (2) 006636 005367 177756                                DEC     -22(PC)
4813 (2) 006642 001367                                BNE     .-20
4814 006644 005300                                DEC     R0
4815 006646 001362                                BNE     101
4816 006650 000207                                RETURN
  
```

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 CVDPVC.P11 16 AUG-84 14:18 GLOBAL ERROR REPORT REPORT SECTION

```

4811 .SBTTL GLOBAL ERROR REPORT REPORT SECTION
4812 ;///////////////////////////////////////////////////
4813 ;// THE GLOBAL ERROR REPORT SECTION CONTAINS ERROR MESSAGES
4814 ;// THAT ARE USED IN MORE THAN ONE TEST.
4815 ;///////////////////////////////////////////////////
4816 .EVEN
4817
4818 BGNMSG ERRG1
4819 (3) 006652
4820 (8) 006652 013746 002416
4821 (7) 006656 012746 011260
4822 (6) 006662 012746 000002
4823 (3) 006666 010600
4824 (4) 006670 104414
4825 (4) 006672 062706 000006
4826 (3) 006676
4827 (3) 006676 104423
4828
4829 BGNMSG ERRG2
4830 (3) 006700
4831 (8) 006700 005737 002416
4832 (7) 006704 001412
4833 (6) 006706 013746 002416
4834 (7) 006712 012746 011260
4835 (6) 006716 012746 000002
4836 (3) 006722 010600
4837 (4) 006724 104414
4838 (4) 006726 062706 000006
4839 (9) 006732 017746 173332
4840 (8) 006736 017746 173324
4841 (7) 006742 012746 011166
4842 (6) 006746 012746 000003
4843 (3) 006752 010600
4844 (4) 006754 104414
4845 (4) 006756 062706 000010
4846 (9) 006762 017746 173306
4847 (8) 006766 017746 173300
4848 (7) 006772 012746 011223
4849 (6) 006776 012746 000003
4850 (3) 007002 010600
4851 (4) 007004 104414
4852 (4) 007006 062706 000010
4853 (3) 007012
4854 (3) 007012 104423
4855
4856 BGNMSG ERRG3
4857 (3) 007014
4858 (3) 007014
4859 (3) 007014

ERRG1::
PRINTB @FMG3,SUBRPC ;PC THAT SUBROUTINE WAS CALLED.
MOV SUBRPC,-(SP)
MOV @FMG3,-(SP)
MOV @2,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD @6,SP

L10001:
TRAP C$MSG

ERRG2::
TST SUBRPC ;IS THE ERROR IN A SUBROUTINE?
BEQ 104 ;IF NOT, DON'T PRINT SUBR. PC
PRINTB @FMG3,SUBRPC ;PC THAT SUBROUTINE WAS CALLED.
MOV SUBRPC,-(SP)
MOV @FMG3,-(SP)
MOV @2,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD @6,SP

104:
PRINTB @FMG1,BCSR0,BCSR2 ;PRINT CSR0 AND CSR2 CONTENTS.
MOV BCSR2,-(SP)
MOV BCSR0,-(SP)
MOV @FMG1,-(SP)
MOV @3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD @10,SP

PRINTB @FMG2,BCSR4,BCSR6 ;PRINT CSR4 AND CSR2 CONTENTS.
MOV BCSR6,-(SP)
MOV BCSR4,-(SP)
MOV @FMG2,-(SP)
MOV @3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD @10,SP

L10002:
TRAP C$MSG

ERRG3::
PRINTB @FMG3,SUBRPC ;PC THAT SUBROUTINE WAS CALLED.

```

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 CVDPVC.P11 16-AUG-84 14:18 GLOBAL ERROR REPORT REPORT SECTION

(8) 007014 013746 002416
 (7) 007020 012746 011260
 (6) 007024 012746 000002
 (3) 007030 010600
 (4) 007032 104414
 (4) 007034 062706 000006

4834 007040
 (9) 007040 005046
 (9) 007042 151216
 (8) 007044 005046
 (8) 007046 151116
 (7) 007050 012746 011457
 (6) 007054 012746 000003
 (3) 007060 010600
 (4) 007062 104414
 (4) 007064 062706 000010

ENDMSG

4835 007070
 (3) 007070
 (3) 007070 104423

4836
 4837
 4838 007072
 (3) 007072
 4839 007072
 (7) 007072 012746 011332
 (6) 007076 012746 000001
 (3) 007102 010600
 (4) 007104 104414
 (4) 007106 062706 000004

4840 007112
 (9) 007112 005046
 (9) 007114 157716 173146
 (8) 007120 013746 002266
 (7) 007124 012746 011413
 (6) 007130 012746 000003
 (3) 007134 010600
 (4) 007136 104414
 (4) 007140 062706 000010

4841 007144
 (8) 007144 005046
 (8) 007146 150116
 (7) 007150 012746 011377
 (6) 007154 012746 000002
 (3) 007160 010600
 (4) 007162 104414
 (4) 007164 062706 000006

ENDMSG

4842 007170
 (3) 007170
 (3) 007170 104423

4843
 4844
 4845 007172
 (3) 007172
 4846 007172
 (7) 007172 012746 011332
 (6) 007176 012746 000001

BGNMSG ERRG7

PRINTB #FMG4

;PRINT HEADER

MOV SUBRPC, -(SP)
 MOV #FMG3, -(SP)
 MOV #2, -(SP)
 MOV SP, R0
 TRAP C\$PNTB
 ADD #6, SP

CLR -(SP)
 BISB BR2, (SP)
 CLR -(SP)
 BISB BR1, (SP)
 MOV #FMG8, -(SP)
 MOV #3, -(SP)
 MOV SP, R0
 TRAP C\$PNTB
 ADD #10, SP

L10003:

TRAP C\$MSG

BGNMSG ERRG4

PRINTB #FMG4

;PRINT HEADER

ERRG4::

MOV #FMG4, -(SP)
 MOV #1, -(SP)
 MOV SP, R0
 TRAP C\$PNTB
 ADD #4, SP

PRINTB #FMG7, CSRO, <B, BCSRO>

;PRINT THE LOW BYTE OF CSRO

CLR -(SP)
 BISB BCSRO, (SP)
 MOV CSRO, -(SP)
 MOV #FMG7, -(SP)
 MOV #3, -(SP)
 MOV SP, R0
 TRAP C\$PNTB
 ADD #10, SP

PRINTB #FMG5, <B, R1>

;PRINT EXPECTED CONTENTS

CLR -(SP)
 BISB R1, (SP)
 MOV #FMG5, -(SP)
 MOV #2, -(SP)
 MOV SP, R0
 TRAP C\$PNTB
 ADD #6, SP

L10004:

TRAP C\$MSG

BGNMSG ERRG7

PRINTB #FMG4

;PRINT HEADER

ERRG7::

MOV #FMG4, -(SP)
 MOV #1, -(SP)

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(3)	007202	010600				MOV	SP,RO
(4)	007204	104414				TRAP	C\$PNTB
(4)	007206	062706	000004			ADD	#4,SP
4847	007212			PRINTB	#FMG10,CSR4,<B,@CSR4>	;PRINT THE LOW BYTE OF CSR4	
(9)	007212	005046				CLR	-(SP)
(9)	007214	157716	173052			BISB	@CSR4,(SP)
(8)	007220	013746	002272			MOV	CSR4, -(SP)
(7)	007224	012746	011574			MOV	#FMG10, -(SP)
(6)	007230	012746	000003			MOV	#3, -(SP)
(3)	007234	010600				MOV	SP,RO
(4)	007236	104414				TRAP	C\$PNTB
(4)	007240	062706	000010			ADD	#10,SP
4848	007244			PRINTB	#FMG5,<B,R1>	;PRINT EXPECTED CONTENTS	
(8)	007244	005046				CLR	-(SP)
(8)	007246	150116				BISB	R1,(SP)
(7)	007250	012746	011377			MOV	#FMG5, -(SP)
(6)	007254	012746	000002			MOV	#2, -(SP)
(3)	007260	010600				MOV	SP,RO
(4)	007262	104414				TRAP	C\$PNTB
(4)	007264	062706	000006			ADD	#6,SP
4849	007270			ENDMSG			
(3)	007270					L10005:	
(3)	007270	104423				TRAP	C\$MSG
4850				BGNMSG	ERRG8		
4851	007272					ERRG8::	
(3)	007272						
4852	007272			PRINTB	#FMG4	;PRINT HEADER	
(7)	007272	012746	011332			MOV	#FMG4, -(SP)
(6)	007276	012746	000001			MOV	#1, -(SP)
(3)	007302	010600				MOV	SP,RO
(4)	007304	104414				TRAP	C\$PNTB
(4)	007306	062706	000004			ADD	#4,SP
4853	007312			PRINTB	#FMG11,CSR5,<B,@PCR>	;PRINT THE HIGH BYTE OF CSR4	
(9)	007312	005046				CLR	-(SP)
(9)	007314	157716	172762			BISB	@PCR,(SP)
(8)	007320	013746	002302			MOV	CSR5, -(SP)
(7)	007324	012746	011640			MOV	#FMG11, -(SP)
(6)	007330	012746	000003			MOV	#3, -(SP)
(3)	007334	010600				MOV	SP,RO
(4)	007336	104414				TRAP	C\$PNTB
(4)	007340	062706	000010			ADD	#10,SP
4854	007344			PRINTB	#FMG5,<B,R1>	;PRINT EXPECTED CONTENTS	
(8)	007344	005046				CLR	-(SP)
(8)	007346	150116				BISB	R1,(SP)
(7)	007350	012746	011377			MOV	#FMG5, -(SP)
(6)	007354	012746	000002			MOV	#2, -(SP)
(3)	007360	010600				MOV	SP,RO
(4)	007362	104414				TRAP	C\$PNTB
(4)	007364	062706	000006			ADD	#6,SP
4855	007370			ENDMSG			
(3)	007370					L10006:	
(3)	007370	104423				TRAP	C\$MSG
4856				BGNMSG	ERRG9		
4857	007372					ERRG9::	
(3)	007372						
4858	007372			PRINTB	#FMG4	;PRINT HEADER	

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(7)	007372	012746	011332			MOV	#FMG4,-(SP)
(6)	007376	012746	000001			MOV	#1,-(SP)
(3)	007402	010600				MOV	SP,R0
(4)	007404	104414				TRAP	C#PNTB
(4)	007406	062706	000004			ADD	#4,SP
4859	007412			PRINTB	#FMG12,CSR6,<B,@CSR6>	;PRINT THE LOW BYTE OF CSR6	
(9)	007412	005046				CLR	-(SP)
(9)	007414	157716	172654			BISB	@CSR6,(SP)
(8)	007420	013746	002274			MOV	CSR6,-(SP)
(7)	007424	012746	011704			MOV	#FMG12,-(SP)
(6)	007430	012746	000003			MOV	#3,-(SP)
(3)	007434	010600				MOV	SP,R0
(4)	007436	104414				TRAP	C#PNTB
(4)	007440	062706	000010			ADD	#10,SP
4860	007444			PRINTB	#FMG5,<B,R1>	;PRINT EXPECTED CONTENTS	
(8)	007444	005046				CLR	-(SP)
(8)	007446	150116				BISB	R1,(SP)
(7)	007450	012746	011377			MOV	#FMG5,-(SP)
(6)	007454	012746	000002			MOV	#2,-(SP)
(3)	007460	010600				MOV	SP,R0
(4)	007462	104414				TRAP	C#PNTB
(4)	007464	062706	000006			ADD	#6,SP
4861	007470			ENDMSG			
(3)	007470						
(3)	007470	104423				L10007:	TRAP C#MSG
4862							
4863	007472			BGNMSG	ERRG10		
(3)	007472					ERRG10::	
4864	007472			PRINTB	#FMG4	;PRINT HEADER	
(7)	007472	012746	011332			MOV	#FMG4,-(SP)
(6)	007476	012746	000001			MOV	#1,-(SP)
(3)	007502	010600				MOV	SP,R0
(4)	007504	104414				TRAP	C#PNTB
(4)	007506	062706	000004			ADD	#4,SP
4865	007512			PRINTB	#FMG13,CSR7,<B,@CSR7>	;PRINT THE HIGH BYTE OF CSR6	
(9)	007512	005046				CLR	-(SP)
(9)	007514	157716	172564			BISB	@CSR7,(SP)
(8)	007520	013746	002304			MOV	CSR7,-(SP)
(7)	007524	012746	011750			MOV	#FMG13,-(SP)
(6)	007530	012746	000003			MOV	#3,-(SP)
(3)	007534	010600				MOV	SP,R0
(4)	007536	104414				TRAP	C#PNTB
(4)	007540	062706	000010			ADD	#10,SP
4866	007544			PRINTB	#FMG5,<B,R1>	;PRINT EXPECTED CONTENTS	
(8)	007544	005046				CLR	-(SP)
(8)	007546	150116				BISB	R1,(SP)
(7)	007550	012746	011377			MOV	#FMG5,-(SP)
(6)	007554	012746	000002			MOV	#2,-(SP)
(3)	007560	010600				MOV	SP,R0
(4)	007562	104414				TRAP	C#PNTB
(4)	007564	062706	000006			ADD	#6,SP
4867	007570			ENDMSG			
(3)	007570						
(3)	007570	104423				L10010:	TRAP C#MSG
4868							
4869							

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4870	007572			BGNMSG	ERRG11		
(3)	007572					ERRG11::	
4871	007572	005737	002416	TST	SUBRPC	;WAS THE RESET ERROR FOUND IN THE SUB	
4872	007576	001412		BEQ	5:	;IF NOT SKIP	
4873	007600			PRINTB	#FMG23,SUBRPC	;PRINT WHERE CALLED	
(8)	007600	013746	002416			MOV	SUBRPC,-(SP)
(7)	007604	012746	012536			MOV	#FMG23,-(SP)
(6)	007610	012746	000002			MOV	#2,-(SP)
(3)	007614	010600				MOV	SP,R0
(4)	007616	104414				TRAP	C:PNTB
(4)	007620	062706	000006			ADD	#6,SP
4874	007624			5:			
4875	007624			PRINTB	#FMG4	;PRINT HEADER	
(7)	007624	012746	011332			MOV	#FMG4,-(SP)
(6)	007630	012746	000001			MOV	#1,-(SP)
(3)	007634	010600				MOV	SP,R0
(4)	007636	104414				TRAP	C:PNTB
(4)	007640	062706	000004			ADD	#4,SP
4876	007644			PRINTB	#FMG7,CSR0,<B,BCSR0>	;PRINT THE LOW BYTE OF CSR0	
(9)	007644	005046				CLR	-(SP)
(9)	007646	157716	172414			BISB	BCSR0,(SP)
(8)	007652	013746	002266			MOV	CSR0,-(SP)
(7)	007656	012746	011413			MOV	#FMG7,-(SP)
(6)	007662	012746	000003			MOV	#3,-(SP)
(3)	007666	010600				MOV	SP,R0
(4)	007670	104414				TRAP	C:PNTB
(4)	007672	062706	000010			ADD	#10,SP
4877	007676			PRINTB	#FMG5,#0	;PRINT EXPECTED CONTENTS	
(8)	007676	012746	000000			MOV	#0,-(SP)
(7)	007702	012746	011377			MOV	#FMG5,-(SP)
(6)	007706	012746	000002			MOV	#2,-(SP)
(3)	007712	010600				MOV	SP,R0
(4)	007714	104414				TRAP	C:PNTB
(4)	007716	062706	000006			ADD	#6,SP
4878	007722			PRINTB	#FMG10,CSR4,<B,BCSR4>	;PRINT THE LOW BYTE OF CSR4	
(9)	007722	005046				CLR	-(SP)
(9)	007724	157716	172342			BISB	BCSR4,(SP)
(8)	007730	013746	002272			MOV	CSR4,-(SP)
(7)	007734	012746	011574			MOV	#FMG10,-(SP)
(6)	007740	012746	000003			MOV	#3,-(SP)
(3)	007744	010600				MOV	SP,R0
(4)	007746	104414				TRAP	C:PNTB
(4)	007750	062706	000010			ADD	#10,SP
4879	007754			PRINTB	#FMG5,#TBE	;PRINT EXPECTED CONTENTS	
(8)	007754	012746	000004			MOV	#TBE,-(SP)
(7)	007760	012746	011377			MOV	#FMG5,-(SP)
(6)	007764	012746	000002			MOV	#2,-(SP)
(3)	007770	010600				MOV	SP,R0
(4)	007772	104414				TRAP	C:PNTB
(4)	007774	062706	000006			ADD	#6,SP
4880	010000			PRINTB	#FMG11,PCR,<B,SPCR>	;PRINT THE HIGH BYTE OF CSR4	
(9)	010000	005046				CLR	-(SP)
(9)	010002	157716	172274			BISB	SPCR,(SP)
(8)	010006	013746	002302			MOV	PCR,-(SP)
(7)	010012	012746	011640			MOV	#FMG11,-(SP)
(6)	010016	012746	000003			MOV	#3,-(SP)

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(3)	010022	010600				MOV	SP,R0
(4)	010024	104414				TRAP	C#PNTB
(4)	010026	062706	000010			ADD	#10,SP
4881	010032			PRINTB	#FMG5,#0		;PRINT EXPECTED CONTENTS
(8)	010032	012746	000000			MOV	#0,-(SP)
(7)	010036	012746	011377			MOV	#FMG5,-(SP)
(6)	010042	012746	000002			MOV	#2,-(SP)
(3)	010046	010600				MOV	SP,R0
(4)	010050	104414				TRAP	C#PNTB
(4)	010052	062706	000006			ADD	#6,SP
4882	010056			PRINTB	#FMG12,CSR6,<B,BCSR6>		;PRINT THE LOW BYTE OF CSR6
(9)	010056	005046				CLR	-(SP)
(9)	010060	157716	172210			BISB	BCSR6,(SP)
(8)	010064	013746	002274			MOV	CSR6,-(SP)
(7)	010070	012746	011704			MOV	#FMG12,-(SP)
(6)	010074	012746	000003			MOV	#3,-(SP)
(3)	010100	010600				MOV	SP,R0
(4)	010102	104414				TRAP	C#PNTB
(4)	010104	062706	000010			ADD	#10,SP
4883	010110			PRINTB	#FMG5,#0		;PRINT EXPECTED CONTENTS
(8)	010110	012746	000000			MOV	#0,-(SP)
(7)	010114	012746	011377			MOV	#FMG5,-(SP)
(6)	010120	012746	000002			MOV	#2,-(SP)
(3)	010124	010600				MOV	SP,R0
(4)	010126	104414				TRAP	C#PNTB
(4)	010130	062706	000006			ADD	#6,SP
4884	010134			PRINTB	#FMG13,CSR7,<B,BCSR7>		;PRINT THE HIGH BYTE OF CSR6
(9)	010134	005046				CLR	-(SP)
(9)	010136	157716	172142			BISB	BCSR7,(SP)
(8)	010142	013746	002304			MOV	CSR7,-(SP)
(7)	010146	012746	011750			MOV	#FMG13,-(SP)
(6)	010152	012746	000003			MOV	#3,-(SP)
(3)	010156	010600				MOV	SP,R0
(4)	010160	104414				TRAP	C#PNTB
(4)	010162	062706	000010			ADD	#10,SP
4885	010166			PRINTB	#FMG5,#0		;PRINT EXPECTED CONTENTS
(8)	010166	012746	000000			MOV	#0,-(SP)
(7)	010172	012746	011377			MOV	#FMG5,-(SP)
(6)	010176	012746	000002			MOV	#2,-(SP)
(3)	010202	010600				MOV	SP,R0
(4)	010204	104414				TRAP	C#PNTB
(4)	010206	062706	000006			ADD	#6,SP
4886	010212			ENDMSG			
(3)	010212						
(3)	010212	104423				L10011:	TRAP C#MSG
4887							
4888	010214			BGNMSG	ERRG12		
(3)	010214					ERRG12::	
4889	010214			PRINTB	#FMG3,SUBRPC		;PC THAT SUBROUTINE WAS CALLED.
(8)	010214	013746	002416			MOV	SUBRPC,-(SP)
(7)	010220	012746	011260			MOV	#FMG3,(SP)
(6)	010224	012746	000002			MOV	#2,(SP)
(3)	010230	010600				MOV	SP,R0
(4)	010232	104414				TRAP	C#PNTB
(4)	010234	062706	000006			ADD	#6,SP
4890	010240			PRINTB	#FMG14,REG,R1,R2		;PRINT TIME OUT ERROR

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(10)	010240	010246					MOV	R2,-(SP)
(9)	010242	010146					MOV	R1,-(SP)
(8)	010244	013746	002374				MOV	REG,-(SP)
(7)	010250	012746	012014				MOV	#FMG14,-(SP)
(6)	010254	012746	000004				MOV	#4,-(SP)
(3)	010260	010600					MOV	SP,R0
(4)	010262	104414					TRAP	C#PNTB
(4)	010264	062706	000012				ADD	#12,SP
4891	010270			ENDMSG				
(3)	010270							
(3)	010270	104423					L10012:	TRAP C#MSG
4892								
4893	010272			BGNMSG	ERRG13			
(3)	010272						ERRG13::	
4894	010272	032777	000004	171766	BIT	#RTS,BRXCSR		;IS RTS SET
4895	010300	001413			BEQ	5:		
4896	010302	012701	030004		MOV	#RTS!CTS!RR,R1		;SET UP THE EXPECTED RESULTS
4897	010306				PRINTB	#FMG17		
(7)	010306	012746	012144				MOV	#FMG17,-(SP)
(6)	010312	012746	000001				MOV	#1,-(SP)
(3)	010316	010600					MOV	SP,R0
(4)	010320	104414					TRAP	C#PNTB
(4)	010322	062706	000004				ADD	#4,SP
4898	010326	000544			BR	20:		
4899	010330			5:				
4900	010330	032777	000002	171730	BIT	#DTR,BRXCSR		;IS DTR SET?
4901	010336	001413			BEQ	10:		;BR IF NOT
4902	010340	012701	040002		MOV	#DTR!IC,R1		;SET UP THE EXPECTED RESULTS
4903	010344				PRINTB	#FMG18		
(7)	010344	012746	012221				MOV	#FMG18,-(SP)
(6)	010350	012746	000001				MOV	#1,-(SP)
(3)	010354	010600					MOV	SP,R0
(4)	010356	104414					TRAP	C#PNTB
(4)	010360	062706	000004				ADD	#4,SP
4904	010364	000525			BR	20:		
4905	010366			10:				
4906	010366	032777	000010	171672	BIT	#LL,BRXCSR		;IS LOCAL LOOP SET
4907	010374	001433			BEQ	15:		
4908	010376	012701	001010		MOV	#LL!DM,R1		;SET UP THE EXPECTED RESULTS
4909	010402				PRINTB	#FMG19		
(7)	010402	012746	012270				MOV	#FMG19,-(SP)
(6)	010406	012746	000001				MOV	#1,-(SP)
(3)	010412	010600					MOV	SP,R0
(4)	010414	104414					TRAP	C#PNTB
(4)	010416	062706	000004				ADD	#4,SP
4910	010422				PRINTB	#FMG21		
(7)	010422	012746	012422				MOV	#FMG21,-(SP)
(6)	010426	012746	000001				MOV	#1,-(SP)
(3)	010432	010600					MOV	SP,R0
(4)	010434	104414					TRAP	C#PNTB
(4)	010436	062706	000004				ADD	#4,SP
4911	010442				PRINTB	#FMG29		
(7)	010442	012746	013221				MOV	#FMG29,-(SP)
(6)	010446	012746	000001				MOV	#1,-(SP)
(3)	010452	010600					MOV	SP,R0
(4)	010454	104414					TRAP	C#PNTB

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(4)	010456	062706	000004				ADD	#4,SP
4912	010462	000466			BR	20:		
4913								
4914	010464			15:				
4915	010464	032777	000001	171574	BIT	#SF,SRXCSR		;IS SEL FREQ SET?
4916	010472	001520			BEQ	25:		;IF NONE OF THOSE BITS SET - ERROR
4917	010474	012701	000040		MOV	#SQ,R1		;SET UP THE EXPECTED RESULTS
4918	010500				PRINTB	#FMG20		
(7)	010500	012746	012335				MOV	#FMG20,-(SP)
(6)	010504	012746	000001				MOV	#1,-(SP)
(3)	010510	010600					MOV	SP,R0
(4)	010512	104414					TRAP	C#PNTB
(4)	010514	062706	000004				ADD	#4,SP
4919	010520				PRINTB	#FMG21		
(7)	010520	012746	012422				MOV	#FMG21,-(SP)
(6)	010524	012746	000001				MOV	#1,-(SP)
(3)	010530	010600					MOV	SP,R0
(4)	010532	104414					TRAP	C#PNTB
(4)	010534	062706	000004				ADD	#4,SP
4920	010540				PRINTB	#FMG4		;PRINT HEADER
(7)	010540	012746	011332				MOV	#FMG4,-(SP)
(6)	010544	012746	000001				MOV	#1,-(SP)
(3)	010550	010600					MOV	SP,R0
(4)	010552	104414					TRAP	C#PNTB
(4)	010554	062706	000004				ADD	#4,SP
4921	010560				PRINTB	#FMG10,CSR4,<B,BCSR4>		;PRINT THE LOW BYTE OF CSR4
(9)	010560	005046					CLR	-(SP)
(9)	010562	157716	171504				BISB	BCSR4,(SP)
(8)	010566	013746	002272				MOV	CSR4,-(SP)
(7)	010572	012746	011574				MOV	#FMG10,-(SP)
(6)	010576	012746	000003				MOV	#3,-(SP)
(3)	010602	010600					MOV	SP,R0
(4)	010604	104414					TRAP	C#PNTB
(4)	010606	062706	000010				ADD	#10,SP
4922	010612				PRINTB	#FMG5,<B,R1>		;PRINT EXPECTED CONTENTS
(8)	010612	005046					CLR	-(SP)
(8)	010614	150116					BISB	R1,(SP)
(7)	010616	012746	011377				MOV	#FMG5,-(SP)
(6)	010622	012746	000002				MOV	#2,-(SP)
(3)	010626	010600					MOV	SP,R0
(4)	010630	104414					TRAP	C#PNTB
(4)	010632	062706	000006				ADD	#6,SP
4923	010636	000447			BR	30:		
4924								
4925	010640			20:				
4926	010640				PRINTB	#FMG4		;PRINT HEADER
(7)	010640	012746	011332				MOV	#FMG4,-(SP)
(6)	010644	012746	000001				MOV	#1,-(SP)
(3)	010650	010600					MOV	SP,R0
(4)	010652	104414					TRAP	C#PNTB
(4)	010654	062706	000004				ADD	#4,SP
4927	010660				PRINTB	#FMG15,CSRO,BCSRO		;PRINT THE LOW BYTE OF CSRO
(9)	010660	017746	171402				MOV	BCSRO,-(SP)
(8)	010664	013746	002266				MOV	CSRO,-(SP)
(7)	010670	012746	012071				MOV	#FMG15,-(SP)
(6)	010674	012746	000003				MOV	#3,-(SP)

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(3)	010700	010600				MOV	SP,R0
(4)	010702	104414				TRAP	C#PNTB
(4)	010704	062706	000010			ADD	#10,SP
4928	010710			PRINTB	#FMG16,R1		;PRINT EXPECTED CONTENTS
(8)	010710	010146				MOV	R1,-(SP)
(7)	010712	012746	012133			MOV	#FMG16,-(SP)
(6)	010716	012746	000002			MOV	#2,-(SP)
(3)	010722	010600				MOV	SP,R0
(4)	010724	104414				TRAP	C#PNTB
(4)	010726	062706	000006			ADD	#6,SP
4929	010732	000411		BR	30:		
4930	010734			25:			
4931	010734			PRINTB	#FMG22,R2		;PRINT BIT THAT ISN'T WRITTEN.
(8)	010734	010246				MOV	R2,-(SP)
(7)	010736	012746	012471			MOV	#FMG22,-(SP)
(6)	010742	012746	000002			MOV	#2,-(SP)
(3)	010746	010600				MOV	SP,R0
(4)	010750	104414				TRAP	C#PNTB
(4)	010752	062706	000006			ADD	#6,SP
4932	010756			30:			
4933	010756			ENDMSG			
(3)	010756					L10013:	
(3)	010756	104423				TRAP	C#MSG
4934							
4935	010760			BGNMSG	ERRG14		
(3)	010760						ERRG14::
4936	010760	005737	002416	TST	SUBRPC		;IS THE ERROR IN A SUBROUTINE?
4937	010764	001412		BEQ	10:		;IF NOT, DON'T PRINT SUBR. PC
4938	010766			PRINTB	#FMG3,SUBRPC		;PC THAT SUBROUTINE WAS CALLED.
(8)	010766	013746	002416			MOV	SUBRPC,-(SP)
(7)	010772	012746	011260			MOV	#FMG3,-(SP)
(6)	010776	012746	000002			MOV	#2,-(SP)
(3)	011002	010600				MOV	SP,R0
(4)	011004	104414				TRAP	C#PNTB
(4)	011006	062706	000006			ADD	#6,SP
4939	011012			10:			
4940	011012			PRINTB	#FMG24,XMITD,RCOUNT		;PRINT CHARACTERS XMITTED AND RCVD.
(9)	011012	013746	002500			MOV	RCOUNT,-(SP)
(8)	011016	013746	002476			MOV	XMITD,-(SP)
(7)	011022	012746	012605			MOV	#FMG24,-(SP)
(6)	011026	012746	000003			MOV	#3,-(SP)
(3)	011032	010600				MOV	SP,R0
(4)	011034	104414				TRAP	C#PNTB
(4)	011036	062706	000010			ADD	#10,SP
4941	011042			ENDMSG			
(3)	011042					L10014:	
(3)	011042	104423				TRAP	C#MSG
4942							
4943	011044			BGNMSG	ERRG15		
(3)	011044						ERRG15::
4944	011044			PRINTB	#FMG25,R2		;PRINT BIT THAT ISN'T CLEARED.
(8)	011044	010246				MOV	R2,-(SP)
(7)	011046	012746	012652			MOV	#FMG25,-(SP)
(6)	011052	012746	000002			MOV	#2,-(SP)
(3)	011056	010600				MOV	SP,R0
(4)	011060	104414				TRAP	C#PNTB

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(4)	011062	062706	000006			ADD	#6,SP
4945	011066			ENDMSG			
(3)	011066					L10015:	
(3)	011066	104423				TRAP	C#MSG
4946							
4947	011070	040445	047125	041101	FHG0:	.ASCIZ	/#AUNABLE TO RUN TEST #D2#A ON UNIT #D2#A WITHOUT TURNAROUND#N/
	011076	042514	052040	020117			
	011104	052522	020116	042524			
	011112	052123	022440	031104			
	011120	040445	047440	020116			
	011126	047125	052111	022440			
	011134	031104	040445	053440			
	011142	052111	047510	052125			
	011150	052040	051125	040516			
	011156	047522	047125	022504			
	011164	000116					
4948	011166	040445	054122	051503	FHG1:	.ASCIZ	/#ARXCSR: #06#N#ARDSR : #06#N/
	011174	035122	022440	033117			
	011202	047045	040445	042122			
	011210	051123	035040	022440			
	011216	033117	047045	000			
4949	011223	045	050101	051503	FHG2:	.ASCIZ	/#APCSCR: #06#N#ATDSR : #06#N/
	011230	051103	020072	047445			
	011236	022466	022516	052101			
	011244	051504	020122	020072			
	011252	047445	022466	000116			
4950	011260	040445	051105	047522	FHG3:	.ASCIZ	/#AERROR IN SUBROUTINE CALLED AT PC: #06#N/
	011266	020122	047111	051440			
	011274	041125	047522	052125			
	011302	047111	020105	040503			
	011310	046114	042105	040440			
	011316	020124	041520	020072			
	011324	047445	022466	000116			
4951	011332	051445	022471	034523	FHG4:	.ASCIZ	/#S9#S9#S9#S3#AFOUND: #S2#AEXPECTED: #N/
	011340	051445	022471	031523			
	011346	040445	047506	047125			
	011354	035104	051445	022462			
	011362	042501	050130	041505			
	011370	042524	035104	047045			
	011376	000					
4952	011377	045	033523	047445	FHG5:	.ASCIZ	/#S7#03#N/
	011401	022463	000116				
4953	011410	047045	000		FHG6:	.ASCIZ	/#N/
4954	011413	045	051101	041530	FHG7:	.ASCIZ	/#ARXCSR = #06#A (EXTERNAL): #03/
	011420	051123	020040	020040			
	011426	020075	047445	022466			
	011434	020101	042450	052130			
	011442	051105	040516	024514			
	011450	020072	022440	031517			
	011456	000					
4955	011457	045	054101	044515	FHG8:	.ASCIZ	/#AXMIT DATA: #03#A RCV DATA: #03#N/
	011464	020124	040504	040524			
	011472	020072	047445	022463			
	011500	020101	041522	020126			
	011506	040504	040524	020072			
	011514	047445	022463	000116			

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4956	011522	047045	040445	025052	FHG9: .ASCIZ /#N#A** CHECK -V FROM THE CHARGE PUMP **#N/
	011530	041440	042510	045503	
	011536	026440	020126	051106	
	011544	046517	052040	042510	
	011552	041440	040510	043522	
	011560	020105	052520	050115	
	011566	025040	022452	000116	
4957	011574	040445	041520	041523	FHG10: .ASCIZ /#APCSCR = #06#A (EXTERNAL): #03/
	011602	020122	020040	036440	
	011610	022440	033117	040445	
	011616	024040	054105	042524	
	011624	047122	046101	035051	
	011632	020040	047445	000063	
4958	011640	040445	041520	020122	FHG11: .ASCIZ /#APCR = #06#A (USYNRT R7): #03/
	011646	020040	020040	036440	
	011654	022440	033117	040445	
	011662	024040	051525	047131	
	011670	052122	051040	024467	
	011676	020072	047445	000063	
4959	011704	040445	027124	042040	FHG12: .ASCIZ /#AT. DATA = #06#A (USYNRT R2): #03/
	011712	052101	020101	036440	
	011720	022440	033117	040445	
	011726	024040	051525	047131	
	011734	052122	051040	024462	
	011742	020072	047445	000063	
4960	011750	040445	027124	051440	FHG13: .ASCIZ /#AT. STATUS= #06#A (USYNRT R3): #03/
	011756	040524	052524	036523	
	011764	022440	033117	040445	
	011772	024040	051525	047131	
	012000	052122	051040	024463	
	012006	020072	047445	000063	
4961	012014	040445	047503	052116	FHG14: .ASCIZ /#ACONTENTS OF #06#A = #06#A EXPECTED #06#N/
	012022	047105	051524	047440	
	012030	020106	047445	022466	
	012036	020101	020075	047445	
	012044	022466	020101	020040	
	012052	054105	042520	052103	
	012060	042105	022440	033117	
	012066	047045	000		
4962	012071	045	051101	041530	FHG15: .ASCIZ /#ARXCSR = #06#A (EXTERNAL): #06/
	012076	051123	020040	036440	
	012104	022440	033117	040445	
	012112	024040	054105	042524	
	012120	047122	046101	035051	
	012126	022440	033117	000	
4963	012133	045	031523	047445	FHG16: .ASCIZ /#S3#06#N/
	012140	022466	000116		
4964	012144	040445	052122	020123	FHG17: .ASCIZ /#ARTS NOT TURNED AROUND TO CTS AND RR (CD)#N/
	012152	047516	020124	052524	
	012160	047122	042105	040440	
	012166	047522	047125	020104	
	012174	047524	041440	051524	
	012202	040440	042116	051040	
	012210	020122	041450	024504	
	012216	047045	000		
4965	012221	045	042101	051124	FHG18: .ASCIZ /#ADTR NOT TURNED AROUND TO IC (RING)#N/

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	012226	047040	052117	052040	
	012234	051125	042516	020104	
	012242	051101	052517	042116	
	012250	052040	020117	041511	
	012256	024040	044522	043516	
	012264	022451	000116		
4966	012270	040445	046114	047040	FMG19: .ASCIZ /%ALL NOT TURNED AROUND TO DM (DSR)%N/
	012276	052117	052040	051125	
	012304	042516	020104	051101	
	012312	052517	042116	052040	
	012320	020117	046504	024040	
	012326	051504	024522	047045	
	012334	000			
4967	012335	045	051101	020114	FMG20: .ASCIZ /%ARL NOT TURNED AROUND TO TEST MODE (SIG. QUALITY)%N/
	012342	047516	020124	052524	
	012350	047122	042105	040440	
	012356	047522	047125	020104	
	012364	047524	052040	051505	
	012372	020124	047515	042504	
	012400	024040	044523	027107	
	012406	050440	040525	044514	
	012414	054524	022451	000116	
4968	012422	040445	044103	041505	FMG21: .ASCIZ /%ACHECK THAT THE JUMPER IS INSTALLED%N/
	012430	020113	044124	052101	
	012436	052040	042510	045040	
	012444	046525	042520	020122	
	012452	051511	044440	051516	
	012460	040524	046114	042105	
	012466	047045	000		
4969	012471	045	041501	047101	FMG22: .ASCIZ /%ACAN'T WRITE BIT %06%A INTO RXCSR%N/
	012476	052047	053440	044522	
	012504	042524	041040	052111	
	012512	022440	033117	040445	
	012520	044440	052116	020117	
	012526	054122	051503	022522	
	012534	000116			
4970	012536	040445	042522	042523	FMG23: .ASCIZ /%ARESET SUBROUTINE CALLED AT PC: %06%N/
	012544	020124	052523	051102	
	012552	052517	044524	042516	
	012560	041440	046101	042514	
	012566	020104	052101	050040	
	012574	035103	022440	033117	
	012602	047045	000		
4971	012605	045	052101	040522	FMG24: .ASCIZ /%ATRANSMITTED: %02%A RECEIVED: %02%N/
	012612	051516	044515	052124	
	012620	042105	020072	042045	
	012626	022462	020101	042522	
	012634	042503	053111	042105	
	012642	020072	042045	022462	
	012650	000116			
4972	012652	040445	040503	023516	FMG25: .ASCIZ /%ACAN'T CLEAR BIT %06%A IN RXCSR%N/
	012660	020124	046103	040505	
	012666	020122	044502	020124	
	012674	047445	022466	020101	
	012702	047111	051040	041530	
	012710	051123	047045	000	

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4973	012715	045	047101	052117	FHG26: .ASCIZ /#NOTE: DATA SET INTERRUPT MAY BE DISABLED - CHECK JUMPER#N/
	012722	035105	042040	052101	
	012730	020101	042523	020124	
	012736	047111	042524	051122	
	012744	050125	020124	040515	
	012752	020131	042502	042040	
	012760	051511	041101	042514	
	012766	020104	020055	044103	
	012774	041505	020113	052512	
	013002	050115	051105	047045	
	013010	000			
4974	013011	045	052101	051505	FHG27: .ASCII /#ATEST #D2#A WILL ONLY RUN WITH RS422 ON A LSI-11/
	013016	020124	042045	022462	
	013024	020101	044527	046114	
	013032	047440	046116	020131	
	013040	052522	020116	044527	
	013046	044124	051040	032123	
	013054	031062	047440	020116	
	013062	020101	051514	026511	
	013070	030461			
4975	013072	057			.BYTE 57
4976	013073	062	022463	000116	.ASCIZ /23#N/
4977	013100	040445	043111	041440	FHG28: .ASCII /#AIF CPU IS A M7264 WITH MEMORY REFRESH ENABLED. A HIGH/
	013106	052520	044440	020123	
	013114	020101	033515	033062	
	013122	020064	044527	044124	
	013130	046440	046505	051117	
	013136	020131	042522	051106	
	013144	051505	020110	047105	
	013152	041101	042514	026104	
	013160	040440	044040	043511	
	013166	110			
4978	013167	045	020101	050123	.ASCIZ /#A SPEED TEST CAN'T RUN#N/
	013174	042505	020104	042524	
	013202	052123	041440	047101	
	013210	052047	051040	047125	
	013216	047045	000		
4979	013221	045	025101	020052	FHG29: .ASCIZ /#A.. IF M8020 JUMPERED FOR RS422. THIS ERROR EXPECTED ..#N/
	013226	043111	046440	030070	
	013234	030062	045040	046525	
	013242	042520	042522	020104	
	013250	047506	020122	051522	
	013256	031064	026062	052040	
	013264	044510	020123	051105	
	013272	047522	020122	054105	
	013300	042520	052103	042105	
	013306	025040	022452	000116	
4980	013314	040445	025052	041440	FHG30: .ASCIZ /#A.. CHECK BYTE OP SIGNAL STUCK LOW ?? ..#N/
	013322	042510	045503	041040	
	013330	052131	020105	050117	
	013336	051440	043511	040516	
	013344	020114	020055	052123	
	013352	041525	020113	047514	
	013360	020127	037477	025040	
	013366	022452	000116		
4981					

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4982	013372	042522	042523	020124	EMG0: .ASCIZ /RESET ERROR AFTER BUS RESET (DETECTED ONLY ON 1ST PASS)/
	013400	051105	047522	020122	
	013406	043101	042524	020122	
	013414	052502	020123	042522	
	013422	042523	020124	042050	
	013430	052105	041505	042524	
	013436	020104	047117	054514	
	013444	047440	020116	051461	
	013452	020124	040520	051523	
	013460	000051			
4983	013462	044524	042515	047440	EMG1: .ASCIZ /TIME OUT/
	013470	052125	000		
4984	013473	124	046511	020105	EMG2: .ASCIZ /TIME OUT DURING INTERRUPT EXERCISE/
	013500	052517	020124	020055	
	013506	052504	044522	043516	
	013514	044440	052116	051105	
	013522	052522	052120	042440	
	013530	042530	041522	051511	
	013536	000105			
4985	013540	042522	042523	020124	EMG3: .ASCIZ /RESET ERROR/
	013546	051105	047522	000122	
4986	013554	051503	020122	042522	EMG4: .ASCIZ /CSR READ-WRITE ERROR/
	013562	042101	053455	044522	
	013570	042524	042440	051122	
	013576	051117	000		
4987	013601	125	054523	051116	EMG5: .ASCIZ /USYNRT XMIT ACTIVE NOT SET/
	013606	020124	046530	052111	
	013614	040440	052105	053111	
	013622	020105	047516	020124	
	013630	042523	000124		
4988	013634	051525	047131	052122	EMG6: .ASCIZ /USYNRT XMIT ACTIVE NOT CLEAR/
	013642	054040	044515	020124	
	013650	041501	044524	042526	
	013656	047040	052117	041440	
	013664	042514	051101	000	
4989	013671	124	042502	047040	EMG7: .ASCIZ /TBE NOT CLEAR/
	013676	052117	041440	042514	
	013704	051101	000		
4990	013707	124	042502	047040	EMG8: .ASCIZ /TBE NOT SET/
	013714	052117	051440	052105	
	013722	000			
4991	013723	130	044515	020124	EMG9: .ASCIZ /XMIT INTERRUPT NOT RECEIVED/
	013730	047111	042524	051122	
	013736	050125	020124	047516	
	013744	020124	042522	042503	
	013752	053111	042105	000	
4992	013757	130	044515	020124	EMG10: .ASCIZ /XMIT INTERRUPT RECEIVED WHEN NOT EXPECTED/
	013764	047111	042524	051122	
	013772	050125	020124	042522	
	014000	042503	053111	042105	
	014006	053440	042510	020116	
	014014	047516	020124	054105	
	014022	042520	052103	042105	
	014030	000			
4993	014031	122	041505	044505	EMG11: .ASCIZ /RECEIVER NOT DEACTIVATED/
	014036	042526	020122	047516	

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	014044	020124	042504	041501	
	014052	044524	040526	042524	
	014060	000104			
4994	014062	042522	042503	053111	EMG12: .ASCIZ /RECEIVER NOT ACTIVE/
	014070	051105	047040	052117	
	014076	040440	052103	053111	
	014104	000105			
4995	014106	042522	042503	053111	EMG13: .ASCIZ /RECEIVER NOT INITIALIZED AFTER RECEIVER DISABLED/
	014114	051105	047040	052117	
	014122	044440	044516	044524	
	014130	046101	055111	042105	
	014136	040440	052106	051105	
	014144	051040	041505	044505	
	014152	042526	020122	044504	
	014160	040523	046102	042105	
	014166	000			
4996	014167	122	041505	044505	EMG14: .ASCIZ /RECEIVER ACTIVE BEFORE FIRST DATA CHARACTER/
	014174	042526	020122	041501	
	014202	044524	042526	041040	
	014210	043105	051117	020105	
	014216	044506	051522	020124	
	014224	040504	040524	041440	
	014232	040510	040522	052103	
	014240	051105	000		
4997	014243	122	053103	044440	EMG15: .ASCIZ /RCV INTERRUPT NOT RECEIVED/
	014250	052116	051105	052522	
	014256	052120	047040	052117	
	014264	051040	041505	044505	
	014272	042526	000104		
4998	014276	041522	020126	047111	EMG16: .ASCIZ /RCV INTERRUPT RECEIVED BEFORE EXPECTED/
	014304	042524	051122	050125	
	014312	020124	042522	042503	
	014320	053111	042105	041040	
	014326	043105	051117	020105	
	014334	054105	042520	052103	
	014342	042105	000		
4999	014345	122	053103	042440	EMG17: .ASCIZ /RCV END OF MESSAGE NOT RECEIVED/
	014352	042116	047440	020106	
	014360	042515	051523	043501	
	014366	020105	047516	020124	
	014374	042522	042503	053111	
	014402	042105	000		
5000	014405	122	053103	051440	EMG18: .ASCIZ /RCV STATUS NOT CLEARED/
	014412	040524	052524	020123	
	014420	047516	020124	046103	
	014426	040305	042522	000104	
5001	014434	041522	020126	053117	EMG19: .ASCIZ /RCV OVERRUN NOT RECEIVED/
	014442	051105	052522	020116	
	014450	047516	020124	042522	
	014456	042503	053111	042105	
	014464	000			
5002	014465	122	053103	040440	EMG20: .ASCIZ /RCV ABORT NOT RECEIVED/
	014472	047502	052122	047040	
	014500	052117	051040	041505	
	014506	044505	042526	000104	
5003	014514	041522	020126	052123	EMG21: .ASCIZ /RCV STATUS INTERRUPT NOT RECEIVED/

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	014522	052101	051525	044440	
	014530	052116	051105	052522	
	014536	052120	047040	052117	
	014544	051040	041505	044505	
	014552	042526	000104		
5004	014556	047515	042504	020115	EMG22: .ASCIZ /MODEM LOOPBACK ERROR/
	014564	047514	050117	040502	
	014572	045503	042440	051122	
	014600	051117	000		
5005	014603	115	042117	046505	EMG23: .ASCIZ /MODEM STATUS INTERRUPT RECEIVED WHEN DISABLED/
	014610	051440	040524	052524	
	014616	020123	047111	042524	
	014624	051122	050125	020124	
	014632	042522	042503	053111	
	014640	042105	053440	042510	
	014646	020116	044504	040523	
	014654	046102	042105	000	
5006	014661	115	042117	046505	EMG24: .ASCIZ /MODEM STATUS INTERRUPT NOT RECEIVED/
	014666	051440	040524	052524	
	014674	020123	047111	042524	
	014702	051122	050125	020124	
	014710	047516	020124	042522	
	014716	042503	053111	042105	
	014724	000			
5007	014725	103	040510	040522	EMG25: .ASCIZ /CHARACTER COUNT ERROR/
	014732	052103	051105	041440	
	014740	052517	052116	042440	
	014746	051122	051117	000	
5008	014753	104	052101	020101	EMG26: .ASCIZ /DATA ERROR/
	014760	051105	047522	000122	
5009	014766	046530	052111	052440	EMG30: .ASCIZ /XMIT UNDERRUN/
	014774	042116	051105	052522	
	015002	000116			
5010	015004	042522	042503	053111	EMG31: .ASCIZ /RECEIVER ERROR/
	015012	051105	042440	051122	
	015020	051117	000		
5011	015023	101	047502	052122	EMG32: .ASCIZ /ABORT NOT RECEIVED/
	015030	047040	052117	051040	
	015036	041505	044505	042526	
	015044	000104			
5012	015046	047507	040440	042510	EMG33: .ASCIZ /GO AHEAD NOT RECEIVED/
	015054	042101	047040	052117	
	015062	051040	041505	044505	
	015070	042526	000104		
5013	015074	041101	051117	020124	EMG34: .ASCIZ /ABORT RECEIVED WHEN NOT EXPECTED/
	015102	042522	042503	053111	
	015110	042105	053440	042510	
	015116	020116	047516	020124	
	015124	054105	042520	052103	
	015132	042105	000		
5014	015135	101	042104	042522	EMG35: .ASCIZ /ADDRESS INCORRECTLY RECOGNIZED/
	015142	051523	044440	041516	
	015150	051117	042522	052103	
	015156	054514	051040	041505	
	015164	043517	044516	042532	
	015172	000104			

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5015	015174	051501	042523	041115	EMG36: .ASCIZ /ASSEMBLED BIT COUNT ERROR/
	015202	042514	020104	044502	
	015210	020124	047503	047125	
	015216	020124	051105	047522	
	015224	000122			
5016	015226	051103	020103	051105	EMG37: .ASCIZ /CRC ERROR/
	015234	047522	000122		
5017	015240	051103	020103	051105	EMG38: .ASCIZ /CRC ERROR NOT DETECTED/
	015246	047522	020122	047516	
	015254	020124	042504	042524	
	015262	052103	042105	000	
5018	015267	120	051101	052111	EMG39: .ASCIZ /PARITY ERROR NOT DETECTED/
	015274	020131	051105	047522	
	015302	020122	047516	020124	
	015310	042504	042524	052103	
	015316	042105	000		
5019	015321	115	046125	044524	EMG40: .ASCIZ /MULTIPLE MODEM CONTROL INTERRUPTS/
	015326	046120	020105	047515	
	015334	042504	020115	047503	
	015342	052116	047522	020114	
	015350	047111	042524	051122	
	015356	050125	051524	000	
5020					
5021	015364				.EVEN

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```
5024      .SBTTL  LOAD DEVICE PROTECTION TABLE
5025
5026      ;////////////////////////////////////
5027      ;/ THIS TABLE IDENTIFIES THE LOAD DEVICE TO THE SUPERVISOR, SO THAT IT CAN BE
5028      ;/ PROTECTED FROM TESTING. IF DESIRED.
5029      ;////////////////////////////////////
5030
5031      015364      BGNPROT
5032      (3) 015364      L$PROT::
5033      015364 177777      .WORD  -1      ;DON'T CHECK CSR ADDRESS
5034      015366 177777      .WORD  -1      ;DON'T CHECK MASSBUS UNIT NUMBER
5035      015370 177777      .WORD  -1      ;DON'T CHECK DRIVE NUMBER
5036
5037      015372      ENDPROT
5038
5039
5040
5041
5042
```

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 CVDPVC.P11 16-AUG-84 14:18 INITIALIZE SECTION

```

5044 .SBTTL INITIALIZE SECTION
5045
5046 ;////////////////////////////////////
5047 ;// THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
5048 ;// AT THE BEGINNING OF THE TEST SEQUENCE ON THE NEXT UNIT.
5049 ;////////////////////////////////////
5050
5051 BGNINIT
5052
5053                                     L$INIT::
5054                                     SETPRI  #PRI07          ;SET DIAGNOSTIC PRIORITY = 7
5055                                     MOV      #PRI07,RO      MOV      #PRI07,RO
5056                                     TRAP     C$SPRI         TRAP     C$SPRI
5057
5058                                     MOV      SP,PSTACK      ;STORE BASE LEVEL PROGRAM STACK POINTER
5059                                     CLR      SUBRPC          ;CLEAR STORAGE WORD FOR SUBROUTINE PC CALL
5060                                     CLR      ERROR           ;CLEAR ERROR FLAGS
5061                                     CLR      MISC            ;CLEAR MISC. FLAGS
5062
5063                                     CLR      FLAG
5064                                     CLR      RFLAG
5065                                     CLR      TFLAG
5066                                     CLR      NXMFLG
5067                                     CLR      ABORT
5068                                     CLR      TOGGLE
5069                                     CLR      OVER
5070                                     CLR      HIGH
5071
5072                                     TST      FRSTIM          ;IS THIS THE TIME THROUGH AFTER LOAD?
5073                                     BNE      1$              ;IF NOT - ERROR TRAP VECTOR ALREADY SAVED
5074                                     MOV      #1,FRSTIM        ;FLAG THAT WE'VE BEEN THRU THE 1ST TIME
5075                                     CLR      FRSPAS          ;CLEAR COUNTER FOR # OF PASSES AFTER LOAD
5076
5077                                     1$:
5078                                     CLRVEC  #4              ;ENSURE VECTOR 4 IS IN NORMAL STATE.
5079                                     MOV      #4,RO           MOV      #4,RO
5080                                     TRAP     C$CVEC          TRAP     C$CVEC
5081
5082                                     READEF  #EF.START        ;IS THIS JUST STARTED?
5083                                     MOV      #EF.START,RO     MOV      #EF.START,RO
5084                                     TRAP     C$REFG          TRAP     C$REFG
5085
5086                                     BCOMPLETE STARST        ;IF YES - BRANCH.
5087                                     BCS      STARST
5088                                     READEF  #EF.RESTART      ;IS THIS A RESTART ?
5089                                     MOV      #EF.RESTART,RO   MOV      #EF.RESTART,RO
5090                                     TRAP     C$REFG          TRAP     C$REFG
5091
5092                                     BCOMPLETE STARST        ;IF YES - BRANCH.
5093                                     BCS      STARST
5094                                     READEF  #EF.NEW          ;IS THIS A NEW PASS?
5095                                     MOV      #EF.NEW,RO       MOV      #EF.NEW,RO
5096                                     TRAP     C$REFG          TRAP     C$REFG
5097
5098                                     BCOMPLETE NEWST         ;IF YES - BRANCH
5099                                     BCS      NEWST
5100                                     READEF  #EF.CONTINUE     ;IS THIS A CONTINUATION?
5101                                     MOV      #EF.CONTINUE,RO  MOV      #EF.CONTINUE,RO
5102                                     TRAP     C$REFG          TRAP     C$REFG
5103
5104                                     BNCOMPLETE GETPRM       ;IF NOT - GET PARAMETERS
5105                                     BCC      GETPRM

```

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```

5083 015542 000137 016310          JMP      END          ;OTHERWISE - DON'T INITIALIZE.
5084
5085 015546          STARST:
5086 015546 005037 002314          CLR      STARES        ;CLEAR THE FLAG TO SHOW START/RESTART.
5087
5088 015552          NEWST:
5089 015552 012737 177777 002354    MOV      #-1,LOGDEV      ;INITIALIZE LOGICAL UNIT NUMBER.
5090 015560 005237 002312          INC      FRSPAS        ;INCREMENT # OF PASSES AFTER LOAD.
5091 015564 005237 002314          INC      STARES        ;INCREMENT # OF PASSES SINCE START/RESTART.
5092 015570          GETPRM:
5093 015570 005237 002354          INC      LOGDEV        ;NEXT LOGICAL UNIT TO BE TESTED
5094 015574 023737 002354 002012    CMP      LOGDEV,L#UNIT    ;IS THE MAXIMUM UNIT # EXCEEDED?
5095 015602 002363          BGE      NEWST          ;IF YES - DO A NEW START
5096 015604          GPHARD LOGDEV,R1      ;GET THE P-TABLE POINTER INTO R1
(3) 015604 013700 002354          MOV      LOGDEV,R0
(3) 015610 104442          TRAP      C#GPHRD
(3) 015612 010001          MOV      R0,R1
5097 015614          BNCOMPLETE GETPRM      ;IF NOT AVAILABLE, GET THE NEXT ONE
(2) 015614 103365          BCC      GETPRM
5098 015616 01'100          MOV      (R1),R0      ;SAVE THE ADDRESS
5099 015620 052700 000007          BIT      #7,R0      ;DOES THIS DEVICE ADDRESS END IN NON-ZERO?
5100 015624 001414          BEQ      104          ;IF NOT - OK (76XXX0)
5101 015626 042711 000007          BIC      #7,(R1)      ;MAKE IT 76XXX0
5102 015632          PRINTB #INIT1,(R1),R0 ;INFORM THE USER
(9) 015632 010046          MOV      R0,-(SP)
(8) 015634 011146          MOV      (R1),-(SP)
(7) 015636 012746 016312          MOV      #INIT1,-(SP)
(6) 015642 012746 000003          MOV      #3,-(SP)
(3) 015646 010600          MOV      SP,R0
(4) 015650 104414          TRAP      C#PNTB
(4) 015652 062706 000010          ADD      #10,SP
5103 015656          104:
5104 015656 011137 002266          MOV      (R1),CSR0      ;CSR ADDRESS 0 = RECEIVER CSR (RXCSR)
5105          READ/WRITE
5106 015662 013737 002266 002276    MOV      CSR0,CSR1      ;SAVE HIGH BYTE ADDRESS
5107 015670 005237 002276          INC      CSR1
5108 015674 011137 002270          MOV      (R1),CSR2
5109 015700 062737 000002 002270    ADD      #2,CSR2
5110          ;CSR ADDRESS 2 = RECEIVE DATA/STATUS (RDSR)
5111          READ ONLY
5112          ;CSR ADDRESS 2 = PARAMETER CONTROL/SYNCH ADDR
5113          (PCSR) - WRITE ONLY
5113 015706 013737 002270 002300    MOV      CSR2,CSR3
5114 015714 005237 002300          INC      CSR3
5115 015720 011137 002272          MOV      (R1),CSR4
5116 015724 062737 000004 002272    ADD      #4,CSR4
5117          ;CSR ADDRESS 4 = TRANSMITTER CSR (TXCSR)
5118          READ/WRITE
5119 015732 013737 002272 002302    MOV      CSR4,CSR5
5120          ;CSR ADDRESS 5 = PARAMETER CONTROL REG (PCR)
5121          READ/WRITE
5121 015740 005237 002302          INC      CSR5
5122 015744 012137 002274          MOV      (R1),CSR6
5123 015750 062737 000006 002274    ADD      #6,CSR6
5124          ;CSR ADDRESS 6 = TRANSMIT DATA/STATUS (TDSR)
5125          READ/WRITE
5125 015756 013737 002274 002304    MOV      CSR6,CSR7
5126 015764 005237 002304          INC      CSR7
5127 015770 011100          MOV      (R1),R0      ;GET VECTOR

```

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```

5128 015772 032700 000007      BIT      #7,R0      ;DOES THIS VECTOR END IN NON-ZERO?
5129 015776 001414      BEQ      11$      ;IF NOT - OK (XX0)
5130 016000 042711 000007      BIC      #7,(R1)    ;MAKE IT XX0
5131 016004      PRINTB    #FINIT2,(R1),R0 ;INFORM THE USER
      (9) 016004 010046      MOV      R0,-(SP)
      (8) 016006 011146      MOV      (R1),-(SP)
      (7) 016010 012746 016405      MOV      #FINIT2,-(SP)
      (6) 016014 012746 000003      MOV      #3,-(SP)
      (3) 016020 010600      MOV      SP,R0
      (4) 016022 104414      TRAP     C$PNTB
      (4) 016024 062706 000010      ADD      #10,SP
5132 016030      11$:
5133 016030 011137 002262      MOV      (R1),RCVEC    ;RCV. VECTOR
5134 016034 012137 002264      MOV      (R1)+,XMTVEC  ;TRANSMIT VECTOR
5135 016040 062737 000004 002264      ADD      #4,XMTVEC    ;ADJUST XMIT VECTOR
5136
5137 016046 011137 002306      MOV      (R1),TURN    ;TURNAROUND.
5138 016052 012737 000020 002402      MOV      #RXENA,RXINI  ;RECEIVER INIT WORD
5139 016060 012737 000020 002436      MOV      #TXENA,TXINI  ;TRANSMITTER INIT WORD
5140 016066 005737 002306      TST      TURN      ;WHAT WAS THE TURNAROUND
5141 016072 001004      BNE      15$      ;IF ACTUAL TURNAROUND DON'T SET MAINT MODE
5142 016074 052737 000010 002436      BIS      #MM,TXINI    ;SET THE MAINT. MODE BIT.
5143 016102 000422      BR      20$
5144 016104      15$:
5145 016104 052737 000004 002402      BIS      #RTS,RXINI    ;SET RTS FOR TURNAROUND LOOP.
5146 016112 022737 000003 002306      CMP      #3,TURN      ;LOCAL LOOPBACK?
5147 016120 001004      BNE      17$      ;IF NOT SKIP.
5148 016122 052737 000012 002402      BIS      #LL!DTR,RXINI  ;SET LOCAL LOOP AND DTR.
5149 016130 000407      BR      20$
5150 016132      17$:
5151 016132 022737 000004 002306      CMP      #4,TURN      ;REMOTE LOOPBACK?
5152 016140 001003      BNE      20$
5153 016142 052737 000003 002402      BIS      #DTR!RL,RXINI  ;SET REMOTE LOOP AND DTR
5154 016150      20$:
5155 016150 013737 002402 002404      MOV      RXINI,RXINIT  ;SAVE RECEIVER INIT WORD
5156 016156 052737 000140 002404      BIS      #RXITEN!DSITEN,RXINIT ;MAKE IT AN INTERRUPT INIT WORD
5157 016164 013737 002436 002440      MOV      TXINI,TXINIT  ;SAVE TRANSMITTER INIT WORD
5158 016172 052737 000100 002440      BIS      #TXIE,TXINIT  ;MAKE IT AN INTERRUPT INIT WORD
5159 016200 012737 000120 002406      MOV      #RXITEN!RXENA,RXMINI ;RCV INIT FOR MAINT. LOOP.
5160 016206 012737 000130 002442      MOV      #TXIE!TXENA!MM,TXMINI ;TRANS INIT WITH MAINT. LOOP.
5161      ;DETERMINE PROCESSOR TYPE
5162 016214      SETVEC    #10,#ILLGL,#PRI07 ;SET UP ILLEGAL INSTRUCTION TRAP
      (7) 016214 012746 000340      MOV      #PRI07,-(SP)
      (6) 016220 012746 017744      MOV      #ILLGL,-(SP)
      (5) 016224 012746 000010      MOV      #10,-(SP)
      (4) 016230 012746 000003      MOV      #3,-(SP)
      (3) 016234 104437      TRAP     C$SVEC
      (2) 016236 062706 000010      ADD      #10,SP
5163 016242 000007      MFPT      ;MOVE PROCESSOR TYPE TO R0
5164      ;FOR AN LSI 11/23 R0 = 3
5165      ;FOR OTHER LSI THIS WILL RESULT IN AN
5166      ;ILLEGAL INSTRUCTION (R0=0).
5167 016244 010037 002324      MOV      R0,CPU
5168 016250      CLRVEC    #10      ;SAVE THE PROCESSOR TYPE
      (3) 016250 012700 000010      ;RESTORE TRAP TO THE SUPERVISOR
      (3) 016254 104436      MOV      #10,R0
      TRAP     C$CVEC

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5169 016256 005737 002324          TST      CPU          ;IS THE CPU A LSI11/23 ?
5170 016262 001004          BNE      25$          ;BR IF YES
5171 016264 012737 000020 002430    MOV      #20,TIMER    ;SET THE TIMER FOR A LSI11 OR 11/2.
5172 016272 000403          BR       30$
5173 016274          25$:
5174 016274 012737 000050 002430    MOV      #50,TIMER    ;SET THE TIMER FOR A LSI-11/23.
5175 016302          30$:
5176 016302 013737 002430 002412    MOV      TIMER,SAVTIM ;STORE THE TIMER VALUE.
5177 016310          END:
5178 016310          ENDINIT
(3) 016310
(3) 016310 104411
5179 016312 040445 025052 053440    FINIT1: .ASCIZ  /#A** WARNING - WILL ASSUME DPV ADDRESS #06#A (NOT #06#A)#N/
      016320 051101 044516 043516
      016326 026440 053440 046111
      016334 020114 051501 052523
      016342 042515 042040 053120
      016350 040440 042104 042522
      016356 051523 022440 033117
      016364 040445 024040 047516
      016372 020124 047445 022466
      016400 024501 047045 000
5180 016405 045 025101 020052    FINIT2: .ASCIZ  /#A** WARNING - WILL ASSUME DPV VECTOR #03#A (NOT #03#A)#N/
      016412 040527 047122 047111
      016420 020107 020055 044527
      016426 046114 040440 051523
      016434 046525 020105 050104
      016442 020126 042526 052103
      016450 051117 020040 047445
      016456 022463 020101 047050
      016464 052117 022440 031517
      016472 040445 022451 000116

5181          .EVEN
5182
5183
5184
5185
5186

```

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.SBTTL AUTO DROP UNIT SECTION

;/ THE AUTO DROP CODING DETERMINES WHETHER OR NOT THE DEVICE WHOSE P-TABLE
 ;/ WAS JUST OBTAINED IS READY FOR TESTING, AND IT IS DROPPED IF NOT READY.

BGNAUTO

L\$AUTO::

SETVEC #4, #NXM, #PRI07 ;SET UP NON -EXISTENT MEMORY TRAP VECTOR.

MOV #PRI07, -(SP)
 MOV #NXM, -(SP)
 MOV #4, -(SP)
 MOV #3, (SP)
 TRAP C\$SVEC
 ADD #10, SP

CLR NXMFLG ;CLEAR FLAG USED IN TEST
 TST BCSRO ;REFERENCE MEMORY ADDRESS FOR THE DEVICE
 ;TO SEE IF IT EXISTS.

;; *****
 ; IF THE DEVICE DOESN'T EXIST THE RESULTANT TRAP TO VECTOR 04 WILL
 ; CAUSE THE DEVICE TO BE DROPPED (SEE INTERRUPT ROUTINE 'DROP04').
 ; OTHERWISE THE MEMORY REFERENCE IS UNEVENTFUL AND THE DEVICE IS READY.
 ;; *****

TST NXMFLG ;WAS THERE A TRAP?
 BEQ 104 ;BR IF NOT
 DODU LOGDEV ;DROP THE DEVICE

MOV LOGDEV, R0
 TRAP C\$DODU

DOCLN ;CLEAN UP CODE.

TRAP C\$DCLN

CLRVEC #4 ;RETURN VECTOR 04 TO NORMAL STATE

MOV #4, R0
 TRAP C\$CVEC

104:

ENDAUTO

L10020: TRAP C\$AUTO

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 CVDPVC.P11 16-AUG-84 14:18 CLEANUP CODING SECTION

```

5223      .SBTTL  CLEANUP CODING SECTION
5224
5225      ;////////////////////////////////////
5226      ;/  THE CLEANUP CODING SECTION CONTAINS THE CODING THAT IS PERFORMED AT THE
5227      ;/  END OF THE TEST SEQUENCE ON A PARTICULAR UNIT.  THIS SECTION IS REQUIRED
5228      ;/  EVEN IF IT IS A NULL CLEANUP
5229      ;////////////////////////////////////
5230
5231      BGNCLN
5232      (3) 016564
5233      016564 005737 002366      TST      NXMFLG      ;WAS THERE A NXM TRAP
5234      016570 001003      BNE      104      ;IF YES, SKIP RESET
5235      016572 012777 000001 163472  MOV      @RESET,@TXCSR ;RESET THE DPV
5236      016600
5237      (3) 016600      104:
5238      (3) 016600 104412      ENDCLN
5239
5237
5238
5239

```

L\$CLEAN::

L10021: TRAP C\$CLEAN

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5241 .SBTTL GLOBAL INTERRUPT HANDLING ROUTINES
5242
5243 ;////////////////////
5244 ;/ THE INTERRUPT HANDLING SECTION CONTAINS CODING REQUIRED TO USE
5245 ;/ THE SETVEC' MACRO. NOTE EVERY INTERRUPT ROUTINE SHOULD SAVE
5246 ;/ AND RESTORE R0.
5247 ;////////////////////
5248
5249 ;*****
5250 ; RINT - INTERRUPT SERVICE ROUTINE
5251 ;
5252 ; FUNCTION - RECEIVE INTERRUPT ROUTINE THAT SETS FLAGS WHEN
5253 ; A RECEIVE INTERRUPT CONDITON IS RECEIVED.
5254 ;
5255 ; ENTRY CONDITONS
5256 ;          TOGGLE = IF NON ZERO, XOR THE BITS IN TOGGLE
5257 ;                  INTO THE RXCSR
5258 ;
5259 ; EXIT CONDITIONS RFLAG = 1 SET - DATA RECEIVED
5260 ;                  = 2 SET - STATUS RECEIVED
5261 ;                  IRXCSR= IMAGE OF RXCSR
5262 ;                  RSAVE = IMAGE OF RDSR
5263 ;                  MCFLAG= MODEM CONTROL INTERRUPT COUNT.
5264 ;
5265 ; USED IN TESTS: 8,10,11,13,14
5266 ;*****
5267
5268
5269
5270 BGNSRV RINT
5271 (3) 016602
5272 016602 017737 163460 002346
5273 016610 100011
5274 016612 005237 002360
5275 016616 022737 000002 002360
5276 016624 002003
5277 016626 042777 000040 163432
5278 016634
5279 016634 032737 000200 002346
5280 016642 001414
5281 016644 052737 000001 002376
5282 016652 005737 002432
5283 016656 001406
5284 016660 013702 002432
5285 016664 005037 002432
5286 016670 074277 163372
5287 016674
5288 016674 032737 002000 002346
5289 016702 001404
5290 016704 052737 000002 002376
5291 016712 000403
5292 016714
5293 016714 005737 002370
5294 016720 001330
5295

RINT::
1$:
MOV @RXCSR,IRXCSR ;SAVE RXCSR
BPL 5$ ;BR IF NOT
INC MCFLAG ;INCREMENT MODEM CONTROL FLAG.
CMP #2,MCFLAG ;HAS THERE BEEN MORE THAN 2 INTERRUPTS?
BGE 5$ ;IF NOT, PROCEED.
BIC #DSITEN,@RXCSR ;DISABLE THE INTERRUPT.

5$:
BIT @RDATRY,IRXCSR ;IS DATA READY?
BEQ 10$ ;IF NOT - CHECK STATUS.
BIS #1,RFLAG ;FLAG FOR DATA
TST TOGGLE ;TOGGLE ?
BEQ 10$ ;IF NOT, SKIP TOGGLE
MOV TOGGLE,R2 ;GET THE TOGGLE VALUE
CLR TOGGLE ;ONLY TOGGLE ONCE.
XOR R2,@RXCSR ;TOGGLE RTS.

10$:
BIT @RSTARY,IRXCSR ;IS STATUS READY?
BEQ 20$ ;IF NOT - DON'T SET THE FLAG.
BIS #2,RFLAG ;SET THE FLAG
BR 25$

20$:
TST OVER ;CREATE AN OVERRUN?
BNE 1$ ;IF YES - DON'T READ THE DATA
;UNTIL THE STATUS FLAG IS SET.

```

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5296 016722 251:
5297 016722 017737 163342 002400 MOV @RDSR,RSAVE ;SAVE RECEIVE DATA AND STATUS.
5298
5299 016730 ENDSRV
(3) 016730 L10022:
(2) 016730 000002 RTI
5300

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```

5302 ;*****
5303 ; RDATA - INTERRUPT SERVICE ROUTINE
5304 ;
5305 ; FUNCTION - GENERAL PURPOSE RECEIVE INTERRUPT ROUTINE
5306 ;
5307 ; ENTRY CONDITIONS
5308 ;          ECOUNT = # OF CHARACTERS TO BE RECEIVED.
5309 ;          R1      = ADDRESS OF BUFFER FOR NEXT CHARACTER
5310 ;
5311 ; EXIT CONDITIONS
5312 ;          IRXCSR = IMAGE OF RXCSR
5313 ;          IRDSR  = IMAGE OF RDSR
5314 ;          RCOUNT = COUNT OF CHARACTERS RECEIVED
5315 ;          MODE    = PROTOCOL MODE ( 0 = BCP, NON 0 = BOP)
5316 ;          MCFLAG  = COUNT OF MODEM CONTROL INTERRUPTS RECEIVED
5317 ;          MODEM    = ADDRESS OF MODEM CONTROL INTERRUPT TABLE
5318 ;          RFLAG    = RECEIVE END FLAG ( 1 = NO ERROR, -1 = ERROR)
5319 ;          R1       = INCREMENTED TO NEXT BYTE IN BUFFER.
5320 ;
5321 ; USED IN TESTS: 15-28 & 30-40 (CALLED IN SUBROUTINE RDATA), 41
5322 ;
5323 ;*****
5324
5325 BGNSRV RDATA
5326 (3) 016732
5327 016732 017737 163330 002346      MOV    BRXCSR,IRXCSR    ;SAVE THE RXCSR
5328 016740 100040                      BPL     101              ;IS DATA SET CHANGE? IF NOT SET, BR.
5329
5330 016742 032737 000040 002346      BIT     RDSITEN,IRXCSR    ;WAS THE DATA SET CHANGE INT. ENABLED?
5331 016750 001434                      BEQ     101              ;IF NOT - DON'T KEEP TRACK OF THE CHANGES.
5332 016752 005237 002360                      INC     MCFLAG      ;INCR MODEM CONTROL FLAG.
5333 016756 022737 000011 002360      CMP     R9,MCFLAG      ;WERE TOO MANY INTERRUPTS RECEIVED?
5334 016764 002004                      BGE     11              ;IF NOT - PROCEED.
5335 016766 042777 000040 163272      BIC     RDSITEN,BRXCSR    ;CLEAR MODEM CONTROL INTERRUPT.
5336 016774 000422                      BR      101
5337 016776
5338 016776
5339 017000 013705 002360
5340 017004 006305
5341 017006 013765 002346 002444      MOV     IRXCSR,MODEM(R5) ;SAVE THE MODEM STATUS
5342 017014 042765 006760 002444      BIC     R6760,MODEM(R5) ;SAVE ONLY THE MODEM STATUS.
5343 017022 032777 000040 163242      BIT     RTH,RTXCSR      ;WAS THE TEST MODE BIT SET?
5344 017030 001403                      BEQ     51              ;BR IF NOT
5345 017032 052765 000040 002444      BIS     RTH,MODEM(R5) ;SAVE TEST MODE STATUS.
5346 017040
5347 017040
5348
5349 017042
5350 017042 032737 002200 002346      BIT     RSTARY!RDATRY,IRXCSR ;IS THE DATA OR STATUS BIT SET
5351 017050 001444                      BEQ     551
5352 017052 017737 163212 002350      MOV     BRDSR,IRDSR      ;SAVE THE DATA AND STATUS REG.
5353 017060 032737 000200 002346      BIT     RDATRY,IRXCSR    ;IS DATA SET?
5354 017066 001404                      BEQ     201
5355 017070 113721 002350      MOVB    IRDSR,(R1) ;SAVE THE DATA.
5356 017074 005237 002500      INC     RCOUNT      ;INCREMENT BYTE COUNT

```

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```

5357 017100
5358 017100 032737 002000 002346
5359 017106 001410
5360 017110 032737 106000 002350
5361 017116 001413
5362 017120 012737 177777 002376
5363 017126 000412
5364 017130
5365 017130 005737 002362
5366 017134 001012
5367 017136 023737 002500 002474
5368 017144 001006
5369 017146
5370 017146 012737 000001 002376
5371 017154
5372 017154 042777 000100 163104
5373 017162
5374
5375 017162
(3) 017162
(1 017162 000002
5376
5377

```

201: BIT #RSTARY,IRXCSR ;IS STATUS SET?
 BEQ 501
 BIT #ERR!ROVER!RABORT,IRDSR ;WAS THERE AN ERROR?
 BEQ 531 ;IF NOT - MUST BE END OF MESSAGE.
 MOV #1,RFLAG ;OTHERWISE, SET ERROR FLAG.
 BR 541

501: TST MODE ;IS THIS BCP?
 BNE 551 ;IF NOT - EXIT
 CMP RCOUNT,ECOUNT ;HAVE WE RECEIVED ALL THE CHARACTERS
 BNE 551 ;IF NOT - EXIT

531: MOV #1,RFLAG ;SET FLAG

541: BIC #RXITEN,IRXCSR ;DISABLE INTERRUPT

551:

ENDSRV

L10023: RTI

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 CVDPVC.P11 16-AUG-84 14:18 GLOBAL INTERRUPT HANDLING ROUTINES

```

5379 *****
5380 ; RDATA2 - INTERRUPT SERVICE ROUTINE
5381 ;
5382 ; FUNCTION - HIGH SPEED RECEIVE INTERRUPT ROUTINE
5383 ;
5384 ; ENTRY CONDITIONS
5385 ; COUNTER = # OF CHARACTERS BE RECEIVED
5386 ; R1 = ADDRESS OF BUFFER FOR NEXT CHARACTER
5387 ;
5388 ; EXIT CONDITIONS
5389 ; RCOUNT = COUNT OF CHARACTERS RECEIVED
5390 ; RFLAG = RECEIVE END FLAG ( 1 = NO ERROR, -1 = ERROR )
5391 ; R1 = INCREMENTED TO NEXT BYTE IN BUFFER.
5392 ;
5393 ;
5394 ; USED IN TESTS: 42 & 43
5395 ;
5396 ;*****
5397
5398 BGNSRV RDATA2
5399 (3) 017164 RDATA2::
5400 017164 105777 163076 TSTB BRXCSR ;IS THIS DATA?
5401 017170 100404 BMI 54 ;
5402 ;DATA OR STATUS?
5403 017172 012737 177777 002376 MOV #-1,RFLAG ;FLAG FOR ERROR
5404 017200 000410 BR 204
5405
5406 017202 54:
5407 017202 117721 163062 MOVB BRDSR,(R1) ;SAVE THE DATA.
5408 017206 005337 002322 DEC COUNTER ;DECREMENT COUNT
5409 017212 001006 BNE 304 ;BR IF NOT DONE.
5410 017214 012737 000001 002376 MOV #1,RFLAG ;SET FLAG
5411 017222 204:
5412 017222 042777 000100 163036 BIC #RXITEN,BRXCSR ;DISABLE INTERRUPT
5413 017230 304:
5414
5415 017230 ENDSRV
5416 (3) 017230 L10024:
5417 (2) 017230 000002 RTI

```

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```

5419 ;*****
5420 ; XINT - INTERRUPT SERVICE ROUTINE
5421 ;
5422 ; FUNCTION - TRANSMIT INTERRUPT ROUTINE. SET A FLAG WHEN INTERRUPT
5423 ; GENERATED. THIS ISR WILL TRANSMIT 4 DATA CHARACTERS AND
5424 ; END A MESSAGE IN A SPECIFIED MANNER.
5425 ;
5426 ; ENTRY CONDITIONS
5427 ; ABORT = FLAG, SET IF TERMINATE BY AN ABORT IS DESIRED.
5428 ; START = # OF START CHARACTERS (FLAGS OR SYNCHS) TO
5429 ; BE SENT.
5430 ;
5431 ; EXIT CONDITIONS
5432 ; TFLAG = FLAG SET WHEN THIS INTERRUPT IS SERVICED
5433 ; DATA = # OF DATA CHARACTERS TRANSMITTED
5434 ;
5435 ; USED IN TESTS: 6, 8-11, 14
5436 ;*****
5437
5438
5439
5440 BGNSRV XINT
5441 (3) 017232
5442 017232 012737 000001 002424
5443 017240 005737 002414
5444 017244 001410
5445 017246 012777 000400 163020
5446 017254 005337 002414
5447 017260 005037 002326
5448 017264 000424
5449 017266 022737 000004 002326
5450 017274 001013
5451 017276 005737 002316
5452 017302 001404
5453 017304 052777 002000 162762
5454 017312 000411
5455 017314
5456 017314 012777 001021 162752
5457 017322 000405
5458 017324
5459 017324 012777 000041 162742
5460 017332 005237 002326
5461 017336
5462 017336
5463 (3) 017336
(2) 017336 000002

```

```

XINT::
MOV #1,TFLAG ;SET THE TRANSMIT FLAG
TST START ;SEND START
BEQ 54 ;IS THIS DATA OR A START
MOV #TSM,TDSCR ;TRANSMIT A SYNCH/FLAG.
DEC START ;DECREMENT START COUNTER.
CLR DATA ;CLEAR DATA COUNTER
BR 204

54:
CMP #4,DATA ;HAVE WE SENT 4 DATA CHARACTERS
BNE 104
TST ABORT ;SEND AN ABORT?
BEQ 74
BIS #TXABO,TDSCR ;SEND AN ABORT
BR 204

74:
MOV #TEOM!21,TDSCR ;SEND END OF MESSAGE
BR 204

104:
MOV #41,TDSCR ;TRANSMIT DATA.
INC DATA ;INCREMENT DATA

204:
ENDSRV

```

L10025:
RTI

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```

5465 *****
5466 XDATA - INTERRUPT SERVICE ROUTINE
5467
5468 FUNCTION - GENERAL PURPOSE TRANSMIT INTERRUPT ROUTINE
5469
5470 ENTRY CONDITIONS
5471 START = # OF START CHARACTERS (FLAGS OR SYNCHS) TO
5472 BE SENT.
5473 TSTART= TRANSMIT START OF MESSAGE BIT/(OR BITS)
5474 HEADER= # OF HEADER CHARACTERS (8 BIT CHARACTERS) TO
5475 TRANSMIT BEFORE, SETTING THE SELECTED
5476 CHARACTER LENGTH.
5477 IPCR = IMAGE OF PCR. CHARACTER LENGTH TO SET AFTER
5478 THE HEADER CHARACTERS ARE SENT.
5479
5480 EXIT CONDITIONS
5481 XMITD = # OF DATA CHARACTERS TRANSMITTED
5482 RCOUNT= 0 (AFTER START OF MESSAGE TRANSMITTED)
5483
5484
5485 USED IN TESTS: 15-28 & 30-40 (CALLED IN SUBROUTINE #DATA)
5486
5487 *****
5488
5489 BGNSRV XDATA
5490 017340
5491 (3) 017340 XDATA::
5492 017340 005737 002414 TST START ;ANY STARTS LEFT TO SEND?
5493 017344 001426 BEQ 10# ;IF NOT, SKIP.
5494 017346 032737 000001 002434 BIT @BIT0,TSTART ;IS THIS SPECIAL START SEQUENCE.
5495 017354 001407 BEQ 2# ;IF NOT - SKIP.
5496 ;* NOTE: CERTAIN USYNRTS ONLY TRANSMIT
5497 ;* A SPECIAL START SEQUENCE WHEN
5498 ;* TRANSMIT START AND END OF MESSAGE
5499 ;* ARE SET BY A BYTE OPERATION.
5500 017356 113777 002434 162720 MOVB TSTART,BCSR7 ;SEND SPECIAL SEQUENCE START OF MESSAGE.
5501 017364 042737 000002 002434 BIC @BIT1,TSTART ;CLEAR END OF MESSAGE IN SPECIAL START
5502 017372 000403 BR 5#
5503 017374 2#
5504 017374 013777 002434 162672 MOV TSTART,@TDSR ;SEND START OF MESSAGE.
5505 017402 5#
5506 017402 005337 002414 DEC START ;DECREMENT COUNTER.
5507 017406 001040 BNE 20# ;IF NOT LAST START EXIT.
5508 017410 005037 002476 CLR XMITD ;CLEAR TRANSMIT COUNT.
5509 017414 005037 002500 CLR RCOUNT ;CLEAR RECEIVER COUNT.
5510 017420 000433 BR 20#
5511 017422 10#
5512 017422 005737 002336 TST HEADER ;IS THIS A CONTROL CHARACTER?
5513 017426 001407 BEQ 15# ;IF DONE WITH CONTROL CHAR, SET LENGTH
5514 017430 100413 BMI 16# ;AFTERWARDS - BR TO TRANSMIT
5515 017432 042777 000400 162634 BIC @TSM,@TDSR ;CLEAR START OF MESSAGE.
5516 017440 005337 002336 DEC HEADER ;DECREMENT HEADER COUNT.
5517 017444 000405 BR 16#
5518 017446 15#
5519 017446 005337 002336 DEC HEADER ;MAKE HEADER FLAG - NEGATIVE

```

CVDPVCO DPCV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 22-14
CVDPVC.P11 16-AUG-84 14:18 GLOBAL INTERRUPT HANDLING ROUTINES

```
5520 017452 153777 002342 162622      BIS      IPCR,BPCR      ;SET CHARACTER LENGTH (BOP MODE)
5521 017460                      164:      MOV      (R2),BTDSR    ;TRANSMIT A CHARACTER.
5522 017460 112277 162610                      INC      XMITD      ;INCR COUNT OF ACTUALLY SENT.
5523 017464 005237 002476                      DEC      R3          ;DECREMENT COUNTER
5524 017470 005303                      BNE      204
5525 017472 001006                      BIS      TEND,BTDSR    ;TRANSMIT END OF MESSAGE.
5526 017474 053777 002422 162572      BIC      BTXIE,BTXCSR  ;DISABLE TRANSMITTER INTERRUPT.
5527 017502 042777 000100 162562      204:
5528 017510                      ENDSRV
5529
5530 017510                      L10026:
(3) 017510
(2) 017510 000002                      RTI
5531
```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 22-15
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL INTERRUPT HANDLING ROUTINES

```

5533 ;*****
5534 ; XDATA2 - INTERRUPT SERVICE ROUTINE
5535 ;
5536 ; FUNCTION - HIGH SPEED TRANSMIT INTERRUPT ROUTINE FOR BOP MODE
5537 ;
5538 ; ENTRY CONDITIONS
5539 ; START = # OF START CHARACTERS (FLAGS OR SYNCHS) TO
5540 ; BE SENT.
5541 ;
5542 ; EXIT CONDITIONS
5543 ; XMITD = # OF DATA CHARACTERS TRANSMITTED
5544 ;
5545 ;
5546 ; USED IN TESTS: 31,38,42,43
5547 ;*****
5548 ;
5549 ;
5550 017512 BGNSRV XDATA2
5551 (3) 017512 XDATA2::
5552 017512 005737 002414 TST START ;ANY STARTS LEFT TO SEND?
5553 017516 100414 BMI 20# ;IF NEGATIVE SEND DATA
5554 017520 001406 BEQ 10# ;IF NOT, SKIP.
5555 017522 052777 000400 162544 BIS #TSM,#TDSR ;SEND SYNCH (OR FLAG)
5556 017530 005337 002414 5# DEC START ;DECREMENT COUNTER.
5557 017534 000430 BR 30#
5558 017536 10# DEC START ;MAKE THE COUNTER NEGATIVE.
5559 017536 005337 002414 BIC #TSM,#TDSR ;CLEAR START OF MESSAGE
5560 017542 042777 000400 162524 20# CMP #2,XMITD ;IS THIS THE 3RD CHARACTER.
5561 017550 022737 000002 002476 BNE 25# ;IF NOT SKIP
5562 017556 001003 MOVB IPCR,#PCR ;CHANGE THE CHARACTER LENGTH
5563 017560 113777 002342 162514 25# MOVB (R2)+,#TDSR ;TRANSMIT A CHARACTER.
5564 017566 112277 162502 INC XMITD ;INCR COUNT OF ACTUALLY SENT.
5565 017572 005237 002476 DEC R3 ;DECREMENT COUNTER
5566 017576 005303 BNE 30#
5567 017600 001006 BIS #TEOM,#TDSR ;TRANSMIT END OF MESSAGE.
5568 017602 052777 001000 162464 BIC #TXIE,#TXCSR ;DISABLE TRANSMITTER INTERRUPT.
5569 017610 042777 000100 162454 30#
5570 017616
5571
5572
5573
5574
5575 017616 ENDSRV
5576 (3) 017616 L10027:
5577 (2) 017616 000002 RTI
5578

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 22-16
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL INTERRUPT HANDLING ROUTINES

```

5580 ;*****
5581 ;       XDDCMP - INTERRUPT SERVICE ROUTINE
5582 ;
5583 ;       FUNCTION - DDCMP TRANSMIT INTERRUPT ROUTINE
5584 ;
5585 ;       ENTRY CONDITIONS
5586 ;           START = # OF START CHARACTERS (FLAGS OR SYNCHS) TO
5587 ;                   BE SENT.
5588 ;           HEADER= FLAG WHICH IS SET AFTER THE DDCMP HEADER HAS
5589 ;                   BEEN TRANSMITTED
5590 ;           DDCMP2= # OF DATA CHARACTERS IN THE DDCMP DATA MESSAGE
5591 ;
5592 ;       EXIT CONDITIONS
5593 ;           XMITD = # OF DATA CHARACTERS TRANSMITTED
5594 ;           RCOUNT= 0 (AFTER START OF MESSAGE TRANSMITTED)
5595 ;
5596 ;
5597 ;       USED IN TESTS: 41
5598 ;
5599 ;*****
5600
5601 BGNSRV  XDDCMP
5602 (3) 017620
5603
5604 XDDCMP::
5605 017620 005737 002414      TST      START      ;ANY STARTS LEFT TO SEND?
5606 017624 001413           BEQ      10$          ;IF NOT, SKIP.
5607 017626 012777 000400 162440  MOV     #TSDM, #TDSR    ;SEND START OF MESSAGE.
5608 017634 005337 002414      DEC      START      ;DECREMENT COUNTER.
5609 017640 001034           BNE      20$          ;
5610 017642 005037 002476      CLR      XMITD      ;CLEAR TRANSMIT COUNT.
5611 017646 005037 002500      CLR      RCOUNT    ;CLEAR RECEIVER COUNT.
5612 017652 000427           BR       20$
5613 017654           10$:
5614 017654 042777 001400 162412  BIC      #TEOM, #TSDR    ;CLEAR START OR END OF MESSAGE.
5615 017662 112277 162406      MOV     (R2)+, #TDSR    ;TRANSMIT A CHARACTER.
5616 017666 005237 002476      INC      XMITD      ;INCR COUNT OF ACTUALLY SENT.
5617 017672 005303           DEC      R3           ;DECREMENT COUNTER
5618 017674 001016           BNE      20$
5619 017676 052777 001000 162370  BIS      #TEOM, #TDSR    ;TRANSMIT END OF MESSAGE.
5620 017704 005737 002336      TST      HEADER     ;IS THIS THE HEADER
5621 017710 001005           BNE      15$          ;IF NOT, DISABLE THE TRANSMITTER
5622 017712 005237 002336      INC      HEADER     ;SET HEADER FLAG.
5623 017716 012703 000015      MOV     #DDCMP2, R3    ;COUNTER FOR THE MESSAGE
5624 017722 000403           BR       20$
5625 017724 042777 000100 162340 15$:
5626 017732           20$:
5627
5628 BIC      #TXIE, #TXCSR    ;DISABLE TRANSMITTER INTERRUPT.
5629 (3) 017732
5630 (2) 017732 000002
5631
5632 ENDSRV
5633
5634 L10030:
5635 RTI

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 22-17
 CVDPVC.P11 16-AUG-84 14:18 GLOBAL INTERRUPT HANDLING ROUTINES

```

5631 ;*****
5632 ;      NXM -   INTERRUPT SERVICE ROUTINE
5633 ;
5634 ;      FUNCTION - NXM INTERRUPT ROUTINE.  THIS ROUTINE IS ASSIGNED
5635 ;                  TO VECTOR 4 WHEN ADDRESSING THE DPV FOR THE FIRST
5636 ;                  TIME.  IF THIS INTERRUPT IS GENERATED THE DPV IS
5637 ;                  INCORRECTLY ADDRESSED.
5638 ;
5639 ;      ENTRY CONDITIONS
5640 ;
5641 ;      EXIT CONDITIONS
5642 ;                  NXMFLG= FLAG SET WHEN THIS INTERRUPT IS SERVICED.
5643 ;
5644 ;      USED IN TESTS:  AUTO DROP
5645 ;
5646 ;*****
5647
5648 017734 BGNSRV  NXM
5649 (3) 017734
5649
5650 017734 012737 000001 002366      MOV      #1,NXMFLG      ;SET FLAG IF MEMORY IS NON-EXISTENT.
5651
5652 017742 ENDSRV
5653 (3) 017742
5654 (2) 017742 000002
5655
5653
5654
5655
  
```

NXM::
L10031: RTI

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 22-18
CVDPVC.P11 16-AUG-84 14:18 GLOBAL INTERRUPT HANDLING ROUTINES

```
5657 ;*****
5658 ;      ILLGL - INTERRUPT SERVICE ROUTINE
5659 ;
5660 ;      FUNCTION - ILLEGAL INSTRUCTION TRAP TO VECTOR 10
5661 ;                  THIS TRAP WILL OCCUR IF THE PROCESSOR IS AN
5662 ;                  LSI 11 OR LSI 11/2.  THIS TRAP IS USED TO
5663 ;                  AUTO SIZE FOR PROCESSOR TYPE IN THE
5664 ;                  INITIALIZATION SECTION.
5665 ;
5666 ;      ENTRY CONDITIONS
5667 ;
5668 ;      EXIT CONDITIONS
5669 ;                  RO = 0
5670 ;
5671 ;      USED IN TESTS:  INIT CODE
5672 ;
5673 ;*****
5674
5675 BGNSRV  ILLGL
5676 (3) 017744
5677 017744 005000
5678
5679 017746
5680 (3) 017746
5681 (2) 017746 000002
5682
```

ILLGL::

CLR RO

ENDSRV

L10032: RTI

CVDPVCO DVPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 22-19
 CVDPVC.P11 16-AUG-84 14:18 DROP UNIT SECTION

```

5684      .SBTTL  DROP UNIT SECTION
5685
5686      ;////////////////////////////////////
5687      ;// THE DROP-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
5688      ;// TO NO LONGER BE TESTED.
5689      ;////////////////////////////////////
5690
5691      BGNDU
5692
5693      (3) 017750      L$DU::
5694      (3) 017750      BRCSET      ;ISSUE LSI-BUS RESET TO CLEAN UP
5695      (3) 017750      PRINTF  #FMDROP,LOGDEV      TRAP      C$RESET
5696      (8) 017752      013746      002354
5697      (7) 017756      012746      020000
5698      (6) 017762      012746      000002
5699      (3) 017766      010600
5700      (4) 017770      104417
5701      (4) 017772      062706      000006
5702
5703      ENDDU
5704
5705      (3) 017776
5706      (3) 017776      104453      L10033:
5707
5708      5697
5709      5698
5710      5699      020000      047045      040445      047125      FMDROP: .ASCIZ  /#AUNIT #02#A DROPPED/
5711      020006      052111      022440      031104
5712      020014      040445      042040      047522
5713      020022      050120      042105      000
5714
5715      5700      020030      .EVEN

```

CVDPVC0 DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 23
 CVDPVC.P11 16-AUG-84 14:18 TEST 1 - CSR ADDRESSING

```

5703 .SBTTL          TEST 1 - CSR ADDRESSING
5704 ;
5705 ;*****
5706 ;*          TEST 1 - DPV-11
5707 ;* VERIFY THAT ADDRESSING THE 4 LSI-BUS CSRS DOES NOT CAUSE A NON-
5708 ;* EXISTENT MEMORY TRAP.
5709 ;*
5710 ;* THE DPV IS AN COMMUNICATION DEVICE RESIDING ON A LSI-BUS.
5711 ;* COMMUNICATION BETWEEN THE MAIN CPU AND THE DPV IS ACCOMPLISHED
5712 ;* THROUGH A SET OF FOUR 16-BIT LSI-BUS CONTROL AND STATUS REGISTERS
5713 ;* (CSRS). THE FOUR REGISTERS ARE ASSIGNED ADDRESSES IN THE I/O PAGE
5714 ;* FLOATING ADDRESS SPACE: 76XXX0 - 76XXX6
5715 ;*
5716 ;* AN ERROR IN THIS TEST COULD MEAN THAT THE DEVICE IS INCORRECTLY
5717 ;* CONFIGURED, THAT THE ADDRESS IS WRONG OR THAT THE CRYSTAL CLOCK
5718 ;* ON THE DPV IS NOT WORKING. THE SHIFT REGISTER CLOCK IS NEEDED
5719 ;* FOR THE LS164 (E15) IN ORDER TO PROVIDE THE BUS REPLY (BRPLY/L ON
5720 ;* PIN AF2).
5721 ;*****
5722 BGNTEST
5723
5724          T1::
5725          SETVEC #4,#LOCATE,#PRI07 ;SET UP NON -EXISTENT MEMORY TRAP VECTOR.
5726          (7) 020030 012746 000340          MOV #PRI07,-(SP)
5727          (6) 020034 012746 020166          MOV #LOCATE,-(SP)
5728          (5) 020040 012746 000004          MOV #4,-(SP)
5729          (4) 020044 012746 000003          MOV #3,-(SP)
5730          (3) 020050 104437          TRAP C$SVEC
5731          (2) 020052 062706 000010          ADD #10,SP
5732          5725 020056 005037 002366          CLR NXMFLG          ;FLAG USED IN THE TRAP ROUTINE.
5733          5726 020062 005001          CLR R1          ;USE REGISTER TO REMEMBER WHICH OF THE
5734          ;4 CSRS WE ARE ADDRESSING.
5735 ;*****
5736 ; IF ADDRESSING ANY ONE OF THE CSRS RESULTS IN A TRAP TO VECTOR 04, THE TRAP
5737 ; WILL REPORT THE ERROR (SEE INTERRUPT ROUTINE 'LOCATE'). OTHERWISE THE
5738 ; MEMORY REFERENCE IS UNEVENTFUL AND THE DEVICE IS READY FOR FURTHER TESTS
5739 ;*****
5740          TST BCSR0          ;TEST THE CSR AT 76XXX0
5741          MOV #2,R1          ;SAVE THE OFFSET OF THE NEXT CSR
5742          TST BCSR2          ;TEST THE CSR AT 76XXX2
5743          MOV #4,R1          ;SAVE THE OFFSET OF THE NEXT CSR
5744          TST BCSR4          ;TEST THE CSR AT 76XXX4
5745          MOV #6,R1          ;SAVE THE OFFSET OF THE NEXT CSR
5746          TST BCSR6          ;TEST THE CSR AT 76XXX6
5747          TST NXMFLG          ;WAS THERE A TRAP?
5748          BEQ 10$            ;IF NOT - EXIT.
5749          PRINTX #FMT1          ;SUGGEST THE PROBLEM. (
5750          (7) 020126 012746 020350          MOV #FMT1,-(SP)
5751          (6) 020132 012746 000001          MOV #1,-(SP)
5752          (3) 020136 010600          MOV SP,R0
5753          (4) 020140 104415          TRAP C$PNTX
5754          (4) 020142 062706 000004          ADD #4,SP
5755          5745 020146          DDDU LOGDEV          ;DROP THE DEVICE
5756          (3) 020146 013700 002354          MOV LOGDEV,R0

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 23-1
 CVDPVC.P11 16-AUG-84 14:18 TEST 1 - CSR ADDRESSING

```

(3) 020152 104451
5746 020154 DOCLN ;CLEAN UP CODE - FORCE BACK TO INIT. TRAP C#D0DU
(3) 020154 104444 TRAP C#DCLN
5747
5748
5749 020156 104: CLRVEC #4 ;RETURN VECTOR 04 TO NORMAL STATE
5750 020156 MOV #4,R0
(3) 020156 012700 000004 TRAP C#CVEC
(3) 020162 104436
5751
5752 020164 ENDTST
(3) 020164 L10034: TRAP C#ETST
(3) 020164 104401
5753
5754
5755 020166 BGNSRV LOCATE ;INTERRUPT SERVICE ROUTINE
(3) 020166 LOCATE::
5756 020166 005737 002366 TST NXMFLG ;HAVE WE HAD AT LEAST 1 PREVIOUS TRAP?
5757 020172 001006 BNE 104: ;IF YES, DON'T BOTHER DECLARING ANOTHER
5758 ;DEVICE FATAL ERROR
5759 020174 ERROF 9,EMTO ;NON-EXISTENT DEVICE ERROR
(4) 020174 104455 TRAP C#EROF
(5) 020176 000011 .WORD 9
(5) 020200 020240 .WORD EMTO
(5) 020202 000000 .WORD 0
5760 020204 005237 002366 INC NXMFLG ;SET THE FLAG
5761 020210 104: PRINTX #FMT0,R1,CSRO(R1) ;PRINT THE CSR THAT DOESN'T RESPOND.
5762 020210 MOV CSRO(R1),-(SP)
(9) 020210 016146 002266 MOV R1, -(SP)
(8) 020214 010146 MOV #FMT0, -(SP)
(7) 020216 012746 020276 MOV #3, -(SP)
(6) 020222 012746 000003 MOV SP,R0
(3) 020226 010600 TRAP C#PNTX
(4) 020230 104415 ADD #10,SP
(4) 020232 062706 000010
5763 020236 ENDSRV
(3) 020236 L10035: RTI
(2) 020236 000002
5764
5765 020240 051503 020122 042101 EMT0: .ASCIZ /CSR ADDRESSING ERROR - TRAP 4/
020246 051104 051505 044523
020254 043516 042440 051122
020262 051117 026440 052040
020270 040522 020120 000064

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16 AUG-84 14:19 PAGE 23-2
CVDPVC.P11 16-AUG-84 14:18 TEST 1 - CSR ADDRESSING

5766 020276 051445 022463 041501 FMT0: .ASCIZ /#53#ACSR#D1#A AT #06#A DOES NOT RESPOND#N/

020304 051123 042045 022461

020312 020101 052101 022440

020320 033117 040445 042040

020326 042517 020123 047516

020334 020124 042522 050123

020342 047117 022504 000116

5767 020350 040445 041450 047117 FMT1: .ASCIZ /#A(CONFIGURATION ERROR OR NO BUS REPLY SIGNAL)#N2/

020356 044506 052507 040522

020364 044524 047117 042440

020372 051122 051117 020040

020400 051117 020040 047516

020406 041040 051525 051040

020414 050105 054514 051440

020422 043511 040516 024514

020430 047045 000062

5768 .EVEN

5769

5770

5771

CVDVPCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 23-3
 CVDVPC.P11 16-AUG-84 14:18 TEST 2 - DPV RESET

```

5773 .SBTTL TEST 2 - DPV RESET
5774
5775 ;*****
5776 ;* TEST 2 - DPV-11
5777 ;*
5778 ;* DPV RESET
5779 ;* RESET THE DPV AND ENSURE THAT ALL REGISTERS ARE IN THEIR
5780 ;* PROPER INITIALIZATION STATE. THE RESET IS ASYNCHRONOUS TO ALL
5781 ;* DATA SET TIMING AND ANY DATA PORT ACCESSSES. THE FOLLOWING
5782 ;* WILL BE CHECKED BY THE $RESET SUBROUTINE:
5783 ;* 1. ALL BITS IN THE DATA PORT REGISTERS ARE CLEARED.
5784 ;* 2. ALL OUTPUT INDICATORS ARE CLEARED.
5785 ;* 3. TRANSMIT BUFFER EMPTY (TBE) IS SET
5786 ;*
5787 ;* SUBTEST 1 - AFTER RESET, CHECK THAT MAINTENANCE MODE AND
5788 ;* TRANSMITTER CAN BE SET. ALSO CHECK THAT TRANSMITTER
5789 ;* BUFFER EMPTY (TBE) IS CLEARED WHEN TDSR IS ACCESSED
5790 ;* WITHOUT SETTING TRANSMITTER ENABLE.
5791 ;* SUBTEST 2 - ON THE FIRST PASS ONLY, CHECK THAT A BUS RESET, DOES
5792 ;* A DPV11 RESET.
5793 ;*
5794 ;* NOTE: DATA MODE, CTS, RR (RECEIVER READY) AND IC (INCOMING CALL)
5795 ;* ARE UNAFFECTED BY A RESET.
5796 ;*
5797 ;*****
5798 BGNTST
5799
5800 BGNSUB
5801
5802 T2::
5803 T2.1:
5804 TRAP C$BSUB
5805
5806 CALL $RESET
5807 ESCAPE TST
5808 ;RESET THE DPV
5809 ;IF ERROR, EXIT THE TEST
5810 TRAP C$ESCAPE
5811 .WORD L10036-.
5812
5813 CLR R1
5814 CLR $TDSR
5815 TST $TXCSR
5816 BNE 10$
5817 MOV $10,R1
5818 BIS R1,$TXCSR
5819 CMP R1,$TXCSR
5820 BNE 10$
5821 MOV $20,R1
5822 MOV $10,$TXCSR
5823 CMP R1,$TXCSR
5824 BNE 10$
5825 MOV $30,R1
5826 MOV $TXENH!MM,$TXCSR
5827 CMP R1,$TXCSR
5828 BNE 10$
5829 MOV $100,R1
5830 MOV $10,$TXCSR
5831 CMP R1,$TXCSR
5832 BEQ 20$
5833
5834 10$:
5835 ERRUF 10,ENG4,ERRG7
5836
5837 TRAP C$ERDF
5838
5839
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5846
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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 23-4
 CVDPVC.P11 16-AUG-84 14:18 TEST 2 - DPV RESET

(5)	020556	000012					.WORD	10
(5)	020560	013554					.WORD	EMG4
(5)	020562	007172					.WORD	ERRG7
5823	020564			204:				
5824	020564			ENDSUB				
(3)	020564					L10037:		
(3)	020564	104403				TRAP		C#ESUB
5825								
5826								
5827								
5828	020566			BGNSUB				
(3)	020566					T2.2:		
(3)	020566	104402				TRAP		C#BSUB
5829	020570	022737	000001	002314	CMP	#1,STARES		
5830	020576	001026			BNE	304		
5831	020600				BRESET			
(3)	020600	104433					TRAP	C#RESET
5832	020602				#DELAY	10		
(1)								
(1)								
(1)	020602	004737	006604		JSR	PC,#DLAY		
(1)	020606	000010				.WORD 10		
(1)								
(1)								
5833	020610	005001			CLR	R1		
5834	020612	105777	161450		TSTB	BRXCSR		
5835	020616	001012			BNE	204		
5836	020620	005777	161444		TST	BRDSR		
5837	020624	001007			BNE	204		
5838	020626	022777	000004	161436	CMP	#4,BTXCSR		
5839	020634	001003			BNE	204		
5840	020636	005777	161432		TST	BTDSR		
5841	020642	001404			BEQ	304		
5842	020644			204:				
5843	020644				ERRDF	11,EMG0,ERRG11		
(4)	020644	104455					TRAP	C#ERDF
(5)	020646	000013					.WORD	11
(5)	020650	013372					.WORD	EMG0
(5)	020652	007572					.WORD	ERRG11
5844	020654			304:				
5845	020654			ENDSUB				
(3)	020654					L10040:		
(3)	020654	104403				TRAP		C#ESUB
5846								
5847	020656			ENDTST				
(3)	020656					L10036:		
(3)	020656	104401				TRAP		C#ETST

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 24
 CVDPVC.P11 16-AUG-84 14:18 TEST 3 - CSR READ/WRITE

```

5850 .SBTTL TEST 3 - CSR READ/WRITE
5851
5852 ;*****
5853 ;* TEST 3 - DPV-11
5854 ;* WRITE/READ DATA PATTERNS
5855 ;* THIS TEST IS INTENDED TO TEST THE READ/WRITE BITS IN THE CSRS. THERE
5856 ;* IS NO INTENTION TO CHECK THE USYNR/T; IT IS DESIRED TO ONLY CHECK THE
5857 ;* READING AND WRITING OF THE CSRS. IN ALL THE SUBTESTS THE BITS ARE
5858 ;* CHECKED TOGETHER AND INDIVIDUALLY.
5859 ;* SUBTEST 1 - RXCSR (LOW BYTE CSR0)
5860 ;* CHECK BITS 0-6
5861 ;* SUBTEST 2 - PCR (HIGH BYTE CSR4)
5862 ;* CHECK BITS 0-7
5863 ;* SUBTEST 3 - TDSR (LOW BYTE OF CSR6) - TRANSMIT DATA BUFFER
5864 ;* BITS 0-7
5865 ;* SUBTEST 4 - TDSR (HIGH BYTE OF CSR6) - TRANSMIT STATUS REGISTER.
5866 ;* BITS 0-3
5867 ;* SUBTEST 5 - TDSR - CHECK BYTE OP SIGNAL FOR USYNRT
5868 ;*
5869 ;*****
5870 BGNTST
5871 (3) 020660
5872 (3) 020660 CALL #RESET T3::
5873 (3) 020664 104410 ESCAPE TST ;RESET THE DPV
5874 (3) 020666 000520 ;IF ERROR, EXIT THE TEST TRAP C#ESCAPE
5875 ;.WORD L10041-.
5876
5877 BGNSUB
5878 (3) 020670
5879 (3) 020670 104402 T3.1: TRAP C#BSUB
5880 (3) 020672 012701 000001
5881 (3) 020676 012702 000007
5882
5883 100: MOV #BIT0,R1 ;START ROTATE PATTERN
5884 BISH R1,BRXCSR ;COUNTER - WRITE INTO BITS 0-6.
5885 CMPB R1,BRXCSR
5886 BNE 200 ;WRITE BIT.
5887 ROL R1 ;IS THE BIT WRITTEN?
5888 CLRB BRXCSR ;IF NOT - REPORT IT.
5889 DEC R2 ;ROTATE THE BIT PATTERN.
5890 BNE 100 ;CLEAR REGISTER
5891 ;CONTINUE UNTIL DONE.
5892
5893 MOV #137,R1 ;WRITE ALL BITS EXCEPT MODEM CONTROL INT.
5894 ;MODEM CONTROL NOT WRITTEN BECAUSE WE DON'T
5895 ;WANT TO ACTUALLY GENERATE AN INTERRUPT.
5896
5897 MOVB R1,BRXCSR ;WRITE BITS.
5898 CMPB R1,BRXCSR ;IS THE PATTERN WRITTEN?
5899 BNE 200 ;IF NOT REPORT IT
5900 CLR R1 ;REMEMBER DATA PATTERN
5901 CLRB BRXCSR ;CLEAR THOSE BITS.
5902 TSTB BRXCSR ;ARE THOSE BITS CLEARED?
5903 BEQ 300 ;IF YES, OK.
5904
5905 200: ERROF 12,EMG4,ERRG4
5906
5907 (4) 020760 104455 TRAP C#ERDF
5908 (5) 020762 000014 .WORD 12
5909 (5) 020764 013554 .WORD EMG4

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CVDPVCO DVP11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 24-1
 CVDPVC.P11 16-AUG-84 14:18 TEST 3 - CSR READ/WRITE

(5)	020766	007072				.WORD	ERRG4
5898	020770			304:	CLRB	BRXCSR	;CLEAR THE REGISTER
5899	020770	105077	161272				
5900					ENDSUB		
5901	020774						
(3)	020774					L10042:	
(3)	020774	104403				TRAP	C#ESUB
5902							
5903					BGNSUB		
5904	020776					T3.2:	
(3)	020776					TRAP	C#BSUB
(3)	020776	104402					
5905	021000	012701	000377		MOV	#377,R1	;WRITE DATA PATTERN
5906	021004	110177	161272		MOVB	R1,SPCR	;WRITE THE PATTERN.
5907	021010	120177	161266		CMPS	R1,SPCR	;IS THE PATTERN WRITTEN?
5908	021014	001025			BNE	204	;IF NOT REPORT IT
5909	021016	005001			CLR	R1	;REMEMBER THE DATA PATTERN
5910	021020	105077	161256		CLRB	SPCR	;CLEAR THOSE BITS
5911	021024	105777	161252		TSTB	SPCR	;WERE THE BITS CLEARED?
5912	021030	001017			BNE	204	;IF NOT - REPORT IT
5913	021032	012701	000001		MOV	#BIT0,R1	;START ROTATE PATTERN
5914	021036	012702	000006		MOV	#6,R2	;ROTATE THE BIT 4 TIMES
5915	021042			104:			
5916	021042	150177	161274		BISB	R1,SPCR	;WRITE PATTERN
5917	021046	120177	161230		CMPS	R1,SPCR	;IS THE PATTERN WRITTEN?
5918	021052	001006			BNE	204	;IF NOT - REPORT IT.
5919	021054	006101			ROL	R1	;ROTATE THE PATTERN
5920	021056	105077	161220		CLRB	SPCR	;CLEAR THE PCR.
5921	021062	005302			DEC	R2	
5922	021064	001366			BNE	104	;CONTINUE UNTIL DONE.
5923	021066	000404			BR	304	;EXIT - WHEN DONE
5924	021070			204:			
5925	021070				ERRDF	13,EMG4,ERRG8	
(4)	021070	104455					TRAP
(5)	021072	000015					.WORD
(5)	021074	013554					.WORD
(5)	021076	007272					.WORD
5926	021100			304:			
5927	021100	105077	161176		CLRB	SPCR	;CLEAR THE PCR
5928							
5929	021104				ENDSUB		
(3)	021104						L10043:
(3)	021104	104403				TRAP	C#ESUB
5930							
5931	021106				BGNSUB		
(3)	021106					T3.3:	
(3)	021106	104402				TRAP	C#BSUB
5932							
5933	021110	012701	000377		MOV	#377,R1	;WRITE DATA PATTERN
5934	021114	110177	161154		MOVB	R1,STDSR	;WRITE THE PATTERN.
5935	021120	120177	161150		CMPS	R1,STDSR	;IS THE PATTERN WRITTEN?
5936	021124	001025			BNE	204	;IF NOT REPORT IT
5937	021126	005001			CLR	R1	;REMEMBER DATA PATTERN
5938	021130	105077	161140		CLRB	STDSR	;CLEAR THOSE BITS
5939	021134	105777	161134		TSTB	STDSR	;IS THE DATA CLEAR?
5940	021140	001017			BNE	204	;IF NOT - REPORT IT.

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CVDPVC0 DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 24-3
 CVDPVC.P11 16-AUG-84 14:18 TEST 3 - CSR READ/WRITE

```

5985 021324          ENDSUB
(3) 021324
(3) 021324 104403          L10045: TRAP CIESUB
5986
5987 021326          BGNSUB
(3) 021326
(3) 021326 104402          T3.5: TRAP CIBSUB
5988 021330 012777 007777 160736      MOV  #7777,BTDSR ;WRITE TO TDSR
5989 021336 105077 160742      CLR8  BCSR7 ;CLEAR ONLY THE HIGH BYTE.
5990 021342 105777 160726      TST8  BCSR6 ;SEE IF THE LOW BYTE WAS ALSO CLEARED
5991 021346 001016          BNE  104 ;IF NOT, BYTE OP IS OK.
5992 021350 012701 000377      MOV  #377,R1 ;DATA FOR ERROR PRINT OUT.
5993 021354          ERRDF  16,EMG4,ERRG9 ;PRINT ERROR
(4) 021354 104455          TRAP  CIERDF
(5) 021356 000020          .WORD 16
(5) 021360 013554          .WORD EMG4
(5) 021362 007372          .WORD ERRG9
5994 021364          PRINTX #FMG30 ;ALSO WARN THAT BYTE OP MAY BE STUCK LOW.
(7) 021364 012746 013314      MOV  #FMG30,-(SP)
(6) 021370 012746 000001      MOV  #1,-(SP)
(3) 021374 010600          MOV  SP,R0
(4) 021376 104415          TRAP  CIPNTX
(4) 021400 062706 000004      ADD   #4,SP
5995 021404          104:
5996
5997 021404          ENDSUB
(3) 021404
(3) 021404 104403          L10046: TRAP CIESUB
5998
5999 021406          ENDTST
(3) 021406
(3) 021406 104401          L10041: TRAP CLETST
6000
6001
6002

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 25
 CVDPVC.P11 16-AUG-84 14:18 TEST 4 - TRANSMIT ENABLE

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6005          .SBTTL          TEST 4 - TRANSMIT ENABLE
6006
6007          ;*****
6008          ;*          TEST 4 - DMR-11
6009          ;* TRANSMIT ENABLE/ TRANSMIT ACTIVE
6010          ;* AFTER A DEVICE RESET, SET TRANSMIT START OF MESSAGE (TSOM). ENSURE
6011          ;* THAT TRANSMIT ACTIVE (TXACT) IS SET.
6012          ;*
6013          ;* TXACT IS USED TO INDICATE THE CURRENT STATE OF THE TRANSMITTER
6014          ;* DATA PATH. THIS BIT WILL BE ASSERTED WHEN BOTH THE TRANSMITTER IS
6015          ;* ENABLED AND TSOM ARE INTERNALLY SYNCHRONIZED. TXACT WILL BE CLEARED
6016          ;* UPON RESET OR WHEN THE TRANSMITTER ENTERS THE IDLE STATE.
6017          ;*
6018          ;*****
6019          BGNTST
6020
6021          BGNSUB
6022
6023          T4::
6024
6025          T4.1:
6026          TRAP      C#BSUB
6027          .WORD
6028          L10047-.
6029
6030          CALL      $RESET
6031          ESCAPE    TST
6032          ;RESET THE DPV
6033          ;IF ERROR, EXIT THE TEST
6034
6035          TST       TURN
6036          BNE        5$
6037          BIS        #MM, @TXCSR
6038          ;TURNAROUND?
6039          ;BR IF EXTERNAL.
6040          ;SET MAINTENANCE MODE.
6041
6042          BIC        @TXENA, @TXCSR
6043          BIS        @TSOM, @TDSR
6044          WAIT       TBE
6045          ;ENABLE THE TRANSMITTER.
6046          ;TRANSMIT START OF MESSAGE.
6047          ;WAIT FOR TBE TO BE SET.
6048
6049          JSR        PC, $WAIT
6050          .WORD      TBE
6051          .WORD      TXCSR
6052          ;***** MACRO EXPANSION *****
6053          ;CALL WAIT ROUTINE -
6054          ;WAIT FOR TBE TO BE SET
6055          ;IN TRANSMITTER CSR.
6056          ;*****
6057
6058          ESCAPE    TST
6059          ;IF ERROR, BRANCH TO END OF TEST.
6060          TRAP      C#ESCAPE
6061          .WORD
6062          L10047-.
6063
6064          BIT        @TXACT, @TXCSR
6065          BNE        10$
6066          MOV        @TXCSR, R1
6067          BIS        @TXENA, R1
6068          ERDF       17, EMG5, ERG7
6069          ;IS THE TRANSMITTER ACTIVE?
6070          ;IF YES - OK.
6071          ;SAVE THE TRANSMIT STATUS
6072          ;EXPECT TXENA TO BE SET.
6073
6074          TRAP      C#ERDF
6075          .WORD
6076          17
6077          .WORD
6078          EMG5
6079          .WORD
6080          ERG7
6081
6082          BR         20$
6083          ;SKIP THE REST OF THE SUBTEST.
6084
6085          10$:
6086          CLR        @TDSR
6087          BIC        @TXENA, @TXCSR
6088          WAIT       TBE
6089          ;CLEAR TSOM
6090          ;DISABLE THE TRANSMITTER
6091          ;WAIT FOR TBE TO BE SET.

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 25-1
 CVDPVC.P11 16-AUG-84 14:18 TEST 4 - TRANSMIT ENABLE

```

(1)
(1)
(1) 021532 004737 003724      JSR      PC,$WAIT      ;***** MACRO EXPANSION *****
(1) 021536 000004              .WORD      TBE      ;CALL WAIT ROUTINE -
(1) 021540 002272              .WORD      TXCSR     ;WAIT FOR TBE TO BE SET
                                           ;IN TRANSMITTER CSR.
                                           ;*****
(1)
(1)
6043 021542              ESCAPE  TST      ;IF ERROR, BRANCH TO END OF TEST.
(3) 021542 104410              TRAP      C$ESCAPE
(3) 021544 000204              .WORD      L10047-.
6044 021546 032777 000002 160516  BIT      @TXACT,@TXCSR ;IS THE TRANSMITTER INACTIVE?
6045 021554 001406              BEQ      20$      ;IF YES - OK.
6046 021556 012701 000004      MOV      @TBE,R1    ;EXPECT ONLY TBE TO BE SET.
6047 021562              ERRDF  18,EMG6,ERRG7
(4) 021562 104455              TRAP      C$ERDF
(5) 021564 000022              .WORD      18
(5) 021566 013634              .WORD      EMG6
(5) 021570 007172              .WORD      ERRG7
6048
6049 021572              20$:
6050 021572              ESCAPE  TST      ;IF ERROR, BRANCH TO END OF TEST
(3) 021572 104410              TRAP      C$ESCAPE
(3) 021574 000154              .WORD      L10047-.
6051
6052 021576              ENDSUB
(3) 021576              L10050:
(3) 021576 104403              TRAP      C$ESUB
6053
6054
6055 021600              BGNSUB
(3) 021600              T4.2:
(3) 021600 104402              TRAP      C$BSUB
6056 021602              CALL  $RESET
6057 021606              ESCAPE  TST      ;RESET THE DPV
                                           ;IF ERROR, EXIT THE TEST
(3) 021606 104410              TRAP      C$ESCAPE
(3) 021610 000140              .WORD      L10047-.
6058 021612 005737 002306      TST      ,JRN
6059 021616 001003              BNE     5$
6060 021620 052777 000010 160444  BIS      @MM,@TXCSR ;TURNAROUND?
                                           ;BR IF EXTERNAL.
                                           ;SET MAINTENANCE MODE.
6061 021626              5$:
6062 021626 052777 000020 160436  BIS      @TXENA,@TXCSR ;ENABLE THE TRANSMITTER.
6063 021634 052777 000400 160432  BIS      @TSM,@TDSR  ;TRANSMIT START OF MESSAGE.
6064 021642              WAIT      TBE      ;WAIT FOR TBE TO BE SET.
(1)
(1)
(1) 021642 004737 003724      JSR      PC,$WAIT      ;***** MACRO EXPANSION *****
(1) 021646 000004              .WORD      TBE      ;CALL WAIT ROUTINE -
(1) 021650 002272              .WORD      TXCSR     ;WAIT FOR TBE TO BE SET
                                           ;IN TRANSMITTER CSR.
                                           ;*****
(1)
(1)
6065 021652              ESCAPE  TST      ;IF ERROR, BRANCH TO END OF TEST.
(3) 021652 104410              TRAP      C$ESCAPE
(3) 021654 000074              .WORD      L10047-.
6066 021656 032777 000002 160406  BIT      @TXACT,@TXCSR ;IS THE TRANSMITTER ACTIVE?
6067 021664 001010              BNE     10$      ;IF YES - OK.
6068 021666 017701 160400      MOV      @TXCSR,R1    ;SAVE THE TRANSMIT STATUS

```

Address	Offset	Hex	Symbol	Instruction	Comment	Trap Word	Trap Comment
6069	021672	052701	000020	BIS	#TXENA,R1		
6070	021676			ERRDF	19,EMG5,ERRG7		
	(4)	021676	104455			TRAP	C\$ERDF
	(5)	021700	000023			.WORD	19
	(5)	021702	013601			.WORD	EMG5
	(5)	021704	007172			.WORD	ERRG7
6071							
6072	021706			10\$:			
6073	021706			CALL	#RESET		
6074	021712			ESCAPE	TST		
	(3)	021712	104410				
	(3)	021714	000034			TRAP	C\$ESCAPE
6075	021716	032777	000002	160346	BIT	#TXACT,@TXCSR	
6076	021724	001406			BEQ	20\$	
6077	021726	012701	000004		MOV	#TBE,R1	
6078	021732				ERRDF	20,EMG6,ERRG7	
	(4)	021732	104455			TRAP	C\$ERDF
	(5)	021734	000024			.WORD	20
	(5)	021736	013634			.WORD	EMG6
	(5)	021740	007172			.WORD	ERRG7
6079							
6080	021742			20\$:			
6081	021742			ESCAPE	TST		
	(3)	021742	104410				
	(3)	021744	000004			TRAP	C\$ESCAPE
6082						.WORD	L10047-
6083	021746			ENDSUB			
	(3)	021746					
	(3)	021746	104403			L10051:	
6084						TRAP	C\$ESUB
6085							
6086	021750			ENDTST			
	(3)	021750					
	(3)	021750	104401			L10047:	
6087						TRAP	C\$ETST
6088							
6089							

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 25-3
 CVDPVC.P11 16-AUG 84 14:18 TEST 5 - TRANSMIT BUFFER EMPTY

```

6091 .SBTTL TEST 5 - TRANSMIT BUFFER EMPTY
6092
6093 ;*****
6094 ;* TEST 5 - DPV-11
6095 ;* TRANSMIT BUFFER EMPTY
6096 ;* VERIFY THAT TBE (TRANSMIT BUFFER EMPTY) IS ASSERTED WHENEVER
6097 ;* THE DEVICE IS RESET OR WHENEVER THE TDSR IS AVAILABLE FOR DATA.
6098 ;* TBE IS CLEARED AFTER WRITING TO THE TDSR.
6099 ;*
6100 ;*****
6101
6102 021752 BGNTEST
6103 (3) 021752
6104 021752 BGNSUB
6105 (3) 021752 104402
6106 021754 CALL $RESET ;RESET THE DPV
6107 (3) 021760 104410 ESCAPE TST ;IF ERROR, EXIT THE TEST
6108 (3) 021762 000220
6109 021764 005077 160304 CLR $TDSR ;WRITE TO THE TDSR.
6110 (2) 021770 012727 000005 DELAY 5 ;DELAY 500 MICROSECONDS. THIS WILL
6111 (2) 021774 000000
6112 (2) 021776 013727 002116
6113 (2) 022002 000000
6114 (2) 022004 005367 177772
6115 (2) 022010 001375
6116 (2) 022012 005367 177756
6117 (2) 022016 001367
6118
6119 ;US TO ENSURE THAT TBE IS NOT
6120 ;REASSERTED. BECAUSE THE TRANSMITTER
6121 ;IS IDLE, TBE SHOULD STAY LOW.
6122 ;IS TBE CLEARED?
6123 ;IF YES - OK
6124 ;SAVE THE TRANSMIT DATA/STATUS REG.
6125 ;PUT EXPECTED RESULT IN R1 FOR MSG.
6126
6127 022020 032777 000004 160244 BIT $TBE,$TXCSR
6128 022026 001410 BEQ 104
6129 022030 017701 160240 MOV $TDSR,R1
6130 022034 042701 000004 BIC $TBE,R1
6131 022040 ERROF 21,EMG7,ERRG7
6132 (4) 022040 104455
6133 (5) 022042 000025
6134 (5) 022044 013671
6135 (5) 022046 007172
6136
6137 022050 104:
6138 022050 ENDSUB
6139 (3) 022050
6140 (3) 022050 104403
6141
6142 022052 BGNSUB
6143 (3) 022052
6144 (3) 022052 104402
6145 022054 CALL $RESET ;RESET THE DPV
6146 022060 104410 ESCAPE TST ;IF ERROR, EXIT THE TEST
6147 (3) 022060 104410
6148 (3) 022062 000120

```


CVDPVC0 DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 25-5
 CVDPVC.P11 16-AUG-84 14:18 TEST 6 - TRANSMIT INTERRUPT

```

6153 .SBTTL TEST 6 - TRANSMIT INTERRUPT
6154
6155 ;*****
6156 ;* TEST 6 - DPV-11
6157 ;* TRANSMIT INTERRUPT
6158 ;* VERIFY THAT A TRANSMIT INTERRUPT IS RECEIVED WHEN TRANSMIT
6159 ;* BUFFER EMPTY (TBE) IS ASSERTED.
6160 ;*
6161 ;*****
6162 022204 BGNTST
6163 (3) 022204 T6::
6164 022204 CALL #RESET ;RESET THE DPV
6165 022210 ESCAPE TST ;IF ERROR, EXIT THE TEST
6166 022214 104410 000146 TRAP C#ESCAPE
6167 022214 005037 002424 .WORD L10055-.
6168 CLR TFLAG ;CLEAR THE FLAG USED IN THE INTERRUPT ROUTINE.
6169 SETVEC XMTVEC,#XINT,#PRI04
6170 (7) 022220 012746 000200 MOV #PRI04,-(SP)
6171 (6) 022224 012746 017232 MOV #XINT,-(SP)
6172 (5) 022230 013746 002264 MOV XMTVEC,-(SP)
6173 (4) 022234 012746 000003 MOV #3,-(SP)
6174 (3) 022240 104437 TRAP C#SVEC
6175 (2) 022242 062706 000010 ADD #10,SP
6176 022246 SETPRI #PRI00 ;SET PROCESSOR PRIORITY. FOR LSI 11/03
6177 (3) 022246 012700 000000 MOV #PRI00,R0
6178 (3) 022252 104441 TRAP C#SPRI
6179 ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
6180 ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
6181 ;LEVEL 4-7.
6182 ;SET UP INTERRUPT VECTOR
6183
6184 022254 052777 000120 160010 BIS #TXENA!TXIE,#TXCSR ;SET THE INTERRUPT ENABLE AND ENABLE
6185 022262 005000 CLR R0 ;THE TRANSMITTER.
6186 022264 005737 002424 100: TST TFLAG ;TIMER FOR LOOP
6187 022270 001006 BNE 200 ;WAS THE INTERRUPT RECEIVED?
6188 022272 005300 DEC R0 ;IF YES - OK.
6189 022274 001373 BNE 100 ;DECREMENT TIMER.
6190 022276 104455 ERDIF 23,EMG9,ERRG2 ;KEEP CHECKING UNTIL THE TIMER EXPIRES.
6191 (4) 022276 104455 TRAP C#ERDIF
6192 (5) 022300 000027 .WORD 23
6193 (5) 022302 013723 .WORD EMG9
6194 (5) 022304 006700 .WORD ERRG2
6195 022306 005037 002424 200: CLR TFLAG ;CLEAR THE FLAG
6196 022312 012777 000001 157752 MOV #RESET,#TXCSR ;RESET THE DPV
6197 022320 004737 006604 #DELAY 1 ;WAIT FOR 100 MICROSECONDS.
6198 (1) 022320 004737 006604 JSR PC,#DELAY ;***** MACRO EXPANSION *****
6199 (1) 022324 000001 .WORD 1 ;CALL DELAY SUBROUTINE
6200 ;NUMBER OF DELAY LOOPS

```

CVDPVCO DPCV11 FUNC DIAG MACY11 30A(1052) 16 AUG-84 14:19 PAGE 25-6
 CVDPVC.P11 16 AUG-84 14:18 TEST 6 - TRANSMIT INTERRUPT

```

(1)
(1)
6190 022326 005737 002334      TST      FLAG      ;*****
6191 022332 001404              BEQ      304      ;WAS AN INTERRUPT RECEIVED
6192 022334              ERDF    24,EMG10,ERRG2 ;IF NOT - OK. (RESET SHOULD CLEAR INT ENABLE)
(4) 022334 104455              ;ERROR MESSAGE - TRANSMIT INT RECEIVED
(5) 022336 000030              TRAP    C1ERDF
(5) 022340 013757              .WORD  24
(5) 022342 006700              .WORD  EMG10
6193 022344              .WORD  ERRG2
6194 022344              304:   SETPRI  #PRI07      ;SET PROCESSOR PRIORITY TO 7 (FOR
(3) 022344 012700 000340              MOV     #PRI07,R0
(3) 022350 104441              TRAP    C1SPRI
6195              ;LSI 11/03 THIS WILL DISABLE INTERRUPTS)
6196 022352              CLRVEC  XMTVEC      ;RESTORE THE XMIT INTERRUPT VECTOR
(3) 022352 013700 002264              MOV     XMTVEC,R0
(3) 022356 104436              TRAP    C1CVEC
6197              ENDTST
6198 022360              L10055:
(3) 022360              TRAP    C1ETST
(3) 022360 104401
6199
6200
6201
6202

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 26
 CVDPVC.P11 16-AUG-84 14:18 TEST 7 - RECEIVER ENABLE

```

6205 .SBTTL TEST 7 - RECEIVER ENABLE
6206
6207 ;*****
6208 ;* TEST 7 - DPV-11
6209 ;* RECEIVER ENABLE, RECEIVER ACTIVE AND RECEIVER DATA READY
6210 ;* MODE: BCP, 8 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK
6211 ;* ENABLE THE RECEIVER. AFTER TRANSMITTING A CHARACTER WAIT FOR
6212 ;* RECEIVER DATA AVAILABLE AND CHECK THAT THE RECEIVER IS ACTIVE.
6213 ;* AFTER CLEARING RECEIVER ENABLE, ENSURE THAT THE RECEIVER IS INACTIVE.
6214 ;*
6215 ;* RECEIVER ENABLE - CONTROLS THE OPERATION OF THE RECEIVER DATA PATH (RDP)
6216 ;* RECEIVER ACTIVE - THIS OUTPUT IS ASSERTED WHEN THE RDP PRESENTS THE 1ST
6217 ;* DATA CHARACTER OF A MESSAGE TO THE USYMR. IT REMAINS
6218 ;* ASSERTED UNTIL THE RDP ENTERS THE IDLE STATE..
6219 ;* RECEIVE DATA - THIS OUTPUT IS SET WHEN THE RDP HAS ASSEMBLED A DATA
6220 ;* CHARACTER THAT IS READY TO BE PRESENTED.
6221 ;*****
6222 BGNTST
6223
6224
6225
6226
6227
6228
6229
6230
6231
6232
6233
6234
6235
6236
6237
6238
6239
  
```

022362					CALL	%RESET		%RESET THE DPV			
(3)	022362				ESCAPE	TST		IF ERROR, EXIT THE TEST			
022366										TRAP	C#ESCAPE
(3)	022366	104410								.WORD	L10056--
(3)	022370	000222									
022372	012777	040252	157670		MOV	%0252,%PCSR		SET BCP MODE AND SYNCH CHARACTER.			
022400	012777	000020	157660		MOV	%RXENA,%RCSR		ENABLE THE RECEIVER.			
022406	012777	000030	157656		MOV	%TXENA,%RCSR		ENABLE THE TRANSMITTER			
022414	052777	000400	157652		BIS	%TSM,%TDSR		SELECT THE MAINTENANCE LOOPBACK.			
022422					WAIT	TBE		TRANSMIT START OF MESSAGE			
(1)								WAIT FOR TBE TO BE SET.			
(1)											
(1)	022422	004737	003724		JSR	PC,%WAIT		***** MACRO EXPANSION *****			
(1)	022426	000004				.WORD TBE		CALL WAIT ROUTINE -			
(1)	022430	002272				.WORD TXCSR		WAIT FOR TBE TO BE SET			
(1)								IN TRANSMITTER CSR.			
(1)								*****			
022432					ESCAPE	TST		IF ERROR, BRANCH TO END OF TEST.			
(3)	022432	104410								TRAP	C#ESCAPE
(3)	022434	000156								.WORD	L10056--
022436	032777	004200	157622		BIT	%RXACT,%RCSR		CHECK RECEIVER ACTIVE AND DATA READY.			
022444	001056				BNE	201		IF SET, REPORT ERROR.			
022446	052777	000400	157620		BIS	%TSM,%TDSR		RETRANSMIT START OF MESSAGE.			
022454					WAIT	TBE		WAIT FOR TBE TO BE SET.			
(1)											
(1)											
(1)	022454	004737	003724		JSR	PC,%WAIT		***** MACRO EXPANSION *****			
(1)	022460	000004				.WORD TBE		CALL WAIT ROUTINE -			
(1)	022462	002272				.WORD TXCSR		WAIT FOR TBE TO BE SET			
(1)								IN TRANSMITTER CSR.			
(1)								*****			
022464					ESCAPE	TST		IF ERROR, BRANCH TO END OF TEST.			
(3)	022464	104410								TRAP	C#ESCAPE
(3)	022466	000124								.WORD	L10056--
022470	032777	004200	157570		BIT	%RXACT,%RCSR		CHECK RECEIVER ACTIVE AND DATA READY.			
022476	001041				BNE	201		IF SET, REPORT ERROR.			

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 CVDPVC.P11 16-AUG-84 14:18 TEST 7 - RECEIVER ENABLE

```

6240 022500 012777 000123 157566      MOV    #123, @TDSR      ;TRANSMIT THE FIRST DATA CHARACTER.
6241 022506                      WAIT    RDATRY      ;WAIT FOR RECEIVE DATA.
(1)
(1)
(1) 022506 004737 003724      JSR     PC, @WAIT      ;***** MACRO EXPANSION *****
(1) 022512 000200              .WORD    RDATRY      ;CALL WAIT ROUTINE -
(1) 022514 002266              .WORD    RXCSR      ;WAIT FOR BIT TO BE SET
(1)                                ;IN RECEIVER CSR.
(1)                                ;*****
(1)
6242 022516                      ESCAPE  TST          ;IF ERROR, BRANCH TO END OF TEST.
(3) 022516 104410                      TRAP    C$ESCAPE
(3) 022520 000072                      .WORD    L10056-.
6243 022522 032777 004000 157536      BIT     @RXACT, @RXCSR      ;IS THE RECEIVER ACTIVE?
6244 022530 001005                      BNE     10$              ;IF YES - OK.
6245 022532                      ERDF    25, EMG12, ERRG2
(4) 022532 104455                      TRAP    C$ERDF
(5) 022534 000031                      .WORD    25
(5) 022536 014062                      .WORD    EMG12
(5) 022540 006700                      .WORD    ERRG2
6246 022542 000423                      BR      30$
6247 022544                      10$:
6248 022544 042777 000020 157514      BIC     @RXENA, @RXCSR      ;DISABLE THE RECEIVER
6249 022552                      $DELAY  4              ;DELAY TO ALLOW DISABLE.
(1)
(1)
(1) 022552 004737 006604      JSR     PC, $DELAY          ;***** MACRO EXPANSION *****
(1) 022556 000004              .WORD    4              ;CALL DELAY SUBROUTINE
(1)                                ;NUMBER OF DELAY LOOPS
(1)                                ;*****
6250 022560 032777 004200 157500      BIT     @RXACT!RDATRY, @RXCSR ;CHECK RECEIVER ACTIVE AND DATA READY.
6251 022566 001411                      BEQ     30$              ;IF CLEAR OK
6252 022570                      ERDF    26, EMG13, ERRG2
(4) 022570 104455                      TRAP    C$ERDF
(5) 022572 000032                      .WORD    26
(5) 022574 014106                      .WORD    EMG13
(5) 022576 006700                      .WORD    ERRG2
6253 022600 000404                      BR      30$
6254 022602                      20$:
6255 022602                      ERDF    27, EMG14, ERRG2
(4) 022602 104455                      TRAP    C$ERDF
(5) 022604 000033                      .WORD    27
(5) 022606 014167                      .WORD    EMG14
(5) 022610 006700                      .WORD    ERRG2
6256 022612                      30$:
6257                      ENDTST
6258 022612                      L10056:
(3) 022612                      TRAP    C$ETST
(3) 022612 104401
6259
6260
6261

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 26-2
 CVDPVC.P11 16-AUG-84 14:18 TEST 8 - RECEIVE DATA INTERRUPT

```

6263 .SBTTL TEST 8 - RECEIVE DATA INTERRUPT
6264
6265 ;*****
6266 ;* TEST 8 - DPV-11
6267 ;* RECEIVE DATA INTERRUPT
6268 ;* MODE: BCP, 8 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK
6269 ;* ENABLE THE RECEIVER AND SET RECEIVER INTERRUPT. TRANSMIT DATA.
6270 ;* CHECK THAT THE RECEIVE INTERRUPT WAS GENERATED. AFTER THE INTERRUPT
6271 ;* WAS GENERATED DISABLE THE RECEIVER. CHECK THAT THE RECEIVER BECOMES
6272 ;* INACTIVE.
6273 ;*
6274 ;*****
6275 BGNTST
6276
6277
6278 CALL $RESET ;RESET THE DPV
6279 ESCAPE TST ;IF ERROR, EXIT THE TEST
6280
6281 CLR TFLAG ;CLEAR FLAGS USED IN THE INTERRUPT ROUTINES.
6282 CLR RFLAG ;
6283 CLR MCFLAG ;CLEAR MODEM CONTROL FLAG.
6284 MOV #2, START ;SEND 2 START CHARACTERS.
6285
6286 SETVEC XMTVEC, #XINT, #PRI04
6287
6288 MOV #PRI04, -(SP)
6289 MOV #XINT, -(SP)
6290 MOV XMTVEC, -(SP)
6291 MOV #3, -(SP)
6292 TRAP C$SVEC
6293 ADD #10, SP
6294
6295 SETVEC RCVEC, #RINT, #PRI04
6296
6297 MOV #PRI04, -(SP)
6298 MOV #RINT, -(SP)
6299 MOV RCVEC, -(SP)
6300 MOV #3, -(SP)
6301 TRAP C$SVEC
6302 ADD #10, SP
6303
6304 SETPRI #PRI00 ;SET PROCESSOR PRIORITY. FOR LSI 11/03
6305
6306 MOV #PRI00, R0
6307 TRAP C$SPRI
6308
6309 ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
6310 ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
6311 ;LEVEL 4-7.
6312 ;SET UP INTERRUPT VECTOR
6313
6314 MOV #40252, #PCSR ;SET BCP MODE AND SYNCH CHARACTER.
6315 MOV #RXENA!RXITEN, #RXCSR ;ENABLE THE RECEIVER AND SET
6316 ;SET INTERRUPT ENABLE.
6317 MOV #TXIE!TXENA!MM, #TXCSR ;ENABLE THE XMITTER AND INT.
6318 ;SELECT THE MAINTENANCE LOOPBACK.
6319
6320 CLR R3 ;CLEAR COUNTER
6321
6322 56: BIT #1, RFLAG ;WAS DATA RECEIVED

```

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 CVDPVC.P11 16-AUG-84 14:18 TEST 8 - RECEIVE DATA INTERRUPT

```

6302 022762 001007      BNE      104      ;IF YES - OK.
6303 022764 005303      DEC      R3        ;DECREMENT COUNTER.
6304 022766 001372      BNE      54
6305
6306 022770      ERRDF      28,EMG15,ERRG2
(4) 022770 104455
(5) 022772 000034      TRAP      C1ERRDF
(5) 022774 014243      .WORD      28
(5) 022776 006700      .WORD      EMG15
6307 023000 000430      .WORD      ERRG2
6308 023002
6309 023002 042777 000020 157256 104: BIC      #RXENA,#RXCSR ;DISABLE THE RECEIVER
6310 023010 005037 002376      CLR      RFLAG ;CLEAR THE FLAG.
6311 023014      #DELAY      5 ;DELAY TO ALLOW DISABLE.
(1)
(1)
(1) 023014 004737 006604      JSR      PC,#DLAY ;***** MACRO EXPANSION *****
(1) 023020 000005      .WORD      5 ;CALL DELAY SUBROUTINE
(1) ;NUMBER OF DELAY LOOPS
(1) ;*****
6312 023022 005737 002376      TST      RFLAG ;WAS AN INTERRUPT RECEIVED?
6313 023026 001011      BNE      204      ;IF YES - REPORT ERROR.
6314 023030 032777 004200 157230      BIT      #RXACT!RDATRY,#RXCSR ;CHECK RECEIVER ACTIVE AND DATA READY.
6315 023036 001411      BEQ      304      ;IF CLEAR OK
6316 023040      ERRDF      29,EMG13,ERRG2
(4) 023040 104455      TRAP      C1ERRDF
(5) 023042 000035      .WORD      29
(5) 023044 014106      .WORD      EMG13
(5) 023046 006700      .WORD      ERRG2
6317 023050 000404
6318 023052      BR      304
6319 023052 204:      ERRDF      30,EMG16,ERRG2
(4) 023052 104455      TRAP      C1ERRDF
(5) 023054 000036      .WORD      30
(5) 023056 014276      .WORD      EMG16
(5) 023060 006700      .WORD      ERRG2
6320 023062      BR      304
6321 023062
6322 023066      CALL      #RESET ;RESET THE DPV.
(3) 023066 012700 000340      SETPRI   #PRI07 ;SET THE PROCESSOR PRI TO 7
(3) 023072 104441      MOV      #PRI07,R0
6323      TRAP      C1SPRI
6324 023074      CLAVEC   RCVEC ;(THIS WILL DISABLE INTERRUPTS)
(3) 023074 013700 002262      ;RESTORE THE RECV. VECTOR
(3) 023100 104436      MOV      RCVEC,R0
6325 023102      CLAVEC   XMTVEC ;RESTORE THE XMIT. VECTOR
(3) 023102 013700 002264      MOV      XMTVEC,R0
(3) 023106 104436      TRAP      C1CVEC
6326
6327 023110      ENDTST
(3) 023110
(3) 023110 104401      L10057: TRAP      C1ETST
6328
6329
6330

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 26-4
 CVDPVC.P11 16-AUG-84 14:18 TEST 9 - RECEIVER STATUS

```

6332 .SBTTL TEST 9 - RECEIVER STATUS
6333
6334 ;*****
6335 ;* TEST 9 - DPV-11
6336 ;* THERE ARE 3 SUBTESTS IN THIS TEST WHICH ARE INTENDED TO CHECK
6337 ;* RECEIVER STATUS.
6338 ;* SUBTEST 1 - REOM (RECEIVE END OF MESSAGE)
6339 ;* THIS SUBTEST WILL TRANSMIT A DATA MESSAGE THAT IS
6340 ;* ENDED WITH A TEOM (TRANSMIT END OF MESSAGE). A
6341 ;* CHECK WILL BE MADE THAT THE RECEIVER GETS THE DATA
6342 ;* AND THAT THE REOM IS RECEIVED WHEN RECEIVE
6343 ;* STATUS IS AVAILABLE.
6344 ;*
6345 ;* SUBTEST 2 - RECEIVER OVERRUN
6346 ;* THIS SUBTEST WILL TRANSMIT DATA CORRECTLY. THE
6347 ;* RECEIVER AFTER BECOMING ACTIVE WILL NOT SERVICE
6348 ;* THE RECEIVE BUFFER CORRECTLY. THIS SHOULD RESULT IN
6349 ;* A RECEIVE OVERRUN. THIS SUBTEST WILL ENSURE THAT
6350 ;* WHEN RECEIVE STATUS IS AVAILABLE, THE RECEIVER OVERRUN
6351 ;* IS SET.
6352 ;*
6353 ;* SUBTEST 3 - RECEIVER ABORT
6354 ;* THIS SUBTEST WILL TRANSMIT A DATA MESSAGE THAT IS ENDED
6355 ;* WITH A TRANSMIT ABORT. THE SUBTEST WILL ENSURE THAT
6356 ;* RECEIVE STATUS AVAILABLE IS RECEIVED AND THAT THE
6357 ;* ABORT IS RECEIVED.
6358 ;*
6359 ;*****
6360 BGNTST
6361
6362 BGNSUB
6363
6364 T9.:
6365
6366 T9.1:
6367
6368 TRAP C#BSUB
6369
6370 TRAP C#ESCAPE
6371 .WORD L10060-.
6372
6373 CLR TFLAG ;CLEAR TRANSMIT INTERRUPT FLAG.
6374 MOV #1,START ;# OF START OF MESSAGES.
6375
6376 SETVEC XMTVEC,#XINT,#PRI04
6377
6378 MOV #PRI04,-(SP)
6379 MOV #XINT,-(SP)
6380 MOV XMTVEC,-(SP)
6381 MOV #3,-(SP)
6382 TRAP C#SVEC
6383 ADD #10,SP
6384
6385 SETPRI #PRI00 ;SET PROCESSOR PRIORITY. FOR LSI 11/03
6386
6387 MOV #PRI00,R0
6388 TRAP C#SPRI
6389
6390 ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
6391 ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
6392 ;LEVEL 4-7.
6393 ;SET UP INTERRUPT VECTOR
6394

```

CVDPCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 26-5
 CVDPC.P11 16-AUG-84 14:18 TEST 9 - RECEIVER STATUS

6375	023172	05277	000130	157072	BIS	#TXIE!TXENA!MM, #TXCSR	;ENABLE THE TRANSMITTER AND SELECT		
6376							;MAINTENANCE MODE LOOPBACK.		
6377	023200	052777	000020	157060	BIS	#RXENA, #RXCSR	;ENABLE THE RECEIVER		
6378									
6379	023206	005003			CLR	R3	;INITIALIZE THE COUNTER		
6380	023210								
6381	023210	032777	004000	157050	54:	BIT	#RXACT, #RXCSR	;IS THE RECEIVER ACTIVE?	
6382	023216	001007			BNE	104	;BR IF YES		
6383	023220	005303			DEC	R3	;DECREMENT THE COUNTER		
6384	023222	001372			BNE	54			
6385	023224				ERRDF	31, EMG12, ERRG2			
(4)	023224	104455						TRAP	C#ERDF
(5)	023226	000037						.WORD	31
(5)	023230	014062						.WORD	EMG12
(5)	023232	006700						.WORD	ERRG2
6386	023234	000444			BR	454			
6387	023236				104:				
6388	023236	005003			CLR	R3	;INITIALIZE THE COUNTER.		
6389	023240				124:				
6390	023240	032777	002200	157020	BIT	#RSTARY!RDATRY, #RXCSR	;IS DATA OR STATUS READY?		
6391	023246	001407			BEQ	154	;BR IF NOT		
6392	023250	017737	157014	002400	MOV	#RDSR, RSAVE	;SAVE THE CHARACTER		
6393	023256	032737	001000	002400	BIT	#REOM, RSAVE	;WAS THE RECEIVE END OF MESSAGE RECEIVED?		
6394	023264	001007			BNE	204			
6395	023266				154:				
6396	023266	005303			DEC	R3	;DECREMENT THE COUNTER		
6397	023270	001363			BNE	124			
6398	023272				ERRDF	32, EMG17, ERRG2			
(4)	023272	104455						TRAP	C#ERDF
(5)	023274	000040						.WORD	32
(5)	023276	014345						.WORD	EMG17
(5)	023300	006700						.WORD	ERRG2
6399	023302	000421			BR	454			
6400	023304				204:				
6401	023304	032777	002000	156754	BIT	#RSTARY, #RXCSR	;IS THE STATUS DROPPED?		
6402	023312	001405			BEQ	254			
6403	023314				ERRDF	33, EMG18, ERRG2			
(4)	023314	104455						TRAP	C#ERDF
(5)	023316	000041						.WORD	33
(5)	023320	014405						.WORD	EMG18
(5)	023322	006700						.WORD	ERRG2
6404	023324	000410			BR	454			
6405	023326				254:				
6406	023326	032777	004000	156732	BIT	#RXACT, #RXCSR	;IS THE RECEIVER INACTIVE?		
6407	023334	001404			BEQ	454	;BR IF YES		
6408	023336				ERRDF	34, EMG11, ERRG2			
(4)	023336	104455						TRAP	C#ERDF
(5)	023340	000042						.WORD	34
(5)	023342	014031						.WORD	EMG11
(5)	023344	006700						.WORD	ERRG2
6409									
6410	023346				454:				
6411									
6412	023346				ENDSUB				
(3)	023346							L10061:	
(3)	023346	104403						TRAP	C#ESUB

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 CVDPVC.P11 16-AUG-84 14:18 TEST 9 - RECEIVER STATUS

```

6413
6414 023350          BGNSUB
(3) 023350
(3) 023350 104402
6415 023352          CALL #RESET      ;RESET THE DPV
6416 023356          ESCAPE TST        ;IF ERROR, EXIT THE TEST
(3) 023356 104410          TRAP      C#BSUB
(3) 023360 000536          .WORD      C#ESCAPE
6417                                L10060-.
6418 023362 005037 002424          CLR      TFLAG      ;CLEAR TRANSMIT INTERRUPT FLAG.
6419 023366 012737 000001 002414  MOV      #1,START ;# OF START OF MESSAGES.
6420
6421 023374          SETVEC XMTVEC,#XINT,#PRI04
(7) 023374 012746 000200          MOV      #PRI04,-(SP)
(6) 023400 012746 017232          MOV      #XINT,-(SP)
(5) 023404 013746 002264          MOV      XMTVEC,-(SP)
(4) 023410 012746 000003          MOV      #3,-(SP)
(3) 023414 104437          TRAP      C#SVEC
(2) 023416 062706 000010          ADD      #10,SP
6422 023422          SETPRI #PRI00      ;SET PROCESSOR PRIORITY. FOR LSI 11/03
(3) 023422 012700 000000          MOV      #PRI00,R0
(3) 023426 104441          TRAP      C#SPRI
6423                                ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
6424                                ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
6425                                ;LEVEL 4-7.
6426                                ;SET UP INTERRUPT VECTOR
6427
6428 023430 052777 000130 156634  BIS      #TXIE!TXENA!MM,#TXCSR ;ENABLE THE TRANSMITTER AND SELECT
6429                                ;MAINTENANCE MODE LOOPBACK.
6430 023436 052777 000020 156622  BIS      #RXENA,#RXCSR ;ENABLE THE RECEIVER
6431
6432 023444 005003          CLR      R3      ;INITIALIZE THE COUNTER
6433 023446
6434 023446 032777 004000 156612  5$: BIT      #RXACT,#RXCSR ;IS THE RECEIVER ACTIVE?
6435 023454 001007          BNE      10$      ;BR IF YES
6436 023456 005303          DEC      R3      ;DECREMENT THE COUNTER
6437 023460 001372          BNE      5$
6438 023462          ERDF      35,EMG12,ERRG2
(4) 023462 104455          TRAP      C#ERDF
(5) 023464 000043          .WORD      35
(5) 023466 014062          .WORD      EMG12
(5) 023470 006700          .WORD      ERRG2
6439 023472 000464
6440 023474          BR      55$
6441 023474 005003          10$: CLR      R3      ;INITIALIZE THE COUNTER.
6442 023476          12$:
6443 023476 032777 002000 156562  BIT      #RSTARY,#RXCSR ;IS THE STATUS READY?
6444 023504 001007          BNE      20$
6445 023506 005303          DEC      R3      ;DECREMENT THE COUNTER
6446 023510 001372          BNE      12$
6447
6448 023512          ERDF      36,EMG1,ERRG2 ;TIME OUT
(4) 023512 104455          TRAP      C#ERDF
(5) 023514 000044          .WORD      36
(5) 023516 013462          .WORD      EMG1
(5) 023520 006700          .WORD      ERRG2

```

CVDPVCO DPCV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 26-7
 CVDPVC.P11 16-AUG-84 14:18 TEST 9 - RECEIVER STATUS

```

6449 023522 000450          BR      55$
6450
6451 023524          20$:
6452
6453 023524 032777 004000 156536  BIT      #ROVER, BRDSR      ;WAS THE RECEIVE OVERRUN RECEIVED?
6454 023532 001005          BNE      40$      ;IF YES OK.
6455 023534          ERDF      37, EMG19, ERRG2
        (4) 023534 104455          TRAP      C$ERDF
        (5) 023536 000045          .WORD      37
        (5) 023540 014434          .WORD      EMG19
        (5) 023542 006700          .WORD      ERRG2
6456 023544 000437          BR      55$
6457 023546          40$:
6458
6459 023546 032777 002000 156512  BIT      #RSTARY, BRXCSR      ;WAS THE STATUS CLEARED
6460 023554 001405          BEQ      42$      ;IF YES OK
6461 023556          ERDF      38, EMG18, ERRG2
        (4) 023556 104455          TRAP      C$ERDF
        (5) 023560 000046          .WORD      38
        (5) 023562 014405          .WORD      EMG18
        (5) 023564 006700          .WORD      ERRG2
6462 023566 000426          BR      55$
6463 023570          42$:
6464 023570 032777 002000 156470  BIT      #RSTARY, BRXCSR      ;IS THE STATUS READY?
6465 023576 001007          BNE      47$
6466 023600 005303          DEC      R3      ;DECREMENT THE COUNTER
6467 023602 001372          BNE      42$
6468
6469 023604          ERDF      39, EMG1, ERRG2      ;TIME OUT
        (4) 023604 104455          TRAP      C$ERDF
        (5) 023606 000047          .WORD      39
        (5) 023610 013462          .WORD      EMG1
        (5) 023612 006700          .WORD      ERRG2
6470 023614 000413          BR      55$
6471
6472
6473 023616          47$:
6474 023616 042777 000020 156442  BIC      #RXENA, BRXCSR      ;DISABLE THE RECEIVER.
6475
6476 023624 032777 002000 156434  BIT      #RSTARY, BRXCSR      ;IS THE STATUS DROPPED?
6477 023632 001404          BEQ      55$
6478 023634          50$:
6479 023634          ERDF      40, EMG18, ERRG2
        (4) 023634 104455          TRAP      C$ERDF
        (5) 023636 000050          .WORD      40
        (5) 023640 014405          .WORD      EMG18
        (5) 023642 006700          .WORD      ERRG2
6480 023644          55$:
6481
6482 023644          ENDSUB
        (3) 023644          L10062:
        (3) 023644 104403          TRAP      C$ESUB
6483
6484
6485
6486 023646          BGNSUB

```

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 CVDPVC.P11 16-AUG-84 14:18 TEST 9 - RECEIVER STATUS

```

(3) 023646
(3) 023646 104402
6487 023650
6488 023654
(3) 023654 104410
(3) 023656 000240
6489 023660 005037 002424
6490 023664 012737 000001 002414
6491 023672 012737 000001 002316
6492
6493 023700
(7) 023700 012746 000200
(6) 023704 012746 017232
(5) 023710 013746 002264
(4) 023714 012746 000003
(3) 023720 104437
(2) 023722 062706 000010
6494 023726
(3) 023726 012700 000000
(3) 023732 104441
6495
6496
6497
6498
6499
6500 023734 052777 000130 156330
6501
6502 023742 052777 000020 156316
6503
6504 023750 005003
6505 023752
6506 023752 032777 004000 156306
6507 023760 001007
6508 023762 005303
6509 023764 001372
6510 023766
(4) 023766 104455
(5) 023770 000051
(5) 023772 014062
(5) 023774 006700
6511 023776 000444
6512 024000
6513 024000 005003
6514 024002
6515 024002 032777 002000 156256
6516 024010 001016
6517 024012 032777 000200 156246
6518 024020 001403
6519 024022
(1)
(1)
(1) 024022 004737 006604
(1) 024026 000005
(1)
(1)
6520 024030

```

T9.3: TRAP C#BSUB
 CALL #RESET ;RESET THE DPV
 ESCAPE TST ;IF ERROR, EXIT THE TEST
 TRAP C#ESCAPE
 .WORD L10060-.
 CLR TFLAG ;CLEAR TRANSMIT INTERRUPT FLAG.
 MOV #1,START ;# OF START OF MESSAGES.
 MOV #1,ABORT ;SEND AN ABORT
 SETVEC XMTVEC,#XINT,#PRI04
 MOV #PRI04,-(SP)
 MOV #XINT,-(SP)
 MOV XMTVEC,-(SP)
 MOV #3,-(SP)
 TRAP C#SVEC
 ADD #10,SP
 SETPRI #PRI00 ;SET PROCESSOR PRIORITY. FOR LSI 11/03
 MOV #PRI00,R0
 TRAP C#SPRI
 ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
 ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
 ;LEVEL 4-7.
 ;SET UP INTERRUPT VECTOR
 BIS #TXIE!TXENA!MM,STXCSR ;ENABLE THE TRANSMITTER AND SELECT
 ;MAINTENANCE MODE LOOPBACK.
 BIS #RXENA,SRXCSR ;ENABLE THE RECEIVER
 CLR R3 ;INITIALIZE THE COUNTER
 5: BIT #RXACT,SRXCSR ;IS THE RECEIVER ACTIVE?
 BNE 10: ;BR IF YES
 DEC R3 ;DECREMENT THE COUNTER
 BNE 5:
 ERROF 41,EMG12,ERRG2
 TRAP C#EROF
 .WORD 41
 .WORD EMG12
 .WORD ERRG2
 BR 45:
 10: CLR R3 ;INITIALIZE THE COUNTER.
 12: BIT #RSTARY,SRXCSR ;IS THE STATUS READY?
 BNE 20:
 BIT #RDATRY,SRXCSR
 BEQ 15:
 #DELAY 5 ;DELAY .5 MSEC.
 ;***** MACRO EXPANSION *****
 JSR PC,#DLAY ;CALL DELAY SUBROUTINE
 .WORD 5 ;NUMBER OF DELAY LOOPS
 ;*****
 15:

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[illegible]

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 26-10
 CVDPVC.P11 16-AUG-84 14:18 TEST 10 - RECEIVE STATUS INTERRUPT

```

6547 .SBTTL TEST 10 - RECEIVE STATUS INTERRUPT
6548
6549 ;*****
6550 ;* TEST 10 - DPV-11
6551 ;* THIS TEST WILL ENSURE THAT INTERRUPTS MAY BE GENERATED WHEN
6552 ;* RECEIVE STATUS IS AVAILABLE. EACH OF THE FOLLOWING SUBTESTS
6553 ;* WILL GENERATE THE STATUS AS FOLLOWS:
6554 ;* SUBTEST 1 - REOM
6555 ;* SUBTEST 2 - RECEIVER OVERRUN
6556 ;* SUBTEST 3 - RECEIVER ABORT
6557 ;*
6558 ;*****
6559 BGNTST
6560
6561
6562 BGNSUB
6563
6564
6565
6566
6567
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6569
6570
6571
6572
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6582
6583

```

(3) 024120
 (3) 024120
 (3) 024120 104402
 (3) 024122
 (3) 024126 104410
 (3) 024130 001102
 (7) 024154 012746 000200
 (6) 024160 012746 017232
 (5) 024164 013746 002264
 (4) 024170 012746 000003
 (3) 024174 104437
 (2) 024176 062706 000010
 (7) 024202 012746 000200
 (6) 024206 012746 016602
 (5) 024212 013746 002262
 (4) 024216 012746 000003
 (3) 024222 104437
 (2) 024224 062706 000010
 (3) 024230 012700 000000
 (3) 024234 104441
 024236 052777 000130 156026
 024244 052777 000120 156014
 024252 005003
 024254

CALL \$RESET ;RESET THE DPV
 ESCAPE TST ;IF ERROR, EXIT THE TEST
 CLR RFLAG ;CLEAR RECEIVE INTERRUPT
 CLR TFLAG ;CLEAR TRANSMIT INTERRUPT FLAG.
 CLR MCFLAG ;CLEAR MODEM CONTROL FLAG.
 MOV #1,START ;# OF START OF MESSAGES.
 SETVEC XMTVEC,#XINT,#PRI04
 SETVEC RCVEC,#RINT,#PRI04
 SETPRI #PRI00 ;SET PROCESSOR PRIORITY. FOR LSI 11/03
 BIS #TXIE!TXENA!MM,#TXCSR ;ENABLE THE TRANSMITTER AND SELECT
 ;MAINTENANCE MODE LOOPBACK.
 BIS #RXITEN!RXENA,#RXCSR ;ENABLE THE RECEIVER
 CLR R3 ;INITIALIZE THE COUNTER

T10::
 T10.1:
 TRAP C#BSUB
 TRAP C#ESCAPE
 .WORD L10064-.
 MOV #PRI04,-(SP)
 MOV #XINT,-(SP)
 MOV XMTVEC,-(SP)
 MOV #3,-(SP)
 TRAP C#SVEC
 ADD #10,SP
 MOV #PRI04,-(SP)
 MOV #RINT,-(SP)
 MOV RCVEC,-(SP)
 MOV #3,-(SP)
 TRAP C#SVEC
 ADD #10,SP
 MOV #PRI00,R0
 TRAP C#SPRI
 ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
 ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
 ;LEVEL 4-7.
 ;SET UP INTERRUPT VECTOR

54:

Address	Instruction	Op-Code	Register	Comment	Trap	Condition
6584	024254	032777	004000	156004		
6585	024262	001007				
6586	024264	005303				
6587	024266	001372				
6588	024270					
(4)	024270	104455			TRAP	C1ERDF
(5)	024272	000055			.WORD	45
(5)	024274	014062			.WORD	EMG12
(5)	024276	006700			.WORD	ERRG2
6589	024300	000434				
6590	024302		101:			
6591	024302	005003				
6592	024304		121:			
6593	024304	032737	000002	002376		
6594	024312	001007				
6595	024314	005303				
6596	024316	001372				
6597	024320					
(4)	024320	104455			TRAP	C1ERDF
(5)	024322	000056			.WORD	46
(5)	024324	014514			.WORD	EMG21
(5)	024326	006700			.WORD	ERRG2
6598	024330	000420				
6599						
6600	024332					
6601	024332	032737	001000	002400		
6602	024340	001004				
6603	024342					
(4)	024342	104455			TRAP	C1ERDF
(5)	024344	000057			.WORD	47
(5)	024346	014345			.WORD	EMG17
(5)	024350	006700			.WORD	ERRG2
6604	024352					
6605	024352	032777	002000	155706		
6606	024360	001404				
6607	024362					
(4)	024362	104455			TRAP	C1ERDF
(5)	024364	000060			.WORD	48
(5)	024366	014405			.WORD	EMG18
(5)	024370	006700			.WORD	ERRG2
6608	024372					
6609	024372					
(3)	024372	012700	000340		MOV	@PRI07,RO
(3)	024376	104441			TRAP	C1SPRI
6610						
6611	024400					
(3)	024400	013700	002262		MOV	RCVEC,RO
(3)	024404	104436			TRAP	C1CVEC
6612	024406					
(3)	024406	013700	002264		MOV	XMTVEC,RO
(3)	024412	104436			TRAP	C1CVEC
6613						
6614	024414					
(3)	024414					
(3)	024414	104403			TRAP	C1ESUB
6615						

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 CVDPVC.P11 16-AUG-84 14:18 TEST 10 - RECEIVE STATUS INTERRUPT

```

6616 024416          BGNSUB
(3) 024416          T10.2:
(3) 024416 104402          TRAP      C1BSUB
6617 024420          CALL  $RESET      ;RESET THE DPV
6618 024424          ESCAPE TST        ;IF ERROR, EXIT THE TEST
(3) 024424 104410          TRAP      C1ESCAPE
(3) 024426 000604          .WORD     L10064-.
6619
6620 024430 005037 002376      CLR      RFLAG      ;CLEAR RECEIVE INTERRUPT
6621 024434 005037 002424      CLR      TFLAG      ;CLEAR TRANSMIT INTERRUPT FLAG.
6622 024440 005037 002360      CLR      MCFLAG     ;CLEAR MODEM CONTROL FLAG.
6623 024444 012737 000001 002414  MOV     $1,START  ;$ OF START OF MESSAGES.
6624 024452 012737 000001 002370  MOV     $1,OVER   ;FLAG TO CREATE RECEIVE OVERRUN.
6625
6626 024460          SETVEC  XMTVEC,$XINT,$PRI04
(7) 024460 012746 000200          MOV     $PRI04,-(SP)
(6) 024464 012746 017232          MOV     $XINT,-(SP)
(5) 024470 013746 002264          MOV     XMTVEC,-(SP)
(4) 024474 012746 000003          MOV     $3,-(SP)
(3) 024500 104437          TRAP      C1SVEC
(2) 024502 062706 000010          ADD     $10,SP
6627 024506          SETVEC  RCVEC,$RINT,$PRI04
(7) 024506 012746 000200          MOV     $PRI04,-(SP)
(6) 024512 012746 016602          MOV     $RINT,-(SP)
(5) 024516 013746 002262          MOV     RCVEC,-(SP)
(4) 024522 012746 000003          MOV     $3,-(SP)
(3) 024526 104437          TRAP      C1SVEC
(2) 024530 062706 000010          ADD     $10,SP
6628 024534          SETPRI  $PRI00      ;SET PROCESSOR PRIORITY. FOR LSI 11/03
(3) 024534 012700 000000          MOV     $PRI00,R0
(3) 024540 104441          TRAP      C1SPRI
6629          ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
6630          ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
6631          ;LEVEL 4-7.
6632          ;SET UP INTERRUPT VECTOR
6633
6634 024542 052777 000130 155522  BIS     $TXIE!TXENA!MM,$TXCSR ;ENABLE THE TRANSMITTER AND SELECT
6635          ;MAINTENANCE MODE LOOPBACK.
6636 024550 052777 000120 155510  BIS     $RXITEN!RXENA,$RXCSR ;ENABLE THE RECEIVER
6637
6638 024556 005003          CLR      R3          ;INITIALIZE THE COUNTER
6639 024560          S1:
6640 024560 032777 004000 155500  BIT     $RXACT,$RXCSR ;IS THE RECEIVER ACTIVE?
6641 024566 001007          BNE     10$      ;BR IF YES
6642 024570 005303          DEC     R3          ;DECREMENT THE COUNTER
6643 024572 001372          BNE     S1
6644 024574          ERROF  49,EMG12,ERRG2
(4) 024574 104455          TRAP      C1ERDF
(5) 024576 000061          .WORD     49
(5) 024600 014062          .WORD     EMG12
(5) 024602 006700          .WORD     ERRG2
6645 024604 000434          BR       45$
6646 024606          10$:
6647 024606 005003          CLR      R3          ;INITIALIZE THE COUNTER.
6648 024610          12$:
6649 024610 032737 000002 002376  BIT     $2,RFLAG ;WAS STATUS RECEIVED?

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6650	024616	001007			BNE	20:					
6651	024620	005303			DEC	R3					
6652	024622	001372			BNE	12:					
6653	024624				ERRDF	50,EMG21,ERRG2					
(4)	024624	104455							TRAP	C\$ERDF	
(5)	024626	000062							.WORD	50	
(5)	024630	014514							.WORD	EMG21	
(5)	024632	006700							.WORD	ERRG2	
6654	024634	000420			BR	45:					
6655											
6656	024636			20:							
6657											
6658	024636	032737	004000	002400	BIT	#ROVER,NSAVE					
6659	024644	001004			BNE	40:					
6660	024646				ERRDF	51,EMG19,ERRG2					
(4)	024646	104455							TRAP	C\$ERDF	
(5)	024650	000063							.WORD	51	
(5)	024652	014434							.WORD	EMG19	
(5)	024654	006700							.WORD	ERRG2	
6661	024656										
6662	024656	032777	002000	155402	BIT	#RSTARY,BRXCSR					
6663	024664	001404			BEQ	45:					
6664	024666				ERRDF	52,EMG18,ERRG2					
(4)	024666	104455							TRAP	C\$ERDF	
(5)	024670	000064							.WORD	52	
(5)	024672	014405							.WORD	EMG18	
(5)	024674	006700							.WORD	ERRG2	
6665	024676										
6666	024676										
(3)	024676	012700	000340		SETPRI	#PRI07					
(3)	024702	104441									
6667											
6668	024704										
(3)	024704	013700	002262		CLRVEC	RCVEC					
(3)	024710	104436									
6669	024712										
(3)	024712	013700	002264		CLRVEC	XMTVEC					
(3)	024716	104436									
6670	024720	005037	002370		CLR	OVER					
6671											
6672	024724				ENDSUB						
(3)	024724										
(3)	024724	104403									
6673											
6674											
6675											
6676	024726				BGNSUB						
(3)	024726										
(3)	024726	104402									
6677	024730										
6678	024734										
(3)	024734	104410			CALL	#RESET					
(3)	024736	000274			ESCAPE	TST					
6679											
6680	024740	005037	002376		CLR	RFLAG					
6681	024744	005037	002424		CLR	TFLAG					

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 CVDPVC.P11 16-AUG-84 14:18 TEST 10 - RECEIVE STATUS INTERRUPT

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6682 024750 005037 002360          CLR      MCFLAG          ;CLEAR MODEM CONTROL FLAG.
6683 024754 012737 000001 002414    MOV      #1,START        ;# OF START OF MESSAGES.
6684 024762 012737 000001 002316    MOV      #1,ABORT        ;FLAG TO SEND ABORT
6685
6686 024770                                SETVEC   XMTVEC,#XINT,#PRI04
      (7) 024770 012746 000200                                MOV      #PRI04,-(SP)
      (6) 024774 012746 017232                                MOV      #XINT,-(SP)
      (5) 025000 013746 002264                                MOV      XMTVEC,-(SP)
      (4) 025004 012746 000003                                MOV      #3,-(SP)
      (3) 025010 104437                                TRAP     C$SVEC
      (2) 025012 062706 000010                                ADD      #10,SP
6687 025016                                SETVEC   RCVEC,#RINT,#PRI04
      (7) 025016 012746 000200                                MOV      #PRI04,-(SP)
      (6) 025022 012746 016602                                MOV      #RINT,-(SP)
      (5) 025026 013746 002262                                MOV      RCVEC,-(SP)
      (4) 025032 012746 000003                                MOV      #3,-(SP)
      (3) 025036 104437                                TRAP     C$SVEC
      (2) 025040 062706 000010                                ADD      #10,SP
6688 025044                                SETPRI   #PRI00          ;SET PROCESSOR PRIORITY. FOR LSI 11/03
      (3) 025044 012700 000000                                MOV      #PRI00,R0
      (3) 025050 104441                                TRAP     C$SPRI
6689                                ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
6690                                ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
6691                                ;LEVEL 4-7.
6692                                ;SET UP INTERRUPT VECTOR
6693
6694 025052 052777 000130 155212    BIS      #TXIE!TXENA!MM,BTXCSR ;ENABLE THE TRANSMITTER AND SELECT
6695                                ;MAINTENANCE MODE LOOPBACK.
6696 025060 052777 000120 155200    BIS      #RXITEN!RXENA,BRXCSR ;ENABLE THE RECEIVER
6697
6698 025066 005003                                CLR      R3              ;INITIALIZE THE COUNTER
6699 025070                                54:
6700 025070 032777 004000 155170    BIT      #RXACT,BRXCSR    ;IS THE RECEIVER ACTIVE?
6701 025076 001007                                BNE      104             ;BR IF YES
6702 025100 005303                                DEC      R3              ;DECREMENT THE COUNTER
6703 025102 001372                                BNE      54
6704 025104                                ERROF    53,EMG12,ERRG2
      (4) 025104 104455                                TRAP     C$ERDF
      (5) 025106 000065                                .WORD    53
      (5) 025110 014062                                .WORD    EMG12
      (5) 025112 006700                                .WORD    ERRG2
6705 025114 000435                                BR        454
6706 025116                                104:
6707 025116 005003                                CLR      R3              ;INITIALIZE THE COUNTER.
6708 025120                                124:
6709 025120 032737 000002 002376    BIT      #2,RFLAG        ;WAS STATUS RECEIVED?
6710 025126 001007                                BNE      204
6711 025130 005303                                DEC      R3              ;DECREMENT THE COUNTER
6712 025132 001372                                BNE      124
6713 025134                                ERROF    54,EMG21,ERRG2
      (4) 025134 104455                                TRAP     C$ERDF
      (5) 025136 000056                                .WORD    54
      (5) 025140 014514                                .WORD    EMG21
      (5) 025142 006700                                .WORD    ERRG2
6714 025144 000421                                BR        454
6715

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6716 025146          204:
6717 025146 032737 002000 002400      BIT      #RABORT,RSAVE      ;WAS THE RECEIVE ABORT RECEIVED?
6718 025154 001005          BNE      404      ;IF YES OK.
6719 025156          ERRDF      55,EMG20,ERRG2
      (4) 025156 104455          TRAP      C$ERDF
      (5) 025160 000067          .WORD      55
      (5) 025162 014465          .WORD      EMG20
      (5) 025164 006700          .WORD      ERRG2
6720 025166 000410          BR      454
6721 025170          404:
6722 025170 032777 002000 155070      BIT      #RSTARY,BRXCSR      ;IS THE STATUS DROPPED?
6723 025176 001404          BEQ      454
6724
6725 025200          ERRDF      56,EMG18,ERRG2
      (4) 025200 104455          TRAP      C$ERDF
      (5) 025202 000070          .WORD      56
      (5) 025204 014405          .WORD      EMG18
      (5) 025206 006700          .WORD      ERRG2
6726 025210          454:
6727 025210          SETPRI      #PRI07      ;SET PROCESSOR PRI TO 7
      (3) 025210 012700 000340          MOV      #PRI07,R0
      (3) 025214 104441          TRAP      C$SPRI
6728
6729 025216          CLRVEC      RCVEC      ;((DISABLE INTERRUPT)
      (3) 025216 013700 002262          ;RESTORE THE INTERRUPT VECTOR.
      (3) 025222 104436          MOV      RCVEC,R0
6730 025224 005037 002316          CLR      ABORT      ;CLEAR THE ABORT FLAG.
      TRAP      C$CVEC
6731
6732          ENDSUB
6733 025230          L10067:
      (3) 025230          TRAP      C$ESUB
      (3) 025230 104403
6734
6735          ENDTST
6736 025232          L10064:
      (3) 025232          TRAP      C$ETST
      (3) 025232 104401
6737
6738
6739
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6742
6743

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 CVDPVC.P11 16-AUG-84 14:18 TEST 11 - RECEIVE AND TRANSMIT INTERRUPT

```

6745 .SBTTL TEST 11 - RECEIVE AND TRANSMIT INTERRUPT
6746
6747 ;*****
6748 ;* TEST 11 - DPV-11
6749 ;* RECEIVE AND TRANSMIT INTERRUPT
6750 ;* TRANSMIT AND RECEIVE DATA USING INTERRUPT ROUTINES. THIS TEST
6751 ;* WILL TRANSMIT 4 DATA CHARACTERS. AFTER ENSURING THAT A TRANSMIT
6752 ;* INTERRUPT WAS COMPLETED, THE TEST WILL CHECK TO MAKE SURE THAT AT
6753 ;* LEAST 1 RECEIVE INTERRUPT WAS GENERATED.
6754 ;*
6755 ;*****
6756 BGNTST
6757
6758 T11::
6759 CALL $RESET ;RESET THE DPV
6760 ESCAPE TST ;IF ERROR, EXIT THE TEST
6761
6762 CLR TFLAG ;CLEAR THE FLAGS USED IN THE ISRS.
6763 CLR RFLAG
6764 CLR MCFLAG ;CLEAR MODEM CONTROL FLAG.
6765 SETVEC RCVEC, #RINT, #PRI04
6766
6767 MOV #PRI04, -(SP)
6768 MOV #RINT, -(SP)
6769 MOV RCVEC, -(SP)
6770 MOV #3, -(SP)
6771 TRAP C$SVEC
6772 ADD #10, SP
6773
6774 MOV #PRI04, -(SP)
6775 MOV #XINT, -(SP)
6776 MOV XMTVEC, -(SP)
6777 MOV #3, -(SP)
6778 TRAP C$SVEC
6779 ADD #10, SP
6780
6781 SETPRI #PRI00 ;SET PROCESSOR PRIORITY. FOR LSI 11/03
6782
6783 MOV #PRI00, R0
6784 TRAP C$SPRI
6785
6786 ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
6787 ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
6788 ;LEVEL 4-7.
6789 ;SET UP INTERRUPT VECTOR
6790
6791 MOV #43652, #PCSR ;SET BCP MODE, NO ERROR AND SYNCH CHARACTER.
6792 MOV #2, START ;# OF STARTS TO SEND.
6793 MOV #RXITEN!RXENA, #RXCSR ;ENABLE THE RECEIVER AND SET
6794 ;SET INTERRUPT ENABLE.
6795 MOV #TXIE!TXENA!MM, #TXCSR ;ENABLE THE TRANSMITTER AND INT.
6796 ;SELECT THE MAINTENANCE LOOPBACK.
6797 CLR R1 ;LOOP COUNTER
6798
6799 104:
6800 CMP #4, DATA ;ARE THE 4 DATA CHARACTERS RECEIVED?
6801 BEQ 204 ;IF YES - CHECK RECEIVE INTERRUPT.
6802 DEC R1 ;DECREMENT COUNTER
6803 BNE 104

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 26-17
 CVDPVC.P11 16-AUG-84 14:18 TEST 11 - RECEIVE AND TRANSMIT INTERRUPT

```

6784
6785 025410 005737 002424      TST      TFLAG      ;WERE ANY XMIT INTERRUPTS RECEIVED
6786 025414 001005              BNE      20$          ;IF YES, KEEP CHECKING
6787 025416                      ERDIF  57,EMG9,ERRG2
      (4) 025416      104455
      (5) 025420      000071
      (5) 025422      013723
      (5) 025424      006700
6788 025426 000410              BR      30$
6789
6790 025430                      20$:
6791 025430 032737 000001 002376 BIT      #1,RFLAG      ;WAS ANY DATA RECEIVED?
6792 025436 001004              BNE      30$          ;IF YES - OK.
6793 025440                      ERDIF  58,EMG15,ERRG2
      (4) 025440      104455
      (5) 025442      000072
      (5) 025444      014243
      (5) 025446      006700
6794
6795 025450                      30$:
6796 025450
6797 025454                      CALL     #RESET
      (3) 025454 012700 000340      SETPRI #PRI07      ;RESET THE DPV
      (3) 025460 104441              ;SET THE PROCESSOR PRI TO 7
6798
6799 025462                      CLRVEC RCVEC      ;(THIS WILL DISABLE INTERRUPTS)
      (3) 025462 013700 002262      ;RESTORE THE RECV. VECTOR
      (3) 025466 104436
6800 025470                      CLRVEC XMTVEC      ;RESTORE THE XMIT. VECTOR
      (3) 025470 013700 002264
      (3) 025474 104436
6801
6802
6803
6804 025476                      ENDYST
      (3) 025476
      (3) 025476 104401
6805
6806
      L10070:
      TRAP      C$ETST
  
```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 27
 CVDPVC.P11 16-AUG-84 14:18 TEST 12 - MODEM STATUS

```

6809 .SBTTL TEST 12 - MODEM STATUS
6810
6811 ;*****
6812 ;* TEST 12 - DPV-11
6813 ;* MODEM STATUS
6814 ;* IF A PROPER TURNAROUND (H3259 OR H3260) IS ON, THIS TEST WILL
6815 ;* CHECK THAT THE FOLLOWING MODEM SIGNALS ARE TURNED AROUND
6816 ;* 1. RTS (REQUEST TO SEND) TURNED AROUND TO CTS (CLEAR TO SEND)
6817 ;* & RR (RECEIVER READY)
6818 ;* 2. DTR (DATA TERMINAL READY) TURNED AROUND TO IC (INCOMING CALL OR RING)
6819 ;* 3. SF (SELECT FREQUENCY) TURNED AROUND TO SQ (SIGNAL QUALITY)
6820 ;* 4. LL (LOCAL LOOPBACK) TURNED AROUND TO DM (DATA MODE)
6821 ;*
6822 ;*****
6823 BGNTST
6824 (3) 025500
6825 025500 103530
6826 025506
6827 025506
6828 025512
6829 (3) 025512 104410
6830 (3) 025514 000252
6831 025516 012702 000004
6832 025522 010277 154540
6833 025526
6834 (1)
6835 (1)
6836 (1) 025526 004737 006604
6837 (1) 025532 000001
6838 (1)
6839 (1)
6840 025534 032777 020000 154524
6841 025542 001445
6842 025544 032777 010000 154514
6843 025552 001441
6844 025554 012702 000002
6845 025560 010277 154502
6846 025564
6847 (1)
6848 (1)
6849 (1) 025564 004737 006604
6850 (1) 025570 000001
6851 (1)
6852 (1)
6853 025572 032777 040000 154466
6854 025600 001426
6855 025602 012702 000001
6856 025606 010277 154454
6857 025612
6858 (1)
6859 (1)
6860 (1) 025612 004737 006604
6861 (1) 025616 000001
6862 (1)
6863 (1)

CALL $TURN ;CHECK THE TURNAROUND.
BCS 40$ ;SKIP TEST IF NO TURNAROUND.

CALL $RESET ;RESET THE DPV
ESCAPE TST ;IF ERROR, EXIT THE TEST

TRAP C$ESCAPE
$WORD L10071-.

MOV #RTS,R2 ;SAVE RTS IN REGISTER (FOR ERROR REPORT).
MOV R2,$RXCSR ;SET RTS
$DELAY 1 ;DELAY 100 MICROSECONDS

;***** MACRO EXPANSION *****
JSR PC,$DLAY ;CALL DELAY SUBROUTINE
$WORD 1 ;NUMBER OF DELAY LOOPS
;*****

BIT #CTS,$RXCSR ;IS CTS ON?
BEQ 10$ ;IF NOT - REPORT.
BIT #RR,$RXCSR ;IS RR (CD) ON
BEQ 10$ ;IF NOT - ERROR.
MOV #DTR,R2 ;SAVE DTR IN REGISTER (FOR ERROR REPORT).
MOV R2,$RXCSR ;SET DTR.
$DELAY 1 ;DELAY 100 MICROSECONDS

;***** MACRO EXPANSION *****
JSR PC,$DLAY ;CALL DELAY SUBROUTINE
$WORD 1 ;NUMBER OF DELAY LOOPS
;*****

BIT #IC,$RXCSR ;IS RING (IC) SET?
BEQ 10$ ;IF NOT - ERROR.
MOV #SF,R2 ;SAVE SF IN REGISTER (FOR ERROR REPORT).
MOV R2,$RXCSR ;SET REMOTE LOOP/ SEC FREQ
$DELAY 1 ;DELAY 100 MICROSECONDS

;***** MACRO EXPANSION *****
JSR PC,$DLAY ;CALL DELAY SUBROUTINE
$WORD 1 ;NUMBER OF DELAY LOOPS
;*****

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 27-1
 CVDPVC.P11 16-AUG-84 14:18 TEST 12 - MODEM STATUS

6844	025620	032777	000040	154444	BIT	#SQ,SRXCSR	;IS SIGNAL QUALITY SET?		
6845	025626	001413			BEQ	10	;IF NOT - ERROR.		
6846	025630	012702	000010		MOV	#LL,R2	;SAVE LL IN REGISTER (FOR ERRCR REPORT).		
6847	025634	010277	154426		MOV	R2,SRXCSR	;SET LOCAL LOOP		
6848	025640				#DELAY	1	;DELAY 100 MICROSECONDS		
(1)									
(1)									
(1)	025640	004737	006604		JSR	PC,#DLAY	;***** MACRO EXPANSION *****		
(1)	025644	000001				.WORD 1	;CALL DELAY SUBROUTINE		
(1)							;NUMBER OF DELAY LOOPS		
(1)							;*****		
6849	025646	032777	001000	154412	BIT	#DM,SRXCSR	;IS DATA MODE SET?		
6850	025654	001004			BNE	20			
6851									
6852	025656				10:				
6853	025656				ERRDF	59,EMG22,ERRG13			
(4)	025656	104455						TRAP	C:ERDF
(5)	025660	000073						.WORD	59
(5)	025662	014556						.WORD	EMG22
(5)	025664	010272						.WORD	ERRG13
6854									
6855	025666				20:				
6856									
6857	025666	042777	000017	154372	BIC	#RTS!DTR!SF!LL,SRXCSR	;CLEAR ALL THOSE BITS		
6858	025674				#DELAY	1	;DELAY 100 MICRO SECONDS		
(1)									
(1)									
(1)	025674	004737	006604		JSR	PC,#DLAY	;***** MACRO EXPANSION *****		
(1)	025700	000001				.WORD 1	;CALL DELAY SUBROUTINE		
(1)							;NUMBER OF DELAY LOOPS		
(1)							;*****		
6859									
6860	025702	012702	000004		MOV	#RTS,R2	;CHECK RTS.		
6861	025706	030277	154354		BIT	R2,SRXCSR	;IS IT SET?		
6862	025712	001021			BNE	30	;IF YES, ERROR.		
6863	025714	012702	000002		MOV	#DTR,R2	;CHECK DTR.		
6864	025720	030277	154342		BIT	R2,SRXCSR	;IS IT SET?		
6865	025724	001014			BNE	30	;IF YES, ERROR.		
6866	025726	012777	000001	154332	MOV	#SF,SRXCSR	;CHECK SF.		
6867	025734	030277	154326		BIT	R2,SRXCSR	;IS IT SET?		
6868	025740	001006			BNE	30	;IF YES, ERROR.		
6869	025742	012777	000010	154316	MOV	#LL,SRXCSR	;CHECK LL		
6870	025750	030277	154312		BIT	R2,SRXCSR	;IS IT SET?		
6871	025754	001404			BEQ	40	;IF NOT, OK		
6872	025756				30:				

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 27-2
CVDPVC.P11 16-AUG-84 14:18 TEST 12 - MODEM STATUS

6873 025756 ERRDF 60,EMG22,ERRG15

(4) 025756 104455

(5) 025760 000074

(5) 025762 014556

(5) 025764 011044

6874 025766

6875 025766

(3) 025766

(3) 025766 104401

6876

6877

6878

6879

404:
ENDTST

TRAP C\$ERDF
.WORD 60
.WORD EMG22
.WORD ERRG15

L10071:
TRAP C\$ETST

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 27-4
 CVDPVC.P11 16-AUG-84 14:18 TEST 13 - MODEM STATUS INTERRUPT

```

6922
6923                                     ;ENABLE RCV INT AND SET RTS, DTR AND L. LOOP
6924 026060 012777 000116 154200      MOV      #RXITEN!LL!DTR!RTS, #RXCSR
6925
6926                                     10$:
6927 026066                                $DELAY 10                                ;WAIT 1 MS
(1)
(1)
(1) 026066 004737 006604              JSR      PC, $DLAY                                ;***** MACRO EXPANSION *****
(1) 026072 000010                                .WORD 10                                ;CALL DELAY SUBROUTINE
(1)                                     ;NUMBER OF DELAY LOOPS
(1)                                     ;*****
6928 026074 005737 002360              TST      MCFLAG                                ;WAS AN MODEM CONTROL INTERRUPT RECEIVED?
6929 026100 001404                      BEQ      30$                                ;IF NOT OK.
6930 026102                                ERDF    61,EMG23,ERRG2
(4) 026102 104455
(5) 026104 000075                                TRAP      C$ERDF
(5) 026106 014603                                .WORD    61
(5) 026110 006700                                .WORD    EMG23
(5)                                     .WORD    ERRG2
6931
6932 026112                                30$:
6933
6934 026112                                ENDSUB
(3) 026112
(3) 026112 104403                                L10073: TRAP      C$ESUB
6935
6936
6937 026114                                BGNSUB
(3) 026114
(3) 026114 104402                                T13.2: TRAP      C$BSUB
6938 026116                                CALL     $RESET                                ;RESET THE DPV
6939 026122                                ESCAPE   TST                                ;IF ERROR, EXIT THE TEST
(3) 026122 104410
(3) 026124 000552                                TRAP      C$ESCAPE
(3) 026124 000552                                .WORD    L10072-.
6940 026126 005037 002376              CLR      RFLAG                                ;CLEAR THE FLAG USED IN THE ISR
6941 026132 005037 002360              CLR      MCFLAG                                ;CLEAR MODEM CONTROL FLAG.
6942
6943                                     ;ENABLE DS. INT, SET RTS, DTR AND LL
6944 026136 012777 000056 154122      MOV      #DSITEN!LL!RTS!DTR, #RXCSR
6945
6946                                     10$:
6947 026144                                $DELAY 10                                ;WAIT 1 MS
(1)
(1)
(1) 026144 004737 006604              JSR      PC, $DLAY                                ;***** MACRO EXPANSION *****
(1) 026150 000010                                .WORD 10                                ;CALL DELAY SUBROUTINE
(1)                                     ;NUMBER OF DELAY LOOPS
(1)                                     ;*****
6948 026152 005737 002360              TST      MCFLAG                                ;WAS AN MODEM CONTROL INTERRUPT RECEIVED?
6949 026156 001404                      BEQ      30$                                ;IF NOT OK.
6950 026160                                ERDF    62,EMG23,ERRG2
(4) 026160 104455                                TRAP      C$ERDF
(5) 026162 000076                                .WORD    62
(5) 026164 014603                                .WORD    EMG23
(5) 026166 006700                                .WORD    ERRG2
6951

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 27-5
 CVDPVC.P11 16-AUG-84 14:18 TEST 13 - MODEM STATUS INTERRUPT

```

6952 026170      30$:
6953
6954 026170      ENDSUB
      (3) 026170
      (3) 026170 104403      L10074:      TRAP      C#ESUB
6955
6956
6957
6958 026172      BGNSUB
      (3) 026172
      (3) 026172 104402      T13.3:      TRAP      C#BSUB
6959 026174      CALL $RESET      ;RESET THE DPV
6960 026200      ESCAPE TST      ;IF ERROR, EXIT THE TEST
      (3) 026200 104410
      (3) 026202 000474
6961 026204 005037 002376      CLR RFLAG      ;CLEAR THE FLAG USED IN THE ISR
6962 026210 005037 002360      CLR MCFLAG      ;CLEAR MODEM CONTROL FLAG.
6963
6964
6965 026214 012777 000016 154044      MOV #LL!RTS!DTR, BRXCSR      ;SET LOCAL LOOP, DTR AND RTS.
6966 026222      10$:
6967 026222      $DELAY 10      ;WAIT 1 MS
      (1)
      (1)
      (1) 026222 004737 006604      JSR PC, $DLAY      ;***** MACRO EXPANSION *****
      (1) 026226 000010      .WORD 10      ;CALL DELAY SUBROUTINE
      (1)
      (1)
6968 026230 005737 002360      TST MCFLAG      ;WAS AN INTERRUPT RECEIVED?
6969 026234 001404      BEQ 30$      ;IF NOT OK.
6970 026236      ERDF 63, EMG23, ERRG2
      (4) 026236 104455
      (5) 026240 000077
      (5) 026242 014603
      (5) 026244 006700
6971
6972 026246      30$:
6973
6974 026246      ENDSUB
      (3) 026246
      (3) 026246 104403      L10075:      TRAP      C#ESUB
6975
6976
6977 026250      BGNSUB
      (3) 026250
      (3) 026250 104402      T13.4:      TRAP      C#BSUB
6978 026252      CALL $RESET      ;RESET THE DPV
6979 026256      ESCAPE TST      ;IF ERROR, EXIT THE TEST
      (3) 026256 104410
      (3) 026260 000416
6980 026262 005037 002376      CLR RFLAG      ;CLEAR THE FLAG USED IN THE ISR
6981 026266 005037 002360      CLR MCFLAG      ;CLEAR MODEM CONTROL FLAG.
6982
6983
6984 026272 012777 000144 153766      MOV #RXITEN!DSITEN!RTS, BRXCSR      ;ENABLE INTERRUPTS AND SET RTS.
6985

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 27-6
 CVDPVC.P11 16-AUG-84 14:18 TEST 13 - MODEM STATUS INTERRUPT

```

6986 026300      101:      ;DELAY 10      ;WAIT 1 MS
6987 026300
(1)
(1)
(1) 026300 004737 006604      JSR      PC,;DELAY      ;***** MACRO EXPANSION *****
(1) 026304 000010      .WORD 10      ;CALL DELAY SUBROUTINE
(1)      ;NUMBER OF DELAY LOOPS
(1)      ;*****
6988 026306 005737 002360      TST      MCFLAG      ;WAS AN INTERRUPT RECEIVED?
6989 026312 001015      BNE      201      ;IF YES - CHECK FOR MULTIPLE INTERRUPTS.
6990 026314      ERRDF      64,EMG24,ERRG2
(4) 026314 104455      TRAP      C;ERDF
(5) 026316 000100      .WORD 64
(5) 026320 014661      .WORD EMG24
(5) 026322 006700      .WORD ERRG2
6991 026324      PRINTB      #FMG26
(7) 026324 012746 012715      MOV      #FMG26,-(SP)
(6) 026330 012746 000001      MOV      #1,-(SP)
(3) 026334 010600      MOV      SP,R0
(4) 026336 104414      TRAP      C;PNTB
(4) 026340 062706 000004      ADD      #4,SP
6992 026344 000410      GR      301
6993 026346      201:      CMP      #1,MCFLAG      ;WAS ONLY 1 RECEIVED?
6994 026346 022737 000001 002360      BEQ      301      ;IF YES - OK
6995 026354 001404      ERRDF      65,EMG40      ;REPORT MULTIPLE INTERRUPTS
6996 026356
(4) 026356 104455      TRAP      C;ERDF
(5) 026360 000101      .WORD 65
(5) 026362 015321      .WORD EMG40
(5) 026364 000000      .WORD 0
6997 026366      301:
6998
6999 026366      ENDSUB
(3) 026366
(3) 026366 104403      L10076:      TRAP      C;ESUB
7000
7001
7002 026370      BGNSUB
(3) 026370
(3) 026370 104402      T13.5:      TRAP      C;BSUB
7003 026372      CALL      ;RESET      ;RESET THE DPV
7004 026376      ESCAPE      TST      ;IF ERROR, EXIT THE TEST
(3) 026376 104410      TRAP      C;ESCAPE
(3) 026400 000276      .WORD L10072-.
7005 026402 005037 002376      CLR      RFLAG      ;CLEAR THE FLAG USED IN THE ISR
7006 026406 005037 002360      CLR      MCFLAG      ;CLEAR MODEM CONTROL FLAG.
7007
7008      ;ENABLE INTERRUPTS AND SET DTR.
7009 026412 012777 000142 153646      MOV      #RXITEN!DSITEN!DTR,BRXCSP
7010
7011      101:
7012 026420      ;DELAY 10      ;WAIT 1 MS
(1)
(1)
(1) 026420 004737 006604      JSR      PC,;DELAY      ;***** MACRO EXPANSION *****
(1) 026424 000010      .WORD 10      ;CALL DELAY SUBROUTINE
      ;NUMBER OF DELAY LOOPS

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 27-7
 CVDPVC.P11 16-AUG-84 14:18 TEST 13 - MODEM STATUS INTERRUPT

```

(1)
(1)
7013 026426 005737 002360      TST      MCFLAG      ;WAS AN INTERRUPT RECEIVED?
7014 026432 001015      BNE      201      ;IF YES - CHECK FOR MULTIPLE INTERRUPTS.
7015 026434      ERRDF      66,EMG24,ERRG2
(4) 026434 104455      TRAP      C1ERDF
(5) 026436 000102      .WORD      66
(5) 026440 014661      .WORD      EMG24
(5) 026442 006700      .WORD      ERRG2
7016 026444      PRINTB      #FMG26
(7) 026444 012746 012715      MOV      #FMG26,-(SP)
(6) 026450 012746 000001      MOV      #1,-(SP)
(3) 026454 010600      MOV      SP,R0
(4) 026456 104414      TRAP      C1PNTB
(4) 026460 062706 000004      ADD      #4,SP
7017 026464 000410      BR      301
7018 026466      201:
7019 026466 022737 000001 002360      CMP      #1,MCFLAG      ;WAS ONLY 1 RECEIVED?
7020 026474 001404      BEQ      301      ;IF YES - OK
7021 026476      ERRDF      67,EMG40      ;REPORT MULTIPLE INTERRUPTS
(4) 026476 104455      TRAP      C1ERDF
(5) 026500 000103      .WORD      67
(5) 026502 015321      .WORD      EMG40
(5) 026504 000000      .WORD      0
7022 026506      301:
7023      ENDSUB
7024 026506
(3) 026506      L10077:
(3) 026506 104403      TRAP      C1ESUB
7025
7026      BGNSUB
7027 026510
(3) 026510
(3) 026510 104402      T13.6:
7028 026512      CALL      #RESET      ;RESET THE DPV
7029 026516      ESCAPE      TST      ;IF ERROR, EXIT THE TEST
(3) 026516 104410      TRAP      C1ESCAPE
(3) 026520 000156      .WORD      L10072-.
7030 026522 005037 002376      CLR      RFLAG      ;CLEAR THE FLAG USED IN THE ISR
7031 026526 005037 002360      CLR      MCFLAG      ;CLEAR MODEM CONTROL FLAG.
7032
7033      ;ENABLE INTERRUPTS AND SET LL.
7034 026532 012777 000150 153526      MOV      #RXITEN!DSITEN!LL,BRXCSR
7035
7036 026540      101:
7037 026540      #DELAY      10      ;WAIT 1 MS
(1)
(1)
(1) 026540 004737 006604      JSR      PC,#DLAY      ;***** MACRO EXPANSION *****
(1) 026544 000010      .WORD      10      ;CALL DELAY SUBROUTINE
(1)      ;NUMBER OF DELAY LOOPS
(1)      ;*****
(1)
7038 026546 005737 002360      TST      MCFLAG      ;WAS AN INTERRUPT RECEIVED?
7039 026552 001025      BNE      201      ;IF YES - CHECK FOR MULTIPLE INTERRUPTS.
7040 026554      ERRDF      68,EMG24,ERRG2
(4) 026554 104455      TRAP      C1ERDF

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CVDPVCO DPCV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 27-8
CVDPYC.P11 16-AUG-84 14:18 TEST 13 - MODEM STATUS INTERRUPT

Address	Hex	Dec	Label	Op	Op1	Op2	Op3	Op4	Op5	Op6	Op7	Op8	Op9	Op10	Op11	Op12	Op13	Op14	Op15	Op16	Op17	Op18	Op19	Op20	Op21	Op22	Op23	Op24	Op25	Op26	Op27	Op28	Op29	Op30	Op31	Op32	Op33	Op34	Op35	Op36	Op37	Op38	Op39	Op40	Op41	Op42	Op43	Op44	Op45	Op46	Op47	Op48	Op49	Op50	Op51	Op52	Op53	Op54	Op55	Op56	Op57	Op58	Op59	Op60	Op61	Op62	Op63	Op64	Op65	Op66	Op67	Op68	Op69	Op70	Op71	Op72	Op73	Op74	Op75	Op76	Op77	Op78	Op79	Op80	Op81	Op82	Op83	Op84	Op85	Op86	Op87	Op88	Op89	Op90	Op91	Op92	Op93	Op94	Op95	Op96	Op97	Op98	Op99	Op100	Op101	Op102	Op103	Op104	Op105	Op106	Op107	Op108	Op109	Op110	Op111	Op112	Op113	Op114	Op115	Op116	Op117	Op118	Op119	Op120	Op121	Op122	Op123	Op124	Op125	Op126	Op127	Op128	Op129	Op130	Op131	Op132	Op133	Op134	Op135	Op136	Op137	Op138	Op139	Op140	Op141	Op142	Op143	Op144	Op145	Op146	Op147	Op148	Op149	Op150	Op151	Op152	Op153	Op154	Op155	Op156	Op157	Op158	Op159	Op160	Op161	Op162	Op163	Op164	Op165	Op166	Op167	Op168	Op169	Op170	Op171	Op172	Op173	Op174	Op175	Op176	Op177	Op178	Op179	Op180	Op181	Op182	Op183	Op184	Op185	Op186	Op187	Op188	Op189	Op190	Op191	Op192	Op193	Op194	Op195	Op196	Op197	Op198	Op199	Op200	Op201	Op202	Op203	Op204	Op205	Op206	Op207	Op208	Op209	Op210	Op211	Op212	Op213	Op214	Op215	Op216	Op217	Op218	Op219	Op220	Op221	Op222	Op223	Op224	Op225	Op226	Op227	Op228	Op229	Op230	Op231	Op232	Op233	Op234	Op235	Op236	Op237	Op238	Op239	Op240	Op241	Op242	Op243	Op244	Op245	Op246	Op247	Op248	Op249	Op250	Op251	Op252	Op253	Op254	Op255	Op256	Op257	Op258	Op259	Op260	Op261	Op262	Op263	Op264	Op265	Op266	Op267	Op268	Op269	Op270	Op271	Op272	Op273	Op274	Op275	Op276	Op277	Op278	Op279	Op280	Op281	Op282	Op283	Op284	Op285	Op286	Op287	Op288	Op289	Op290	Op291	Op292	Op293	Op294	Op295	Op296	Op297	Op298	Op299	Op300	Op301	Op302	Op303	Op304	Op305	Op306	Op307	Op308	Op309	Op310	Op311	Op312	Op313	Op314	Op315	Op316	Op317	Op318	Op319	Op320	Op321	Op322	Op323	Op324	Op325	Op326	Op327	Op328	Op329	Op330	Op331	Op332	Op333	Op334	Op335	Op336	Op337	Op338	Op339	Op340	Op341	Op342	Op343	Op344	Op345	Op346	Op347	Op348	Op349	Op350	Op351	Op352	Op353	Op354	Op355	Op356	Op357	Op358	Op359	Op360	Op361	Op362	Op363	Op364	Op365	Op366	Op367	Op368	Op369	Op370	Op371	Op372	Op373	Op374	Op375	Op376	Op377	Op378	Op379	Op380	Op381	Op382	Op383	Op384	Op385	Op386	Op387	Op388	Op389	Op390	Op391	Op392	Op393	Op394	Op395	Op396	Op397	Op398	Op399	Op400	Op401	Op402	Op403	Op404	Op405	Op406	Op407	Op408	Op409	Op410	Op411	Op412	Op413	Op414	Op415	Op416</
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 CVDPVC.P11 16-AUG-84 14:18

TEST 14 - RECEIVE AND MODEM STATUS INTERRUPTS

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7066 .SBTTL TEST 14 - RECEIVE AND MODEM STATUS INTERRUPTS
7067
7068 ;*****
7069 ;* TEST 14 - DPV-11
7070 ;* RECEIVE AND MODEM STATUS INTERRUPTS
7071 ;* CHANGE THE MODEM STATUS WHILE HANDLING A RECEIVE INTERRUPT.
7072 ;* ENSURE THAT THE MODEM STATUS INTERRUPT IS RECEIVED.
7073 ;* SUBTEST 1 - CHANGE RTS DURING THE RECEIVE INTERRUPT. ENSURE THAT
7074 ;* THE DATA SET INTERRUPT WAS RECEIVED.
7075 ;* SUBTEST 2 - CHANGE DTR DURING THE RECEIVE INTERRUPT. ENSURE THAT
7076 ;* THE DATA SET INTERRUPT WAS RECEIVED.
7077 ;* SUBTEST 3 - CHANGE LL DURING THE RECEIVE INTERRUPT. ENSURE THAT
7078 ;* THE DATA SET INTERRUPT WAS RECEIVED.
7079 ;*
7080 ;*****
7081 BGNTST
7082 (3) 026700
7083 026700 103002 CALL $TURN T14:: ;CHECK THE TURNAROUND.
7084 026706 104432 BCC 1$ ;PROCEED, IF TURNAROUND ON.
7085 (3) 026710 001072 EXIT TST ;IF NO TURNAROUND, EXIT.
7086 (3) 026712
7087 (3) 026712 104402 T14.1: TRAP C$EXIT
7088 (3) 026712 104402 BGNSUB ;.WORD L10101-.
7089 026720 104410 CALL $RESET ;RESET THE DPV
7090 026722 001060 ESCAPE TST ;IF ERROR, EXIT THE TEST
7091 026724 005037 002424 CLR TFLAG ;CLEAR THE FLAGS USED IN THE ISRS.
7092 026726 005037 002376 CLR RFLAG
7093 026728 005037 002360 CLR MCFLAG ;CLEAR MODEM CONTROL FLAG.
7094 026730 012737 000004 002432 MOV $RTS,TOGGLE ;TOGGLE RTS
7095 026732
7096 026746 SETVEC RCVEC,$RINT,$PRI04
7097 (7) 026746 012746 000200 MOV $PRI04,-(SP)
7098 (6) 026752 012746 016602 MOV $RINT,-(SP)
7099 (5) 026756 013746 002262 MOV RCVEC,-(SP)
7100 (4) 026762 012746 000003 MOV $3,-(SP)
7101 (3) 026766 104437 TRAP C$SVEC
7102 (2) 026770 062706 000010 ADD $10,SP
7103 026774 SETVEC XMTVEC,$XINT,$PRI04
7104 (7) 026774 012746 000200 MOV $PRI04,-(SP)
7105 (6) 027000 012746 017232 MOV $XINT,-(SP)
7106 (5) 027004 013746 002264 MOV XMTVEC,-(SP)
7107 (4) 027010 012746 000003 MOV $3,-(SP)
7108 (3) 027014 104437 TRAP C$SVEC
7109 (2) 027016 062706 000010 ADD $10,SP
7110 027022 SETPRI $PRI00 ;SET PROCESSOR PRIORITY. FOR LSI 11/03
7111 (3) 027022 012700 000000 MOV $PRI00,R0
7112 (3) 027026 104441 TRAP C$SPRI
7113 ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
7114 ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
7115 ;LEVEL 4-7.
7116 ;SET UP INTERRUPT VECTOR

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 27-10
 CVDPVC.P11 16-AUG-84 14:18 TEST 14 - RECEIVE AND MODEM STATUS INTERRUPTS

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7102
7103 027030 012777 043652 153232      MOV    #43652,BPCSR      ;SET BCP MODE, NO ERROR AND SYNCH CHARACTER.
7104 027036 012737 000002 002414      MOV    #2,START        ;# OF START CHARACTERS.
7105 027044 012777 000160 153214      MOV    #RXITEN!DSITEN!RXENA BRXCSR ;ENABLE THE RECEIVER AND INT.
7106 027052 012777 000130 153212      MOV    #TXIE!TXENA!MM,BTXCSR ;ENABLE THE TRANSMITTER AND INT.
7107                                     ;SELECT THE MAINTENANCE LOOPBACK.
7108 027060 005001                      CLR    R1              ;LOOP COUNTER
7109 027062                                10$:
7110 027062 005737 002360              TST    MCFLAG          ;WAS A MODEM CHANGE INTERRUPT RECEIVED?
7111 027066 001017                      BNE    20$              ;IF YES, EXIT.
7112 027070 005301                      DEC    R1              ;DECREMENT COUNTER
7113 027072 001373                      BNE    10$
7114
7115 027074                                ERRDF  70,EMG24,ERRG2
7116 (4) 027074 104455
7117 (5) 027076 000106
7118 (5) 027100 014661
7119 (5) 027102 006700
7120
7121 027104                                PRINTB #FMG26          ;NOTIFY THAT INTERRUPT MAY BE DISABLED BY
7122 (7) 027104 012746 012715
7123 (6) 027110 012746 000001
7124 (3) 027114 010600
7125 (4) 027116 104414
7126 (4) 027120 062706 000004
7127
7128 027124 000410                                20$:
7129 027126 022737 000001 002360      CMP    #1,MCFLAG        ;WAS ONLY 1 RECEIVED?
7130 027134 001404                      BEQ    30$              ;IF YES - OK
7131 027136                                ERRDF  71,EMG40        ;REPORT MULTIPLE INTERRUPTS
7132 (4) 027136 104455
7133 (5) 027140 000107
7134 (5) 027142 015321
7135 (5) 027144 000000
7136 027146                                30$:
7137 027146      CALL    #RESET          ;RESET THE DPV
7138 027152      SETPRI #PRI07          ;SET THE PROCESSOR PRI TO 7
7139 (3) 027152 012700 000340
7140 (3) 027156 104441
7141
7142 027160                                ;(THIS WILL DISABLE INTERRUPTS)
7143 (3) 027160 013700 002262      CLRVEC RCVEC          ;RESTORE THE RECV. VECTOR
7144 (3) 027164 104436
7145 027166      CLRVEC XMTVEC          ;RESTORE THE XMIT. VECTOR
7146 (3) 027166 013700 002264
7147 (3) 027172 104436
7148 027174      ESCAPE TST              ;IF ERROR, ESCAPE
7149 (3) 027174 104410
7150 (3) 027176 000604
7151
7152                                ENDSUB
7153 (3) 027200
7154 (3) 027200 104403
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 CVDPVC.P11 16-AUG-84 14:18 TEST 14 - RECEIVE AND MODEM STATUS INTERRUPTS

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7134 027202          BGNSUB
(3) 027202          T14.2:
(3) 027202 104402          TRAP      C#BSUB
7135 027204          CALL      $RESET      ;RESET THE DPV
7136 027210          ESCAPE   TST          ;IF ERROR, EXIT THE TEST
(3) 027210 104410          TRAP      C#ESCAPE
(3) 027212 000570          .WORD     L10101-.
7137 027214 005037 002424          CLR      TFLAG      ;CLEAR THE FLAGS USED IN THE ISRS.
7138 027220 005037 002376          CLR      RFLAG
7139 027224 005037 002360          CLR      MCFLAG     ;CLEAR MODEM CONTROL FLAG.
7140 027230 012737 000002 002432          MOV      #DTR,TOGGLE ;TOGGLE DTR.
7141
7142 027236          SETVEC   RCVEC,#RINT,#PRI04
(7) 027236 012746 000200          MOV      #PRI04,-(SP)
(6) 027242 012746 016602          MOV      #RINT,-(SP)
(5) 027246 013746 002262          MOV      RCVEC,-(SP)
(4) 027252 012746 000003          MOV      #3,-(SP)
(3) 027256 104437          TRAP      C#SVEC
(2) 027260 062706 000010          ADD      #10,SP
7143 027264          SETVEC   XMTVEC,#XINT,#PRI04
(7) 027264 012746 000200          MOV      #PRI04,-(SP)
(6) 027270 012746 017232          MOV      #XINT,-(SP)
(5) 027274 013746 002264          MOV      XMTVEC,-(SP)
(4) 027300 012746 000003          MOV      #3,-(SP)
(3) 027304 104437          TRAP      C#SVEC
(2) 027306 062706 000010          ADD      #10,SP
7144 027312          SETPRI   #PRI00      ;SET PROCESSOR PRIORITY. FOR LSI 11/03
(3) 027312 012700 000000          MOV      #PRI00,R0
(3) 027316 104441          TRAP      C#SPRI
7145
7146          ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
7147          ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
7148          ;LEVEL 4-7.
7149          ;SET UP INTERRUPT VECTOR
7150
7151 027320 012777 043652 152742          MOV      #43652,BPCSR      ;SET BCP MODE, NO ERROR AND SYNCH CHARACTER.
7152 027326 012737 000002 002414          MOV      #2,START      ;# OF START CHARACTERS.
7153 027334 012777 000160 152724          MOV      #RXITEN!DSITEN!RXENA,BRXCSR ;ENABLE THE RECEIVER AND INT.
7154 027342 012777 000130 152722          MOV      #TXIE!TXENA!MM,BTXCSR ;ENABLE THE TRANSMITTER AND INT.
7155          ;SELECT THE MAINTENANCE LOOPBACK.
7156 027350 005001          CLR      R1          ;LOOP COUNTER
7157 027352          104:
7158 027352 005737 002360          TST      MCFLAG     ;WAS A MODEM CHANGE INTERRUPT RECEIVED?
7159 027356 001017          BNE      204          ;IF YES, EXIT.
7160 027360 005301          DEC      R1          ;DECREMENT COUNTER
7161 027362 001373          BNE      104
7162
7163 027364          ERRDF    72,EMG24,ERRG2
(4) 027364 104455          TRAP      C#ERDF
(5) 027366 0001.0          .WORD     72
(5) 027370 014661          .WORD     EMG24
(5) 027372 006700          .WORD     ERRG2
7164
7165 027374          PRINTB   #FMG26      ;NOTIFY THAT INTERRUPT MAY BE DISABLED BY
(7) 027374 012746 012715          MOV      #FMG26,-(SP)
(6) 027406 012746 000001          MOV      #1,-(SP)

```

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(3)	027404	010600					MOV	SP,R0
(4)	027406	104414					TRAP	C\$PNTB
(4)	027410	062706	000004				ADD	#4,SP
7166								
7167	027414	000410						
7168	027416							
7169	027416	022737	000001	002360	20\$:	CMP	#1,MCFLAG	;WAS ONLY 1 RECEIVED?
7170	027424	001404				BEQ	30\$	;IF YES - OK
7171	027426					ERRDF	73,EMG40	;REPORT MULTIPLE INTERRUPTS
(4)	027426	104455						
(5)	027430	000111					TRAP	C\$ERDF
(5)	027432	015321					.WORD	73
(5)	027434	000000					.WORD	EMG40
7172	027436				30\$:		.WORD	0
7173	027436					CALL	\$RESET	;RESET THE DPV
7174	027442					SETPRI	#PRI07	;SET THE PROCESSOR PRI TO 7
(3)	027442	012700	000340					
(3)	027446	104441					MOV	#PRI07,R0
7175							TRAP	C\$SPRI
7176	027450					CLRVEC	RCVEC	; (THIS WILL DISABLE INTERRUPTS)
(3)	027450	013700	002262					
(3)	027454	104436					MOV	RCVEC,R0
7177	027456					CLRVEC	XMTVEC	;RESTORE THE RECV. VECTOR
(3)	027456	013700	002264				TRAP	C\$CVEC
(3)	027462	104436					MOV	XMTVEC,R0
7178	027464					ESCAPE	TST	;RESTORE THE XMIT. VECTOR
(3)	027464	104410					TRAP	C\$CVEC
(3)	027466	000314					.WORD	C\$ESCAPE
7179								L10101-.
7180	027470				ENDSUB			
(3)	027470							
(3)	027470	104403					L10103:	TRAP
7181								C\$ESUB
7182	027472				BGNSUB			
(3)	027472							
(3)	027472	104402					T14.3:	TRAP
7183	027474					CALL	\$RESET	C\$BSUB
7184	027500					ESCAPE	TST	
(3)	027500	104410						
(3)	027502	000300					TRAP	C\$ESCAPE
7185	027504	005037	002424				.WORD	L10101-.
7186	027510	005037	002376			CLR	TFLAG	;CLEAR THE FLAGS USED IN THE ISRS.
7187	027514	005037	002360			CLR	RFLAG	
7188	027520	012737	000010	002432		CLR	MCFLAG	;CLEAR MODEM CONTROL FLAG.
7189						MOV	#LL,TOGGLE	;TOGGLE LL
7190	027526					SETVEC	RCVEC,#RINT,#PRI04	
(7)	027526	012746	000200					
(6)	027532	012746	016602				MOV	#PRI04,-(SP)
(5)	027536	013746	002262				MOV	#RINT,-(SP)
(4)	027542	012746	000003				MOV	RCVEC,-(SP)
(3)	027546	104437					MOV	#3,-(SP)
(2)	027550	062706	000010				TRAP	C\$SVEC
7191	027554					SETVEC	XMTVEC,#XINT,#PRI04	ADD
(7)	027554	012746	000200					#10,SP
(6)	027560	012746	017232				MOV	#PRI04,-(SP)
(5)	027564	013746	002264				MOV	#XINT,-(SP)
							MOV	XMTVEC,-(SP)

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 CVDPVC.P11 16-AUG-84 14:18 TEST 14 - RECEIVE AND MODEM STATUS INTERRUPTS

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(4) 027570 012746 000003
(3) 027574 104437
(2) 027576 062706 000010
7192 027602 SETPRI #PRI00 ;SET PROCESSOR PRIORITY. FOR LSI 11/03
(3) 027602 012700 000000 MOV #PRI00,R0
(3) 027606 104441 TRAP C$SPRI
7193 ;THIS WILL ENABLE INTERRUPTS. FOR 11/23
7194 ;THIS WILL ALLOW ACKNOWLEDGMENT OF INTERRUPTS
7195 ;LEVEL 4-7.
7196 ;SET UP INTERRUPT VECTOR
7197
7198
7199 027610 012777 043652 152452 MOV #43652,BPCSR ;SET BCP MODE, NO ERROR AND SYNCH CHARACTER.
7200 027616 012737 000002 002414 MOV #2,START ;# OF START CHARACTERS.
7201 027624 012777 000160 152434 MOV #RXITEN!DSITEN!RXENA,BRXCSR ;ENABLE THE RECEIVER AND INT.
7202 027632 012777 000130 152432 MOV #YXIE!TXENA!MM,BTXCSR ;ENABLE THE TRANSMITTER AND INT.
7203 ;SELECT THE MAINTENANCE LOOPBACK.
7204 027640 005001 CLR R1 ;LOOP COUNTER
7205 027642 104: TST MCFLAG ;WAS A MODEM CHANGE INTERRUPT RECEIVED?
7206 027642 005737 002360 BNE 204 ;IF YES, EXIT.
7207 027646 001027 DEC R1 ;DECREMENT COUNTER
7208 027650 005301 BNE 104
7209 027652 001373
7210
7211 027654 ERDF 74,EMG24,ERRG2
(4) 027654 104455 TRAP C$ERDF
(5) 027656 000112 .WORD 74
(5) 027660 014661 .WORD EMG24
(5) 027662 006700 .WORD ERRG2
7212
7213 027664 PRINTB #FMG26 ;NOTIFY THAT INTERRUPT MAY BE DISABLED BY
(7) 027664 012746 012715 MOV #FMG26,-(SP)
(8) 027670 012746 000001 MOV #1,-(SP)
(3) 027674 010600 MOV SP,R0
(4) 027676 104414 TRAP C$PNTB
(4) 027700 062706 000004 ADD #4,SP
7214 ;REMOVING THE WIRE WRAP.
7215 027704 PRINTB #FMG29
(7) 027704 012746 013221 MOV #FMG29,-(SP)
(6) 027710 012746 000001 MOV #1,-(SP)
(3) 027714 010600 MOV SP,R0
(4) 027716 104414 TRAP C$PNTB
(4) 027720 062706 000004 ADD #4,SP
7216 027724 000410 BR 304
7217 027726 204:
7218 027726 022737 000001 002360 CMP #1,MCFLAG ;WAS ONLY 1 RECEIVED?
7219 027734 001404 BEQ 304 ;IF YES - OK
7220 027736 ERRDF 75,EMG40 ;REPORT MULTIPLE INTERRUPTS
(4) 027736 104455 TRAP C$ERDF
(5) 027740 000113 .WORD 75
(5) 027742 015321 .WORD EMG40
(5) 027744 000000 .WORD 0
7221 027746 304:
7222 027746 CALL #RESET ;RESET THE DPV
7223 027752 SETPRI #PRI07 ;SET THE PROCESSOR PRI TO 7
(3) 027752 012700 000340 MOV #PRI07,R0

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CVDPVCO DVP11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 27-14
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(3)	027756	104441				TRAP	C\$SPRI
7224							
(3)	027760	013700	002262	CLRVEC	RCVEC		
(3)	027764	104436				MOV	RCVEC,R0
7226	027766			CLRVEC	XMTVEC	TRAP	C\$CVEC
(3)	027766	013700	002264				
(3)	027772	104436				MOV	XMTVEC,R0
7227	027774			ESCAPE	TST	TRAP	C\$ESCAPE
(3)	027774	104410					
(3)	027776	000004				.WORD	L10101-
7228							
7229	030000		ENDSUB				
(3)	030000					L10104:	
(3)	030000	104403				TRAP	C\$ESUB
7230							
7231	030002		ENDTST				
(3)	030002					L10101:	
(3)	030002	104401				TRAP	C\$ETST
7232							

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 CVDPVC.P11 16-AUG-84 14:18 TEST 15 - SECONDARY & ALL PARTIES ADDRESSING

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7235 .SBTTL TEST 15 - SECONDARY & ALL PARTIES ADDRESSING
7236
7237 ;*****
7238 ;* TEST 15 - DPV-11
7239 ;* SUBTEST 1 - SECONDARY ADDRESS
7240 ;* SEGMENT 1 - SELECT SECONDARY ADDRESS AND SEND THE CORRECT
7241 ;* ADDRESS. CHECK THE DATA IS PROPERLY RECEIVED.
7242 ;* SEGMENT 2 - SELECT SECONDARY ADDRESS AND SEND A MESSAGE WITHOUT
7243 ;* SENDING USING THE SECONDARY ADDRESS. CHECK THAT A
7244 ;* TIME OUT IS RECEIVED.
7245 ;*
7246 ;* SUBTEST 2 - ALL PARTIES ADDRESSING
7247 ;* SEGMENT 1 - SELECT ALL PARTIES AND SECONDARY ADDRESS. SEND A
7248 ;* MESSAGE USING THE ALL PARTIES ADDRESS. ENSURE THAT
7249 ;* THE MESSAGE IS CORRECTLY RECEIVED.
7250 ;* SEGMENT 2 - SELECT ALL PARTIES AND SECONDARY ADDRESS. SEND A
7251 ;* MESSAGE WITHOUT ALL PARTIES OR SECONDARY ADDRESS.
7252 ;* CHECK THAT A TIME OUT IS RECEIVED.
7253 ;* SEGMENT 3 - SELECT ALL PARTIES AND SECONDARY ADDRESS. SEND A
7254 ;* MESSAGE WITH A SECONDARY ADDRESS. CHECK THAT A
7255 ;* TIME OUT IS RECEIVED.
7256 ;*
7257 ;*****
7258 BGNTST
7259
7260 BGNSUB
7261
7262 T15.:
7263
7264 T15.1:
7265 TRAP C#BSUB
7266
7267 TRAP C#BSEG
7268
7269 TRAP C#ESCAPE
7270 .WORD L10105-.
7271
7272 CALL #RESET ;RESET THE DPV
7273 ESCAPE TST ;IF ERROR, BR TO THE END.
7274
7275 MOV #BOP,MODE ;FLAG THAT WE ARE IN BOP MODE.
7276 MOV #CCITT1,IPCSAR ;SET CRC-CCITT PRESET TO ONE
7277 BIS #SECADR!120,IPCSAR ;SECONDARY ADDRESS
7278 MOV #1,START ;SEND 1 FLAG
7279 MOV #2,HEADER ;SEND 2 HEADER CHARACTERS
7280 MOV #3,LENGTH ;CHARACTER LENGTH OF 3 BITS.
7281 MOV #TSM,TSTART ;START OF MESSAGE.
7282 MOV #TEOM,TEND ;END OF MESSAGE
7283 MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
7284 MOV #10,XCOUNT ;# OF CHARACTERS TO TRANSMIT
7285
7286 MOV IPCSAR,SPCSAR ;SET UP PARAMETERS AND ADDRESS
7287 MOV #143,IPCR ;SET UP CHARACTER LENGTH
7288
7289 CALL #BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
7290 MOV #1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
7291 CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
7292 CALL #DATA
7293 ESCAPE TST ;IF ERROR - EXIT
7294
7295 TRAP C#ESCAPE
  
```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 28-1
 CVDPVC.P11 16-AUG-84 14:18 TEST 15 - SECONDARY & ALL PARTIES ADDRESSING

(3)	030154	000536							.WORD	L10105-.
7284										
7285	030156				CALL	\$CHECK		;CHECK THAT THE DATA WAS CORRECT.		
7286	030162				ESCAPE	TST		;IF ERROR - EXIT		
(3)	030162	104410							TRAP	C\$ESCAPE
(3)	030164	000526							.WORD	L10105-.
7287	030166				ENDSEG					
(3)	030166							10000\$:		
(3)	030166	104405							TRAP	C\$ESEG
7288										
7289	030170				BGNSEG					
(3)	030170	104404							TRAP	C\$BSEG
7290	030172				CALL	\$RESET		;RESET THE DPV		
7291	030176				ESCAPE	TST		;IF ERROR, BR TO THE END.		
(3)	030176	104410							TRAP	C\$ESCAPE
(3)	030200	000512							.WORD	L10105-.
7292	030202	012737	000001	002414	MOV	#1,START		;SEND 1 FLAG		
7293	030210	012737	000002	002336	MOV	#2,HEADER		;SEND 2 HEADER CHARACTERS		
7294										
7295	030216	013777	002344	152044	MOV	IPCSAR,BPCSAR		;SET UP PARAMETERS AND ADDRESS		
7296	030224	112737	000143	002342	MOV	#143,IPCR		;SET UP CHARACTER LENGTH		
7297										
7298	030232	012737	000001	002430	MOV	#1,TIMER		;CHANGE TIMEOUT VALUE		
7299	030240	012737	000001	002332	MOV	#1,EXERR		;FLAG THAT AN ERROR IS EXPECTED IN \$DATA		
7300	030246	105037	002674		CLRB	XMTBUF		;CLEAR SECONDARY ADDRESS FROM XMIT BUFFER.		
7301	030252				CALL	\$DATA				
7302	030256	013737	002412	002430	MOV	SAVTIM,TIMER		;RESTORE THE TIMER		
7303	030264	005737	002426		TST	TIMEO		;DID THE RECEIVER TIME OUT?		
7304	030270	001004			BNE	1\$		;IF YES - OK.		
7305	030272				ERRDF	76,EMG35				
(4)	030272	104455							TRAP	C\$ERDF
(5)	030274	000114							.WORD	76
(5)	030276	015135							.WORD	EMG35
(5)	030300	000000							.WORD	0
7306	030302				1\$:					
7307	030302				ENDSEG					
(3)	030302							10001\$:		
(3)	030302	104405							TRAP	C\$ESEG
7308	030304				ENDSUB					
(3)	030304							L10106:		
(3)	030304	104403							TRAP	C\$ESUB
7309										
7310										
7311	030306				BGNSUB					
(3)	030306							T15.2:		
(3)	030306	104402							TRAP	C\$BSUB
7312	030310				BGNSEG					
(3)	030310	104404							TRAP	C\$BSEG
7313	030312				CALL	\$RESET		;RESET THE DPV		
7314	030316				ESCAPE	TST		;IF ERROR, BR TO THE END.		
(3)	030316	104410							TRAP	C\$ESCAPE
(3)	030320	000372							.WORD	L10105-.
7315	030322	012737	100000	002362	MOV	#BOP,MODE		;FLAG THAT WE ARE IN BOP MODE.		
7316	030330	012737	000400	002344	MOV	#CCITTO,IPCSAR		;SET CRC-CCITT PRESET TO ZERO		
7317	030336	052737	110231	002344	BIS	#APA!SECADR!231,IPCSAR		;ALL PARTIES ADDRESS AND		
7318								;SECONDARY ADDRESS		

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 CVDPVC.P11 16-AUG-84 14:18 TEST 15 - SECONDARY & ALL PARTIES ADDRESSING

7319	030344	012737	000001	002414	MOV	#1,START	;SEND 1 FLAG		
7320	030352	012737	000002	002336	MOV	#2,HEADER	;SEND 2 HEADER CHARACTERS		
7321	030360	012737	000004	002352	MOV	#4,LENGTH	;CHARACTER LENGTH OF 5 BITS.		
7322	030366	012737	000400	002434	MOV	#TSM,TSTART	;START OF MESSAGE.		
7323	030374	012737	001000	002422	MOV	#TEOM,TEND	;END OF MESSAGE		
7324	030402	012737	002502	002470	MOV	#CCITT,XTYPE	;USE CCITT DATA PATTERN		
7325	030410	012737	000012	002472	MOV	#10.,XCOUNT	;# OF CHARACTERS TO TRANSMIT		
7326									
7327	030416	013777	002344	151644	MOV	IPCSAR,#PCSR	;SET UP PARAMETERS AND ADDRESS		
7328	030424	112737	000204	002342	MOVB	#204,IPCR	;SET UP CHARACTER LENGTH		
7329									
7330									
7331	030432				CALL	#BFRS	;SET UP TRANSMIT AND RECEIVE BUFFERS.		
7332	030436	012737	000001	002356	MOV	#1,MAINT	;FLAG TO USE MAINTENANCE MODE LOOPBACK.		
7333	030444	005037	002332		CLR	EXERR	;FLAG THAT NO ERRORS ARE EXPECTED IN #DATA		
7334	030450				CALL	#DATA			
7335	030454				ESCAPE	TST	;IF ERROR - EXIT		
(3)	030454	104410						TRAP	C#ESCAPE
(3)	030456	000234						.WORD	L10105-.
7336									
7337	030460				CALL	#CHECK	;CHECK THAT THE DATA WAS CORRECT.		
7338	030464				ESCAPE	TST	;IF ERROR - EXIT		
(3)	030464	104410						TRAP	C#ESCAPE
(3)	030466	000224						.WORD	L10105-.
7339	030470				ENDSEG				
(3)	030470								
(3)	030470	104405						100004:	TRAP
7340									C#ESEG
7341	030472				BGNSEG				
(3)	030472	104404							
7342	030474				CALL	#RESET	;RESET THE DPV		
7343	030500				ESCAPE	TST	;IF ERROR, BR TO THE END.		
(3)	030500	104410						TRAP	C#ESCAPE
(3)	030502	000210						.WORD	L10105-.
7344	030504	012737	000001	002414	MOV	#1,START	;SEND 1 FLAG		
7345	030512	012737	000002	002336	MOV	#2,HEADER	;SEND 2 HEADER CHARACTERS		
7346									
7347	030520	013777	002344	151542	MOV	IPCSAR,#PCSR	;SET UP PARAMETERS AND ADDRESS		
7348	030526	112737	000204	002342	MOVB	#204,IPCR	;SET UP CHARACTER LENGTH		
7349									
7350	030534	012737	000001	002430	MOV	#1,TIMER	;CHANGE TIME OUT VALUE		
7351	030542	012737	000001	002332	MOV	#1,EXERR	;FLAG THAT AN ERROR IS EXPECTED IN #DATA		
7352	030550	105037	002674		CLRB	XMTBUF	;CLEAR SECONDARY ADDRESS FROM XMIT BUFFER.		
7353	030554				CALL	#DATA			
7354	030560	013737	002412	002430	MOV	SAVTIM,TIMER	;RESTORE THE TIME OUT VALUE.		
7355	030566	005737	002426		TST	TIMEO	;DID THE RECEIVER TIME OUT?		
7356	030572	001006			BNE	11	;IF YES - OK.		
7357	030574				ERRDF	77,EMG35			
(4)	030574	104455						TRAP	C#ERDF
(5)	030576	000115						.WORD	77
(5)	030600	015135						.WORD	EMG35
(5)	030602	000000						.WORD	0
7358	030604				ESCAPE	TST			
(3)	030604	104410						TRAP	C#ESCAPE
(3)	030606	000104						.WORD	L10105-.
7359	030610								

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7360 030610          ENDSEG
(3) 030610
(3) 030610 104405          10001$: TRAP C#ESEG
7361
7362 030612          BGNSEG
(3) 030612 104404
7363 030614          CALL $RESET      ;RESET THE DPV
7364 030620          ESCAPE TST        ;IF ERROR, BR TO THE END.
(3) 030620 104410          TRAP C#ESCAPE
(3) 030622 000070          .WORD L10105-.
7365 030624 012737 000001 002414      MOV #1,START      ;SEND 1 FLAG
7366 030632 012737 000002 002336      MOV #2,HEADER    ;SEND 2 HEADER CHARACTERS
7367
7368 030640 013777 002344 151422      MOV IPCSAR,$PC$AR ;SET UP PARAMETERS AND ADDRESS
7369 030646 112737 000204 002342      MOV #204,IPCR    ;SET UP CHARACTER LENGTH
7370
7371 030654 112737 000231 002674      MOV #231,XMTBUF  ;CHANGE FIRST XMIT CHARACTER.
7372 030662 005037 002332              CLR EXERR      ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
7373 030666              CALL $DATA
7374 030672          ESCAPE TST        ;IF ERROR - EXIT
(3) 030672 104410          TRAP C#ESCAPE
(3) 030674 000016          .WORD L10105-.
7375
7376 030676          CALL $CHECK      ;CHECK THAT THE DATA WAS CORRECT.
7377 030702          ESCAPE TST        ;IF ERROR - EXIT
(3) 030702 104410          TRAP C#ESCAPE
(3) 030704 000006          .WORD L10105-.
7378 030706          ENDSEG
(3) 030706          10002$:
(3) 030706 104405          TRAP C#ESEG
7379 030710          ENDSUB
(3) 030710          L10107:
(3) 030710 104403          TRAP C#ESUB
7380
7381
7382 030712          ENDTST
(3) 030712          L10105:
(3) 030712 104401          TRAP C#ETST

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7384 .SBTTL TEST 16 - ABORT TEST
7385
7386 ;*****
7387 ;* TEST 16 - DPV-11
7388 ;* ABORT TEST
7389 ;* SUBTEST 1 - ABORT WITH IDLE CLEAR. ABORT CHARACTERS TRANSMITTED WHEN
7390 ;* THE ABORT BIT IS ASSERTED.
7391 ;* SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 1,
7392 ;* 5 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
7393 ;*
7394 ;* SUBTEST 2 - ABORT WITH IDLE SET. FLAGS TRANSMITTED WHEN THE ABORT BIT
7395 ;* IS ASSERTED.
7396 ;* SELECTED OPTIONS: BOP MODE, NO ERROR CHECKING, IDLE SET,
7397 ;* 5 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
7398 ;*
7399 ;*****
7400 BGNTST
7401 (3) 030714 T16::
7402 (3) 030714 BGNSUB
7403 (3) 030714 T16.1:
7404 (3) 030714 104402 TRAP C:BSUB
7405 030716 CALL $RESET ;RESET THE DPV
7406 030722 ESCAPE TST ;IF ERROR, BR TO THE END.
7407 (3) 030722 104410 TRAP C:ESCAPE
7408 (3) 030724 000312 .WORD L10110-.
7409 030726 012737 100000 002362 MOV $BOP,MODE ;FLAG THAT WE ARE IN BOP MODE.
7410 030734 012737 000000 002344 MOV $CCITT1,IPCSAR ;SET CRC-CCITT PRESET TO ONE
7411 030742 012737 000001 002414 MOV $1,START ;SEND 1 FLAG
7412 030750 012737 000002 002336 MOV $2,HEADER ;SEND 2 HEADER CHARACTERS
7413 030756 012737 000005 002352 MOV $5,LENGTH ;CHARACTER LENGTH OF 5 BITS.
7414 030764 012737 000400 002434 MOV $TSOM,TSTART ;START OF MESSAGE.
7415 030772 012737 002000 002422 MOV $TXABO,TENC ;END OF MESSAGE
7416 031000 012737 002502 002470 MOV $CCITT,XTYPE ;USE CCITT DATA PATTERN
7417 031006 012737 000014 002472 MOV $12,,XCUNT ;# OF CHARACTERS TO TRANSMIT
7418
7419 031014 013777 002344 151246 MOV IPCSAR,$PCSR ;SET UP PARAMETERS AND ADDRESS
7420 031022 112737 000245 002342 MOV $245,IPCR ;SET UP CHARACTER LENGTH
7421
7422 031030 CALL $BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
7423 031034 012737 000001 002356 MOV $1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
7424 031042 012737 000001 002332 MOV $1,EXERR ;FLAG THAT AN ERROR IS EXPECTED IN $DATA
7425 031050 CALL $DATA ;
7426 031054 032737 002000 002350 BIT $RABORT,IRDSR ;WAS AN ABORT RECEIVED?
7427 031062 001004 BNE 201 ;IF YES - OK.
7428 031064 104455 ERDIF 78,EMG32 ;ABORT NOT RECEIVED.
7429 (4) 031064 104455 TRAP C:ERDIF
7430 (5) 031066 000116 .WORD 78
7431 (5) 031070 015023 .WORD EMG32
7432 (5) 031072 000000 .WORD 0
7433 031074 201:
7434 031074 ENDSUB L10111:
7435 (3) 031074 104403 TRAP C:ESUB
7436 7427
7437 7428 031076 BGNSUB

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CVDPVCO DVP11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 28-5
CVDPVC.P11 16-AUG-84 14:18 TEST 16 - ABORT TEST

[illegible]

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 28-6
 CVDPVC.P11 16-AUG-84 14:18 TEST 17 - EXTENDED CONTROL AND ADDRESSING

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7454 .SBTTL TEST 17 - EXTENDED CONTROL AND ADDRESSING
7455
7456 ;*****
7457 ;* TEST 17 - DPV-11
7458 ;* EXTENDED CONTROL AND ADDRESSING TEST
7459 ;* CHECK THAT THE RECEIVER CAN RECOGNIZE EXTENDED ADDRESSING AND CONTROL
7460 ;* CHARACTERS.
7461 ;* SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 1,
7462 ;* 3 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK,
7463 ;* EXTENDED CONTROL AND ADDRESSING SELECTED
7464 ;*
7465 ;*****
7466 BGNTST
7467
7468 (3) 031240 T17::
7469 (3) 031240
7470 (3) 031244 104410
7471 (3) 031246 000142
7472 031250 012737 100000 002362 MOV #BOP,MODE ;FLAG THAT WE ARE IN BOP MODE.
7473 031256 012737 000000 002344 MOV #CCITT1,IPCSAR ;SET CRC-CCITT PRESET TO ONE
7474 031264 012737 000001 002414 MOV #1,START ;SEND 1 FLAG
7475 031272 012737 000004 002336 MOV #4,HEADER ;SEND 2 HEADER CHARACTERS
7476 031300 012737 000003 002352 MOV #3,LENGTH ;CHARACTER LENGTH OF 3 BITS.
7477 031306 012737 000400 002434 MOV #TSM,TSTART ;START OF MESSAGE.
7478 031314 012737 001000 002422 MOV #TEOM,TEND ;END OF MESSAGE
7479 031322 012737 002502 002470 MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
7480 031330 012737 000100 002472 MOV #64,XCOUNT ;# OF CHARACTERS TO TRANSMIT
7481
7482 031336 013777 002344 150724 MOV IPCSAR,SPCSAR ;SET UP PARAMETERS AND ADDRESS
7483 031344 112737 000173 002342 MOVB #173,IPCR ;SET UP CHARACTER LENGTH AND EXTENDED
7484 031352 112777 000030 150722 MOVB #30,SPCR ;ADDRESS AND CONTROL BITS.
7485 ;SET THE EXTENDED ADDRESS AND CONTROL BITS.
7486
7487 031360 CALL #BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
7488 031364 012737 000001 002356 MOV #1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
7489 031372 005037 002332 CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
7490 031376 CALL $DATA
7491 BCS 201 ;IF ERROR SKIP DATA CHECK.
7492
7493 031404 CALL $CHECK ;CHECK THAT THE DATA WAS CORRECT.
7494 201:
7495
7496 031410 ENDTST
7497 (3) 031410
7498 (3) 031410 104401 L10113: TRAP C$ETST

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 28-7
 CVDPVC.P11 16-AUG-84 14:18 TEST 18 - TRANSMIT GO AHEAD

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7500          .SBTTL          TEST 18 - TRANSMIT GO AHEAD
7501
7502          ;*****
7503          ;*          TEST 18 - DPV-11
7504          ;* TRANSMIT GO AHEAD
7505          ;* TERMINATE A MESSAGE USING TRANSMIT GO AHEAD. CHECK THAT THE RECEIVE
7506          ;* ABORT BIT IS SET WHEN THE END OF MESSAGE IS RECEIVED.
7507          ;*          SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 1, LOOP SET,
7508          ;*          5 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
7509          ;*
7510          ;*****
7511          BGNTST
7512
7513          (3) 031412
7514          (3) 031412
7515          (3) 031416 104410
7516          (3) 031420 000200
7517          031422 012737 100000 002362
7518          031430 012737 000000 002344
7519          031436 052737 020000 002344
7520          031444 012737 000001 002414
7521          031452 012737 000002 002336
7522          031460 012737 000005 002352
7523          031466 012737 000400 002434
7524          031474 012737 005000 002422
7525          031502 012737 002502 002470
7526          031510 012737 000012 002472
7527          031516 013777 002344 150544
7528          031524 112737 000245 002342
7529
7530          031532
7531          031536 012737 000001 002356
7532          031544 012737 000001 002332
7533          031552
7534          031556 103420
7535
7536          031560
7537          031564
7538          (3) 031564 104410
7539          (3) 031566 000032
7540          031570 032737 001000 002350
7541          031576 001404
7542          031600 032737 002000 002350
7543          031606 001004
7544          031610

          CALL  $RESET          ;RESET THE DPV
          ESCAPE TST          ;IF ERROR, BR TO THE END.
                                     TRAP  C$ESCAPE
                                     .WORD  L10114-.

          MOV  #BOP,MODE          ;FLAG THAT WE ARE IN BOP MODE.
          MOV  #CCITT1,IPCSAR      ;SET CRC-CCITT PRESET TO ONE
          BIS  #LOOP,IPCSAR        ;SET LOOP MODE TO RECOGNIZE GO AHEAD
          MOV  #1,START            ;SEND 1 FLAG
          MOV  #2,HEADER           ;SEND 2 HEADER CHARACTERS
          MOV  #5,LENGTH           ;CHARACTER LENGTH OF 5 BITS.
          MOV  #TSM,TSTART         ;START OF MESSAGE.
          MOV  #TGA!TEOM,TEND      ;TRANSMIT GO AHEAD AT THE END OF MESSAGE
          MOV  #CCITT,XTYPE        ;USE CCITT DATA PATTERN
          MOV  #10.,XCOUNT         ;# OF CHARACTERS TO TRANSMIT
          ;
          MOV  IPCSAR,$PCSR        ;SET UP PARAMETERS AND ADDRESS
          MOVB #245,IPCR          ;SET UP CHARACTER LENGTH

          CALL  $BUFRS            ;SET UP TRANSMIT AND RECEIVE BUFFERS.
          MOV  #1,MAINT            ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
          MOV  #1,EXERR            ;FLAG THAT AN ERROR IS EXPECTED IN $DATA
          CALL  $DATA
          BCS  20$                ;IF ERROR SKIP DATA CHECK.

          CALL  $CHECK            ;CHECK THAT THE DATA WAS CORRECT.
          ESCAPE TST              ;IF ERROR - EXIT
                                     TRAP  C$ESCAPE
                                     .WORD  L10114-.

          BIT  #REOM,IRDSR        ;WAS END OF MESSAGE RECEIVED?
          BEQ  10$                ;IF NOT ERROR
          BIT  #RABORT,IRDSR      ;WAS AN GO AHEAD RECEIVED?
          BNE  20$                ;IF YES - OK.

          10$:

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 28-8
CVDPVC.P11 16-AUG-84 14:18 TEST 18 - TRANSMIT GO AHEAD

7544 031610 ERRDF 80,EMG33 ;GO AHEAD NOT RECEIVED
(4) 031610 104455
(5) 031612 000120
(5) 031614 015046
(5) 031616 000000
7545 031620 204:
7546
7547
7548 031620 ENDTST
(3) 031620
(3) 031620 104401
7549
7550

TRAP C\$ERDF
.WORD 80
.WORD EMG33
.WORD 0

L10114:
TRAP C\$ETST

CVDPVCO DVPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 28-9
 CVDPVC.P11 16-AUG-84 14:18 TEST 19 - ASSEMBLED BIT COUNT

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7552 .SBTTL TEST 19 - ASSEMBLED BIT COUNT
7553
7554 ;*****
7555 ;* TEST 19 - DVP-11
7556 ;* ASSEMBLED BIT COUNT
7557 ;* TRANSMIT VARIOUS BIT LENGTHS WHILE RECEIVING AN 8 BIT CHARACTER.
7558 ;* ENSURE THAT THE ASSEMBLED BIT COUNT (ABC) IS CORRECT UPON THE END
7559 ;* OF MESSAGE.
7560 ;* SELECTED OPTIONS: BOP MODE, NO ERROR CHECKING, VARIOUS BIT
7561 ;* LENGTH CHARACTERS, MAINTENANCE MODE LOOPBACK.
7562 ;*
7563 ;*****
7564 BGNTST
7565
7566 (3) 031622
7567 (3) 031622
7568
7569 031622 012737 100000 002362 MOV #BOP,MODE ;FLAG THAT WE ARE IN BOP MODE.
7570 031630 012737 003400 002344 MOV #NOERR,IPCSAR ;NO ERROR CHECKING
7571
7572 031636 012737 000007 002352 MOV #7,LENGTH ;CHARACTER LENGTH.
7573
7574 031644 012737 000400 002434 MOV #TSM,TSTART ;START OF MESSAGE.
7575 031652 012737 001000 002422 MOV #TEOM,TEND ;ABORT MESSAGE
7576 031660 012737 002502 002470 MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
7577 031666 012737 000001 002472 MOV #1,XCOUNT ;# OF CHARACTERS TO TRANSMIT
7578 031700 012737 000001 002352 CALL #BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
7579 031706 74: MOV #1,LENGTH ;CHANGE THE LENGTH
7580
7581 031712 CALL #RESET ;RESET THE DVP
7582 (3) 031712 104410 ESCAPE TST ;IF ERROR, BR TO THE END.
7583 (3) 031714 000132 TRAP C$ESCAPE
7584 031716 012737 000001 002414 MOV #1,START ;SEND 1 FLAG
7585 031724 012737 000002 002336 MOV #2,HEADER ;SEND 2 HEADER CHARACTERS
7586 031732 013777 002344 150330 MOV IPCSAR,#PCSR ;SET UP PARAMETERS AND ADDRESS
7587 031740 013701 002352 MOV LENGTH,R1 ;GET CHARACTER LENGTH
7588 031744 116137 032050 002342 MOVB CHLEN(R1),IPCR ;SET UP CHARACTER LENGTH.
7589
7590 031752 012737 000001 002356 MOV #1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
7591 031760 012737 000001 002332 MOV #1,EXERR ;FLAG THAT AN ERROR IS EXPECTED IN $DATA
7592 031766 CALL $DATA ;
7593 031772 ESCAPE TST ;IF ERROR - EXIT
7594 (3) 031772 104410 TRAP C$ESCAPE
7595 (3) 031774 000052 .WORD L10115-.
7596
7597 031776 013701 002352 MOV LENGTH,R1 ;GET CHARACTER LENGTH
7598 032002 142737 000217 002351 BICB #217,IRDSR+1 ;CLEAR ALL BUT ABC FROM LAST RDSR.
7599 032010 126137 032061 002351 CMPB ABC(R1),IRDSR+1 ;IS THE ABC THE EXPECTED VALUE?
7600 032016 001405 BEQ 104
7601 032020 ERDF 81,EMG36
7602 (4) 032020 104455 TRAP C$ERDF
7603 (5) 032022 000121 .WORD 81
7604 (5) 032024 015174 .WORD EMG36
7605 (5) 032026 000000 .WORD 0
7606 032030 000406 BR 204

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 28-11
 CVDPVC.P11 16-AUG-84 14:18 TEST 20 - SPECIAL SPACE SEQUENCING

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7614 .SBTTL TEST 20 - SPECIAL SPACE SEQUENCING
7615
7616 ;*****
7617 ;* TEST 20 - DPV-11
7618 ;* SPECIAL SPACE SEQUENCE
7619 ;* START A MESSAGE USING A SPECIAL SPACE SEQUENCE. CHECK THAT THE
7620 ;* MESSAGE IS CORRECTLY TRANSMITTED AND RECEIVED.
7621 ;* NOTE: CERTAIN USYNRTS ONLY TRANSMIT A SPECIAL START SEQUENCE WHEN
7622 ;* TRANSMIT START AND END OF MESSAGE ARE SET BY A BYTE OPERATION.
7623 ;*
7624 ;* SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 1,
7625 ;* 5 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
7626 ;*
7627 ;*****
7628 BGNTST
7629
7630 (3) 032072 T20::
7631 (3) 032072
7632 (3) 032072 104410
7633 (3) 032100 000136
7634 032102 012737 100000 002362 MOV #BOP,MODE ;FLAG THAT WE ARE IN BOP MODE.
7635 032110 012737 000000 002344 MOV #CCITT1,IPCSAR ;SET CRC-CCITT PRESET TO ONE
7636 032116 012737 000002 002414 MOV #2,START ;SEND 1 FLAG
7637 032124 012737 000002 002336 MOV #2,HEADER ;SEND 2 HEADER CHARACTERS
7638 032132 012737 000005 002352 MOV #5,LENGTH ;CHARACTER LENGTH OF 5 BITS.
7639 032140 012737 000033 002434 MOV #3,TSTART ;SET TSOH AND TEOM IN BYTE MODE.
7640 032146 012737 001000 002422 MOV #TEOM,TEND ;END OF MESSAGE
7641 032154 012737 002502 002470 MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
7642 032162 012737 000100 002472 MOV #64,,XCOUNT ;# OF CHARACTERS TO TRANSMIT
7643
7644 032170 013777 002344 150072 MOV IPCSAR,BPCSAR ;SET UP PARAMETERS AND ADDRESS
7645 032176 112737 000245 002342 MOVB #245,IPCR ;SET UP CHARACTER LENGTH
7646
7647 032204
7648 032210 012737 000001 002356 CALL #BUFERS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
7649 032216 005037 002332 MOV #1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
7650 032222 CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
7651 032226 ESCAPE TST ;IF ERROR, ESCAPE TEST
7652 (3) 032226 104410 TRAP C$ESCAPE
7653 (3) 032230 000006 .WORD L10116-.
7654
7655 032232 CALL #CHECK ;CHECK THAT THE DATA WAS CORRECT.
7656 032236 201:
7657
7658 ENDTST
7659
7660 (3) 032236 L10116: TRAP C$ETST
7661 (3) 032236 104401

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 28-12
 CVDPVC.P11 16-AUG-84 14:18 TEST 21 - SYNCH CHARACTER

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7661 .S8TTL TEST 21 - SYNCH CHARACTER
7662
7663 ;*****
7664 ;* TEST 21 - DPV-11
7665 ;* SYNCH CHARACTER
7666 ;* CHECK THAT A SYNCH CHARACTER OF 271 CAN BE USED TO COMMENCE A MESSAGE.
7667 ;* VERIFY THAT THE MESSAGE IS CORRECTLY TRANSMITTED AND RECEIVED.
7668 ;* SELECTED OPTIONS: BCP MODE, VRC-EVEN PARITY,
7669 ;* 7 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
7670 ;*
7671 ;*****
7672 BGNTST
7673
7674 (3) 032240 T21::
7675 (3) 032244
7676 (3) 032244 104410
7677 (3) 032246 000154
7678 032250 005037 002362 CLR MODE ;FLAG THAT WE ARE IN BCP MODE.
7679 032254 012737 002400 002344 MOV #VRC,IPCSAR ;SET VRC EVEN
7680 032262 112737 000271 002344 MOV #271,IPCSAR ;SYNCH CHARACTER
7681 032270 052737 040000 002344 BIS #PROTO,IPCSAR ;SET BCP PROTOCOL
7682 032276 012737 000002 002414 MOV #2,START ;SEND 2 FLAGS
7683 032304 012737 000001 002336 MOV #1,HEADER ;SEND 1 HEADER CHARACTER
7684 032312 012737 000007 002352 MOV #7,LENGTH ;CHARACTER LENGTH OF 7 BITS.
7685 032320 012737 000400 002434 MOV #TSOM,TSTART ;START OF MESSAGE.
7686 032326 012737 001000 002422 MOV #TEOM,TEND ;END OF MESSAGE
7687 032334 012737 002502 002470 MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
7688 032342 012737 000017 002472 MOV #15.,XCOUNT ;# OF CHARACTERS TO TRANSMIT
7689
7690 032350 112737 000347 002342 MOV #347,IPCR ;CHARACTER LENGTH
7691 032356 013777 002344 147704 MOV IPCSAR,#PCSR ;SET UP PARAMETERS AND ADDRESS
7692 032364 113777 002342 147710 MOVB IPCR,#PCR ;SET UP CHARACTER LENGTH
7693
7694 032372 CALL #BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
7695 032376 012737 000001 002356 MOV #1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
7696 032404 005037 002332 CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
7697 032410 CALL $DATA
7698 032414 103402 BCS 20$ ;IF ERROR SKIP DATA CHECK.
7699
7700 032416 CALL #CHECK ;CHECK THAT THE DATA WAS CORRECT.
7701 032422 20$:
7702
7703
7704 032422 ENDTST
7705 (3) 032422 L10117:
7706 (3) 032422 104401 TRAP C$ETST
7707

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 28-13
 CVDPVC.P11 16-AUG-84 14:18 TEST 22 - SYNCH FROM TRANSMIT DATA PATH

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7709 .SBTTL TEST 22 - SYNCH FROM TRANSMIT DATA PATH
7710
7711 ;*****
7712 ;* TEST 22 - DPV-11
7713 ;* SYNCH FROM TRANSMIT DATA PATH
7714 ;* TRANSMIT A MESSAGE USING THE SYNCH FROM THE TRANSMIT DATA PATH.
7715 ;* VERIFY THAT THE MESSAGE IS CORRECTLY TRANSMITTED AND RECEIVED.
7716 ;* SELECTED OPTIONS: BCP MODE, VRC-ODD PARITY, IDLE SET
7717 ;* 5 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
7718 ;*
7719 ;*****
7720 BGNTST
7721
7722 (3) 032424 T22::
7723 032424 CALL $RESET ;RESET THE DPV
7724 (3) 032430 104410 ESCAPE TST ;IF ERROR, BR TO THE END.
7725 (3) 032432 000154 TRAP C$ESCAPE
7726 032434 005037 002362 CLR MODE ;FLAG THAT WE ARE IN BCP MODE.
7727 032440 012737 002000 002344 MOV $VRCO,IPCSAR ;VRC ODD
7728 032446 052737 040000 002344 BIS $PROTO,IPCSAR ;SET BCP PROTOCOL
7729 032454 052737 004000 002344 BIS $IDLE,IPCSAR ;SET THE IDLE BIT
7730 032462 012737 000002 002414 MOV #2,START ;SEND 2 SYNCHS
7731 032470 012737 000001 002336 MOV #1,HEADER ;SEND 1 HEADER CHARACTER
7732 032476 012737 000005 002352 MOV #5,LENGTH ;CHARACTER LENGTH OF 5 BITS.
7733 032504 012737 000400 002434 MOV #TSON,TSTART ;START OF MESSAGE.
7734 032512 012737 001000 002422 MOV #TECH,TEND ;END OF MESSAGE
7735 032520 012737 002502 002470 MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
7736 032526 012737 000021 002472 MOV #17,XCOUNT ;# OF CHARACTERS TO TRANSMIT
7737
7738 032534 112737 000245 002342 MOVB #245,IPCR ;CHARACTER LENGTH
7739 032542 113777 002342 147532 MOVB IPCR,$PCR ;SET UP CHARACTER LENGTH
7740 032550 013777 002344 147512 MOV IPCSAR,$PCPSAR ;SET UP PARAMETERS AND ADDRESS
7741
7742 032556 CALL $BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
7743 032562 012737 000001 002356 MOV #1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
7744 032570 005037 002332 CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
7745 032574 CALL $DATA
7746 032600 103402 BCS 20$ ;IF ERROR SKIP DATA CHECK.
7747
7748 032602 CALL $CHECK ;CHECK THAT THE DATA WAS CORRECT.
7749 032606 20$:
7750
7751
7752 032606 ENDTST
7753 (3) 032606 L10120: TRAP C$ETST
7754 (3) 032606 104401
7755

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CVDPCVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 28-14
 CVDPCV.P11 16-AUG-84 14:18 TEST 23 - STRIP SYNCHS

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7757 .SBTTL TEST 23 - STRIP SYNCHS
7758
7759 ;*****
7760 ;* TEST 23 - DPV-11
7761 ;* STRIP SYNCHS
7762 ;* SEND MORE THAN 2 SYNCHS WITH THE STRIP SYNCH BIT SET. CHECK THAT
7763 ;* THE MESSAGE IS CORRECTLY TRANSMITTED AND RECEIVED.
7764 ;* SELECTED OPTIONS: BCP MODE, VRC-ODD PARITY, STRIP SYNCH SET
7765 ;* 6 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
7766 ;*
7767 ;*****
7768 BGNTST
7769
7770 032610 CALL $RESET ;RESET THE DPV
7771 032614 ESCAPE TST ;IF ERROR, BR TO THE END.
7772 (3) 032614 104410 TRAP C$ESCAPE
7773 (3) 032616 000154 .WORD L10121-.
7774 032620 005037 002362 CLR MODE ;FLAG THAT WE ARE IN BCP MODE.
7775 032624 012737 002000 002344 MOV $VRCO,IPCSAR ;VRC ODD
7776 032632 052737 020014 002344 BIS $SSYNCH!14,IPCSAR ;SYNCH + STRIP SYNCHS
7777 032640 052737 040000 002344 BIS $PROTO,IPCSAR ;SET BCP PROTOCOL
7778 032646 012737 000010 002414 MOV $8.,START ;SEND 8 SYNCHS
7779 032654 012737 000001 002336 MOV $1,HEADER ;SEND 1 HEADER CHARACTER
7780 032662 012737 000006 002352 MOV $6,LENGTH ;CHARACTER LENGTH OF 5 BITS.
7781 032670 012737 000400 002434 MOV $TSM,TSTART ;START OF MESSAGE.
7782 032676 012737 001000 002422 MOV $TEOM,TEND ;END OF MESSAGE
7783 032704 012737 002502 002470 MOV $CCITT,XTYPE ;USE CCITT DATA PATTERN
7784 032712 012737 000015 002472 MOV $13.,XCOUNT ;# OF CHARACTERS TO TRANSMIT
7785
7786 032720 112737 000306 002342 MOV $306,IPCR ;CHARACTER LENGTH
7787 032726 113777 002342 147346 MOVB IPCR,$PCR ;SET UP CHARACTER LENGTH
7788 032734 013777 002344 147326 MOV IPCSAR,$PCSR ;SET UP PARAMETERS AND ADDRESS
7789
7790 032742 CALL $BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
7791 032746 012737 000001 002356 MOV $1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
7792 032754 005037 002332 CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
7793 032764 103402 CALL $DATA
7794 BCS 20$ ;IF ERROR SKIP DATA CHECK.
7795
7796 032766 CALL $CHECK ;CHECK THAT THE DATA WAS CORRECT.
7797 032772
7798
7799 032772 ENDTST
7800 (3) 032772 L10121: TRAP C$ETST
7801 (3) 032772 104401
7802

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16 AUG-84 14:19 PAGE 28-15
 CVDPVC.P11 16-AUG-84 14:18 TEST 24 - CRC-CCITT PRESET TO ONES

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7804 .SBTTL TEST 24 - CRC-CCITT PRESET TO ONES
7805
7806 ;*****
7807 ;* TEST 24 - DPV-11
7808 ;* CRC-CCITT PRESET TO ONES.
7809 ;* CHECK TO ENSURE THAT THE ERROR CHECK BIT (BIT 15 OF RDSR) IS
7810 ;* SET WHEN AN ABORT IS RECEIVED. IN BOP MODE THIS BIT IS SET WHEN THE
7811 ;* CRC IS IN ERROR. THE ERROR CHECK BIT SHOULD BE ZERO WHEN REOM=1.
7812 ;* IF THE CRC WERE CORRECTLY RECEIVED. BY FORCING AN ABORT WE INTENTIONALLY
7813 ;* LOOK AT THE ERROR BIT WHEN IT SHOULD BE IN AN ERROR STATE.
7814 ;* SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 1, LOOP SET,
7815 ;* 4 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
7816 ;*
7817 ;*****
7818 BCNTST
7819
7820 T24::
7821 CALL #RESET ;RESET THE DPV
7822 ESCAPE TST ;IF ERROR, BR TO THE END.
7823
7824 TRAP C$ESCAPE
7825 (3) 033000 104410 .WORD L10122-.
7826 (3) 033002 000160
7827 7822 033004 012737 100000 002362 MOV #BOP,MODE ;FLAG THAT WE ARE IN BOP MODE.
7828 7823 033012 012737 000000 002344 MOV #CCITT1,IPCSAR ;SET CRC-CCITT PRESET TO ONE
7829 7824 033020 052737 020000 002344 BIS #LOOP,IPCSAR ;SET LOOP MODE TO RECOGNIZE GO AHEAD.
7830 7825 033026 012737 000001 002414 MOV #1,START ;SEND 1 FLAG
7831 7826 033034 012737 000002 002336 MOV #2,HEADER ;SEND 2 HEADER CHARACTERS
7832 7827 033042 012737 000004 002352 MOV #4,LENGTH ;CHARACTER LENGTH OF 5 BITS.
7833 7828 033050 012737 000400 002434 MOV #TSM,TSTART ;START MESSAGE
7834 7829 033056 012737 002000 002422 MOV #TXABO,TEND ;ABORT MESSAGE
7835 7830 033064 012737 002502 002470 MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
7836 7831 033072 012737 000100 002472 MOV #64,XCOUNT ;# OF CHARACTERS TO TRANSMIT
7837
7838 ;
7839 7833 033100 013777 002344 147162 MOV IPCSAR,#PCSR ;SET UP PARAMETERS AND ADDRESS
7840 7834 033106 112737 000204 002342 MOVB #204,IPCR ;SET UP CHARACTER LENGTH
7841
7842 7836
7843 7837 033114 CALL #BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
7844 7838 033120 012737 000001 002356 MOV #1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
7845 7839 033126 012737 000001 002332 MOV #1,EXERR ;FLAG THAT AN ERROR IS EXPECTED IN $DATA
7846 7840 033134 CALL $DATA
7847 7841 033140 ESCAPE TST ;IF ERROR - EXIT TEST
7848
7849 TRAP C$ESCAPE
7850 (3) 033140 104410 .WORD L10122-.
7851 (3) 033142 000020
7852 7842 033144 005737 002350 TST IRDSR ;IS THE ERR BIT SET
7853 7843 033150 100404 BMI 204 ;IF YES - OK
7854 7844 033152 ERDF 82,EMG38
7855
7856 TRAP C$ERDF
7857 (4) 033152 104455 .WORD 82
7858 (5) 033154 000122 .WORD EMG38
7859 (5) 033156 015240 .WORD 0
7860 (5) 033160 000000
7861
7862 204:
7863
7864 ENDTST
7865
7866 L10122:
7867 (3) 033162 TRAP C$ETST
7868 (3) 033162 104401
7869 7848

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29
 CVDPVC.P11 16 AUG-84 14:18 TEST 25 - CRC-CCITT PRESET TO ZERO

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7851 .SBTTL TEST 25 - CRC-CCITT PRESET TO ZERO
7852
7853 ;*****
7854 ;* TEST 25 - DPV-11
7855 ;* CRC-CCITT PRESET TO ZERO.
7856 ;* CHECK TO ENSURE THAT THE ERROR CHECK BIT (BIT 15 OF RDSR) IS
7857 ;* SET WHEN AN ABORT IS RECEIVED. IN BOP MODE THIS BIT IS SET WHEN THE
7858 ;* CRC IS IN ERROR. THE ERROR CHECK BIT SHOULD BE ZERO WHEN REOM=1,
7859 ;* IF THE CRC WERE CORRECTLY RECEIVED. BY FORCING AN ABORT WE INTENTIONALLY
7860 ;* LOOK AT THE ERROR BIT WHEN IT SHOULD BE IN AN ERROR STATE.
7861 ;* SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO 0, LOOP SET,
7862 ;* 8 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
7863 ;*
7864 ;*****
7865 BGNTST
7866
7867
7868 033164 CALL #RESET ;RESET THE DPV
7869 033170 ESCAPE TST ;IF ERROR, BR TO THE END.
7870 (3) 033170 104410 TRAP C$ESCAPE
7871 (3) 033172 000156 .WORD L10123 .
7872 033174 012737 100000 002362 MOV #BOP,MODE ;FLAG THAT WE ARE IN BOP MODE.
7873 033202 012737 000400 002344 MOV #CCITT,IPCSAR ;SET CRC-CCITT PRESET TO ZERO
7874 033210 052737 020000 002344 BIS #LOOP,IPCSAR ;SET LOOP MODE TO RECOGNIZE GO AHEAD.
7875 033216 012737 001001 002414 MOV #1,START ;SEND 1 FLAG
7876 033224 012737 001002 002336 MOV #2,HEADER ;SEND 2 HEADER CHARACTERS
7877 033232 012737 000010 002352 MOV #8,LENGTH ;CHARACTER LENGTH OF 8 BITS.
7878 033240 012737 000400 002434 MOV #TSM,TSTART ;START MESSAGE
7879 033246 012737 002000 002422 MOV #TXABO,TEND ;ABORT MESSAGE
7880 033254 012737 002502 002470 MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
7881 033262 012737 000100 002472 MOV #64,XCOUNT ;# OF CHARACTERS TO TRANSMIT
7882
7883
7884
7885 033270 013777 002344 146772 MOV IPCSAR,SPCSAR ;SET UP PARAMETERS AND ADDRESS
7886 033276 105037 002342 CLR8 IPCR ;SET UP CHARACTER LENGTH
7887
7888
7889 033302 CALL #BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
7890 033306 012737 000001 002356 MOV #1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
7891 033314 012737 000001 002332 MOV #1,EXERR ;FLAG THAT AN ERROR IS EXPECTED IN $DATA
7892 033322 CALL #DATA
7893 (3) 033326 104410 ESCAPE TST ;IF ERROR - EXIT TEST
7894 (3) 033330 000020 TRAP C$ESCAPE
7895 033332 005737 002350 .WORD L10123-.
7896 033336 100404 ST IRDSR ;IS THE ERR BIT SET
7897 JMI 20$ ;IF YES - OK

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CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-1
CVDPVC.P11 16-AUG-84 14:18 TEST 25 - CRC-CCITT PRESET TO ZERO

7892 033340
(4) 033340 104455
(5) 033342 000123
(5) 033344 015240
(5) 033346 000000

ERRDF 83,EMG38

TRAP C#ERDF
.WORD 83
.WORD EMG38
.WORD 0

7893 033350

201:

7894

7895

7896 033350

ENDTST

L10123:

(3) 033350
(3) 033350 104401

TRAP C#ETST

7897

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-2
 CVDPVC.P11 16-AUG-84 14:18 TEST 26 - CRC-16 PRESET TO 0

```

7899 .SBTTL TEST 26 - CRC-16 PRESET TO 0
7900
7901 ;*****
7902 ;* TEST 26 - DPV-11
7903 ;* CRC-16 PR SET TO 0
7904 ;*
7905 ;* SUBTEST 1 - CRC-16 ERROR
7906 ;* CHECK TO ENSURE THAT THE ERROR CHECK BIT (BIT 15 OF RDSR) IS
7907 ;* CLEAR IF THE RECEIVER IS SHUTDOWN BEFORE THE CRC IS RECEIVED.
7908 ;* IN BCP MODE THIS BIT IS CLEAR WHEN THE CRC IS IN ERROR.
7909 ;* THE ERROR CHECK BIT SHOULD BE SET WHEN THE LAST CHARACTER IS RECEIVED.
7910 ;* IF THE CRC WERE GOOD.
7911 ;* SELECTED OPTIONS: BCP MODE, CRC-16 PRESET TO 0, LOOP SET,
7912 ;* 8 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
7913 ;*
7914 ;* SUBTEST 2 - CRC-16 CHECK
7915 ;* CHECK THAT THE CORRECT CRC-16 IS RECEIVED FOR THE DATA MESSAGE.
7916 ;* THE CRC FOR THIS DATA MESSAGE WAS PREDETERMINED.
7917 ;*
7918 ;*****
7919 BGNTST
7920
7921 BGNSUB
7922
7923 T26.:
7924
7925 T26.1:
7926 TRAP C#BSUB
7927
7928 CALL #RESET
7929 ESCAPE TST
7930 ;RESET THE DPV
7931 ;IF ERROR, BR TO THE END.
7932
7933 TRAP C#ESCAPE
7934 .WORD L10124-.
7935
7936 CLR MODE
7937 MOV #CRC16,IPCSAR
7938 MOV #271,IPCSAR
7939 BIS #PROTO,IPCSAR
7940 MOV #2,START
7941 MOV #1,HEADER
7942 MOV #8,LENGTH
7943 MOV #TSM,TSTART
7944 MOV #TEOM,TEND
7945 MOV #CCITT,XTYPE
7946 MOV #15,XCOUNT
7947 ;FLAG THAT WE ARE IN BCP MODE.
7948 ;SET CRC 16
7949 ;SYNCH CHARACTER
7950 ;SET BCP PROTOCOL
7951 ;SEND 2 SYNCHS
7952 ;SEND 1 HEADER CHARACTER
7953 ;CHARACTER LENGTH OF 8 BITS.
7954 ;START OF MESSAGE.
7955 ;END OF MESSAGE
7956 ;USE CCITT DATA PATTERN
7957 ;# OF CHARACTERS TO TRANSMIT
7958 ;
7959 ;CHARACTER LENGTH.
7960 ;SET UP PARAMETERS AND ADDRESS
7961
7962 CALL #BUFRS
7963 MOV #1,MAINT
7964 CLR EXERR
7965 DEC ECOUNT
7966 CALL #DATA
7967 ESCAPE TST
7968 ;SET UP TRANSMIT AND RECEIVE BUFFERS.
7969 ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
7970 ;FLAG THAT NO ERRORS ARE EXPECTED IN #DATA
7971 ;CHANGE THE END COUNT
7972 ;
7973 ;IF ERROR - EXIT TEST
7974
7975 TRAP C#ESCAPE
7976 .WORD L10124-.
7977
7978 TST IRDSR
7979 BPL 208
7980 ;IS THE ERR BIT SET
7981 ;IF YES - OK

```

CVDPCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-3
 CVDPC.P11 16-AUG-84 14:18 TEST 26 - CRC-16 PRESET TO 0

7948	033536			ERRDF	84,EMG38				
(4)	033536	104455						TRAP	C#ERDF
(5)	033540	000124						.WORD	84
(5)	033542	015240						.WORD	EMG38
(5)	033544	000000						.WORD	0
7949	033546			204:					
7950	033546			ENDSUB					
(3)	033546								
(3)	033546	104403						L10125:	
7951	033546							TRAP	C#ESI8
7952	033550			BGNSUB					
(3)	033550								
(3)	033550	104402						T26.2:	
7953	033552			CALL	\$RESET			TRAP	C#BSUB
7954	033556			ESCAPE	TST				
(3)	033556	104410							
(3)	033560	000206						TRAP	C#ESCAPE
7955	033562	005037	002362	CLR	MODE			.WORD	L10124--
7956	033566	012737	002344	MOV	#CRC16,IPCSAR				
7957	033574	112737	002344	MOVB	#271,IPCSAR				
7958	033602	052737	002344	BIS	#PROTO,IPCSAR				
7959	033610	012737	002344	MOV	#2,START				
7960	033616	012737	002336	MOV	#1,HEADER				
7961	033624	012737	002352	MOV	#8,LENGTH				
7962	033632	012737	002434	MOV	#TSJM,TSTART				
7963	033640	012737	002422	MOV	#TEOM,TEND				
7964	033646	012737	002470	MOV	#CCITT,XTYPE				
7965	033654	012737	002472	MOV	#15,XCOUNT				
7966									
7967	033662	013777	002344	MOV	IPCSAR,BPCSAR				
7968	033670	105037	002342	CLRB	IPCR				
7969									
7970	033674			CALL	\$BFRS				
7971									
7972	033700	012737	000001	MOV	#1,MAINT				
7973	033706	005037	002332	CLR	EXERR				
7974									
7975	033712	062737	000002	ADD	#2,ECOUNT				
7976									
7977	033720			CALL	\$DATA				
7978	033724			ESCAPE	TST				
(3)	033724	104410							
(3)	033726	000040							
7979	033730	012701	003274	MOV	#RCVBUF,R1				
7980	033734	063701	002472	ADD	XCOUNT,R1				
7981	033740	122127	000332	CMPS	(R1),#CRCLO				
7982	033744	001003		BNE	104				
7983	033746	122127	000266	CMPS	(R1),#CRCHI				
7984	033752	001404		BEG	204				
7985	033754								
7986	033754			104:					
(4)	033754	104455		ERRDF	85,EMG37				
(5)	033756	000125							
(5)	033760	015226							
(5)	033762	000000							
7987	033764			204:					

CVDPVCO DPCV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-4
CVDPVC.P11 16-AUG-84 14:18 TEST 26 - CRC-16 PRESET TO 0

7988 033764
(3) 033764
(3) 033764 104403
7989
7990 033766
(3) 033766
(3) 033766 104401
7991
7992
7993

ENDSUB

L10126: TRAP C#ESUB

ENDTST

L10124: TRAP C#ETST

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-5
 CVDPVC.P11 16-AUG-84 14:18 TEST 27 - VRC ODD PARITY ERROR

```

7995 .SBTTL TEST 27 - VRC ODD PARITY ERROR
7996
7997 ;*****
7998 ;* TEST 27 - DPV-11
7999 ;* VRC ODD PARITY ERROR
8000 ;* BY SELECTING DIFFERENT CHARACTER LENGTHS IN THE RECEIVER AND
8001 ;* TRANSMITTER, CAUSE A PARITY ERROR TO OCCUR.
8002 ;* SELECTED OPTIONS: BCP MODE, VRC-ODD PARITY, XMIT=7 &
8003 ;* RCV=6 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
8004 ;*
8005 ;*****
8006 033770 BGNTST
      (3) 033770 T27::

8007
8008
8009 033770 CALL $RESET ;RESET THE DPV
8010 033774 ESCAPE TST ;IF ERROR, BR TO THE END.
      (3) 033774 104410 TRAP C$ESCAPE
      (3) 033776 000160 .WORD L10127-.

8011 034000 005037 002362 CLR MODE ;FLAG THAT WE ARE IN BCP MODE.
8012 034004 012737 002000 002344 MOV #VRC0,IPCSAR ;SET VRC ODD
8013 034012 112737 000271 002344 MOVB #271,IPCSAR ;SYNCH CHARACTER
8014 034020 052737 040000 002344 BIS #PROTO,IPCSAR ;SET BCP PROTOCOL
8015 034026 012737 000002 002414 MOV #2,START ;SEND 2 SYNCHS
8016 034034 012737 000002 002336 MOV #2,HEADER ;SEND 2 HEADER CHARACTERS
8017 034042 012737 000010 002352 MOV #8,LENGTH ;CHARACTER LENGTH OF 8 BITS.
8018 034050 012737 000400 002434 MOV #TSOM,TSTART ;START OF MESSAGE.
8019 034056 012737 001000 002422 MOV #TEOM,TEND ;END OF MESSAGE
8020 034064 012737 002502 002470 MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
8021 034072 012737 000017 002472 MOV #15,XCOUNT ;# OF CHARACTERS TO TRANSMIT
8022
8023 034100 112737 000346 002342 MOVB #346,IPCR ;SET UP A XMIT CHARACTER = 7
8024
8025 034106 013777 002344 146154 MOV IPCSAR,$PC SAR ;AND A RECEIVE CHARACTER = 6
8026 ;SET UP PARAMETERS AND ADDRESS
8027
8028 034114 CALL $BFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
8029 034120 012737 000001 002356 MOV #1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
8030 034126 012737 000001 002332 MOV #1,EXERR ;FLAG THAT AN ERROR IS EXPECTED IN $DATA
8031 034134 CALL $DATA
8032 034140 005737 002350 TST IRDSR ;IS THE ERROR BIT SET (BIT 15)?
8033 034144 100404 BMI 204 ;IF SET OK
8034 034146 ERDF 86,EMG39
      (4) 034146 104455 TRAP C$ERDF
      (5) 034150 000126 .WORD 86
      (5) 034152 015267 .WORD EMG39
      (5) 034154 000000 .WORD 0
8035 034156 204:
8036
8037
8038 034156 ENDTST
      (3) 034156 L10127:
      (3) 034156 104401 TRAP C$ETST
8039
8040
8041

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-6
 CVDPVC.P11 16-AUG-84 14:18 TEST 28 - VRC EVEN PARITY ERROR

```

8043 .SBTTL TEST 28 - VRC EVEN PARITY ERROR
8044
8045 ;*****
8046 ;* TEST 28 - DPV-11
8047 ;* VRC EVEN PARITY ERROR
8048 ;* BY SELECTING DIFFERENT CHARACTER LENGTHS IN THE RECEIVER AND
8049 ;* TRANSMITTER, CAUSE A PARITY ERROR TO OCCUR.
8050 ;* SELECTED OPTIONS: BCP MODE, VRC-EVEN PARITY, XMIT=5 &
8051 ;* RCV=4 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
8052 ;*
8053 ;*****
8054 BGNTST
8055
8056
8057 034160 CALL #RESET ;RESET THE DPV
8058 (3) 034160 ESCAPE TST ;IF ERROR, BR TO THE END.
8059 (3) 034166 104410 TRAP C#ESCAPE
8060 034170 005037 002362 CLR MODE ;FLAG THAT WE ARE IN BCP MODE.
8061 034174 012737 002400 002344 MOV #VRCE,IPCSAR ;SET VRC EVEN
8062 034202 112737 000271 002344 MOV #271,IPCSAR ;SYNCH CHARACTER
8063 034210 052737 040000 002344 BIS #PROTO,IPCSAR ;SET BCP PROTOCOL
8064 034216 012737 000002 002414 MOV #2,START ;SEND 2 SYNCHS
8065 034224 012737 000002 002336 MOV #2,HEADER ;SEND 2 HEADER CHARACTERS
8066 034232 012737 000010 002352 MOV #8,LENGTH ;CHARACTER LENGTH OF 8 BITS.
8067 034240 012737 000400 002434 MOV #TSOM,TSTART ;START OF MESSAGE.
8068 034246 012737 001000 002422 MOV #TEOM,TEND ;END OF MESSAGE
8069 034254 012737 002502 002470 MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
8070 034262 012737 000017 002472 MOV #15,XCOUNT ;# OF CHARACTERS TO TRANSMIT
8071 034270 112737 000244 002342 MOV #244,IPCR ;SET UP A XMIT CHARACTER = 5
8072 ;AND A RECEIVE CHARACTER = 4
8073 034276 013777 002344 145764 MOV IPCSAR,BPCSAR ;SET UP PARAMETERS AND ADDRESS
8074
8075
8076 034304 CALL #BUFFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
8077 034310 012737 000001 002356 MOV #1,MAINT ;FLAG TO USE MAINTENANCE MODE LOOPBACK.
8078 034316 012737 000001 002332 MOV #1,EXERR ;FLAG THAT AN ERROR IS EXPECTED IN $DATA
8079 034324 CALL #DATA
8080 034330 005737 002350 TST IRDSR ;IS THE ERROR BIT SET (BIT 15)?
8081 034334 100404 BMI 20# ;IF SET OK
8082 034336 ERDIF 87,EMG39
8083 (4) 034336 104455 TRAP C#ERDIF
8084 (5) 034340 000127 .WORD 87
8085 (5) 034342 015267 .WORD EMG39
8086 (5) 034344 000000 .WORD 0
8087 034346
8088
8089
8083 20#:
8084
8085
8086 034346 ENDTST
8087 (3) 034346
8088 (3) 034346 104401 L10130:
8089 TRAP C#ETST

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-7
 CVDPVC.P11 16-AUG-84 14:18 TEST 29 - DATA TEST

```

8091 .SBTTL TEST 29 - DATA TEST
8092
8093 ;*****
8094 ;* TEST 29 - DPV-11
8095 ;* DATA TEST
8096 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE WITHOUT THE USE OF INTERRUPT
8097 ;* SERVICE ROUTINES. CHECK THAT THE DATA IS CORRECT.
8098 ;* SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ONES,
8099 ;* 8 BIT CHARACTERS, MAINTENANCE MODE LOOPBACK.
8100 ;*
8101 ;*****
8102 BGNTST
8103
8104 (3) 034350 103573
8105 034356
8106 034362
8107 (3) 034362 104410
8108 (3) 034364 000360
8109 034366 012737 100000 002362
8110 034374 005037 002344
8111 034400 012737 000000 002344
8112 034406 012737 000010 002352
8113 034414 012737 002602 002470
8114 034422 012737 000045 002472
8115
8116 034430
8117
8118 034434 012701 003274
8119 034440 012702 002674
8120 034444 013703 002472
8121 034450 005037 002500
8122 034454 013704 002430
8123
8124 034460 013777 002402 145600
8125 034466 013777 002436 145576
8126
8127 034474 012777 000400 145572
8128 034502
8129 034502 012705 002000
8130 034506
8131 034506 005777 145562
8132 034512 100005
8133 034514
8134 (4) 034514 104455
8135 (5) 034516 000130
8136 (5) 034520 014766
8137 (5) 034522 000000
8138 034524 000507
8139 034526
8140 034526 032777 000004 145536
8141 034534 001056

```

CALL \$SPEED ;CAN THE CPU SUPPORT THE LOOPBACK?
 BCS 504 ;IF NOT, SKIP THE TEST.
 CALL \$RESET ;RESET THE DPV
 ESCAPE TST ;IF ERROR, BR TO THE END.

TRAP C\$ESCAPE
 .WORD L10131-.

MOV \$BOP,MODE ;FLAG THAT MODE IS BUP.
 CLR IPCSAR ;IMAGE OF PCSAR = 0.
 MOV \$CCITT1,IPCSAR ;SET CRC-CCITT PRESET TO ONE
 MOV \$8,LENGTH ;CHARACTER LENGTH OF 8 BITS
 MOV \$ALPHA,XTYPE ;USE ALPHANUMERIC DATA PATTERN
 MOV \$ACOUNT,XCOUNT ;# OF CHARACTERS TO TRANSMIT

CALL \$BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.

MOV \$RCVBUF,R1 ;RECEIVE BUFFER
 MOV \$XMTBUF,R2 ;TRANSMIT BUFFER
 MOV XCOUNT,R3 ;TRANSMIT COUNT
 CLR RCOUNT ;CLEAR THE RECEIVE COUNTER.
 MOV TIMER,R4 ;SET UP THE TIMER.

MOV RXINI,\$RXCSR ;ENABLE THE RECEIVER
 MOV TXINI,\$TXCSR ;ENABLE THE RECEIVER

MOV \$TSOM,\$TDSR ;TRANSMIT START OF MESSAGE

MOV \$2000,R5 ;INNER TIMER LOOP COUNTER.

TST \$TDSR ;IS THERE A TRANSMIT ERROR?
 BPL 124 ;IF NOT PROCEED.
 ERDF 88,EMG30 ;TRANSMIT UNDERRUN.

TRAP C\$ERDF
 .WORD 88
 .WORD EMG30
 .WORD 0

BR 504

124:

BIT \$TBE,\$TXCSR ;IS TRANSMIT BUFFER EMPTY?
 BNE 204 ;IF YES - SEND A CHARACTER.

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-8
 CVDPVC.P11 16-AUG-84 14:18 TEST 29 - DATA TEST

8140									
8141	034536	005305			DEC	R5		;DECREMENT LOOP COUNTER	
8142	034540	001010			BNE	15:		;IF NOT ZERO OK.	
8143	034542				BREAK			;BREAK FOR SUPERVISOR INTERRUPT.	
(3)	034542	104422							TRAP C#BRK
8144	034544	005304			DEC	R4		;IS OUTER LOOP 0?	
8145	034546	001355			BNE	9:		;IF NOT, RESET INNER LOOP COUNTER	
8146								;OTHERWISE, REPORT ERROR	
8147	034550		13:						
8148	034550				ERRDF	89,EMG1			
(4)	034550	104455							TRAP C#ERDF
(5)	034552	000131							.WORD 89
(5)	034554	013462							.WORD EMG1
(5)	034556	000000							.WORD 0
8149	034560	000471			BR	50:			
8150									
8151	034562		15:						
8152	034562	032777 002200 145476			BIT	#RSTARY!RDATRY, BRXCSR		;IS STATUS OR DATA READY?	
8153	034570	001746			BEQ	10:		;IF NOT CHECK TBE	
8154	034572	017737 145470 002346			MOV	BRXCSR, IRXCSR		;SAVE RXCSR	
8155	034600	017737 145464 002350			MOV	BRDSR, IRDSR		;SAVE RDSR	
8156	034606	032737 000200 002346			BIT	#RDATRY, IRXCSR		;IS DATA READY?	
8157	034614	001404			BEQ	17:			
8158	034616	113721 002350			MOVB	IRDSR, (P1)+		;SAVE THE DATA	
8159	034622	005237 002500			INC	RCOUNT		;INCREMENT COUNT	
8160	034626		17:						
8161	034626	032737 002000 002346			BIT	#RSTARY, IRXCSR		;IS STATUS READY?	
8162	034634	001724			BEQ	10:		;IF NOT CHECK TBE	
8163	034636	032737 106000 002350			BIT	#ERR!ROVER!RABORT, IRDSR		;ANY ERRORS?	
8164	034644	001005			BNE	18:		;IF YES, REPORT.	
8165	034646	032737 001000 002350			BIT	#REOM, IRDSR		;END OF MESSAGE.	
8166	034654	001031			BNE	30:			
8167	034656	000713			BR	10:			
8168	034660		18:						
8169	034660				ERRDF	90,EMG31			
(4)	034660	104455							TRAP C#ERDF
(5)	034662	000132							.WORD 90
(5)	034664	015004							.WORD EMG31
(5)	034666	000000							.WORD 0
8170	034670	000425			BR	50:			
8171									
8172									
8173	034672		20:						
8174	034672	032777 000400 145374			BIT	#TSOM, BTDSR		;IS START OF MESSAGE SENT.	
8175	034700	001405			BEQ	25:		;IF NOT, CONTINUE.	
8176	034702	005037 002476			CLR	XMITD		;CLEAR XMIT COUNTER	
8177	034706	042777 000400 145360			BIC	#TSOM, BTDSR		;CLEAR START OF MESSAGE.	
8178	034714		25:						
8179	034714	112277 145354			MOVB	(R2)+, BTDSR		;TRANSMIT A CHARACTER.	
8180	034720	005237 002476			INC	XMITD		;COUNT CHARACTER ACTUALLY TRANSMITTED.	
8181	034724	005303			DEC	R3		;DECREMENT COUNTER	
8182	034726	001315			BNE	15:		;IF NOT DONE LOOP	
8183	034730	052777 001000 145336			BIS	#TEOM, BTDSR		;SEND END OF MESSAGE.	
8184	034736	000711			BR	15:			
8185									
8186	034740		30:						

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-9
CVDPVC.P11 16-AUG-84 14:18 TEST 29 - DATA TEST

8187 034740 CALL \$CHECK ;CHECK THAT THE DATA WAS CORRECT.

8188

8189

8190 034744

504:

8191

8192 034744

ENDTST

(3) 034744

L10131:

(3) 034744 104401

TRAP

C\$ETST

8193

8194

8195

8196

8197

8198

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-10
 CVDPVC.P11 16-AUG-84 14:18 TEST 30 - BOP DATA TEST

```

8200 .SBTTL TEST 30 - BOP DATA TEST
8201
8202 ;*****
8203 ;* TEST 30 - DPV-11
8204 ;* BOP DATA TEST
8205 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8206 ;* DATA IS CORRECTLY RECEIVED.
8207 ;* SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ZERO,
8208 ;* 6 BIT CHARACTERS, USER SELECTED LOOPBACK.
8209 ;*
8210 ;*****
8211 BGNTST
8212 (3) 034746
8213 034746 103462
8214 034752
8215 034754
8216 (3) 034760 104410
8217 (3) 034762 000136
8218 034764 012737 100000 002362
8219 034772 012737 000400 002344
8220 035000 012737 000001 002414
8221 035006 012737 000002 002336
8222 035014 012737 000006 002352
8223 035022 012737 000400 002434
8224 035030 012737 001000 002422
8225 035036 012737 002502 002470
8226 035044 012737 000100 002472
8227 035052 013777 002344 145210
8228 035060 112737 000306 002342
8229
8230 035066
8231 035072 005037 002356
8232 035076 005037 002332
8233 035102
8234 035106 103402
8235
8236 035110
8237 035114
8238 035114
8239 035120
8240
8241 035120
8242 (3) 035120
      (3) 035120 104401
      (3) 035120 104401

      CALL $SPEED ;CAN THE CPU SUPPORT THE LOOPBACK?
      BCS 50$ ;IF NOT, SKIP THE TEST.
      CALL $RESET ;RESET THE DPV
      ESCAPE TST ;IF ERROR, BR TO THE END.

      MOV #BOP,MODE ;FLAG THAT WE ARE IN BOP MODE.
      MOV #CCITTO,IPCSAR ;SET CRC-CCITT PRESET TO ZERO
      MOV #1,START ;SEND 1 FLAG
      MOV #2,HEADER ;SEND 2 HEADER CHARACTERS
      MOV #6,LENGTH ;CHARACTER LENGTH OF 6 BITS.
      MOV #TSOM,TSTART ;START OF MESSAGE.
      MOV #TEOM,TEND ;END OF MESSAGE
      MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
      MOV #64,XCOUNT ;# OF CHARACTERS TO TRANSMIT

      MOV IPCSAR,$PCPSAR ;SET UP PARAMETERS AND ADDRESS
      MOV $306,IPCR ;SET UP CHARACTER LENGTH

      CALL $BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
      CLR MAINT ;CLEAR FLAG TO INDICATE NO MAINTENACE LOOPBACK
      CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
      CALL $DATA
      BCS 20$ ;IF ERROR SKIP DATA CHECK.

      CALL $CHECK ;CHECK THAT THE DATA WAS CORRECT.
      CALL $MODEM ;PRINT OUT MODEM CONTROL STATUS.

      20$:
      50$:
      ENDTST

      L10132:
      TRAP C$ETST
  
```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-11
 CVDPVC.P11 16-AUG-84 14:18 TEST 31 - BOP DATA TEST

```

8244 .SBTTL TEST 31 - BOP DATA TEST
8245
8246 ;*****
8247 ;* TEST 31 - DPV-11
8248 ;* BOP DATA TEST
8249 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8250 ;* DATA IS CORRECTLY RECEIVED.
8251 ;* SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ONES,
8252 ;* 5 BIT CHARACTERS, USER SELECTED LOOPBACK.
8253 ;*
8254 ;*****
8255 BGNTST
8256 (3) 035122
8257 035122 103465 CALL $SPEED ;CAN THE CPU SUPPORT THE LOOPBACK?
8258 035130 BCS 50$ ;IF NOT, SKIP THE TEST.
8259 035134 CALL $RESET ;RESET THE DPV
8260 (3) 035134 104410 ESCAPE TST ;IF ERROR, BR TO THE END.
8261 (3) 035136 000144 TRAP C$ESCAPE
8262 035140 012737 100000 002362 MOV $BOP,MODE ;FLAG THAT WE ARE IN BOP MODE.
8263 035146 012737 000000 002344 MOV $CCITT1,IPCSAR ;SET CRC-CCITT PRESET TO ONE
8264 035154 012737 000001 002414 MOV $1,START ;SEND 1 FLAG
8265 035162 012737 000002 002336 MOV $2,HEADER ;SEND 2 HEADER CHARACTERS
8266 035170 012737 000005 002352 MOV $5,LENGTH ;CHARACTER LENGTH OF 5 BITS.
8267 035176 012737 000400 002434 MOV $TSOM,TSTART ;START OF MESSAGE.
8268 035204 012737 001000 002422 MOV $TEOM,TEND ;END OF MESSAGE
8269 035212 012737 002502 002470 MOV $CCITT,XTYPE ;USE CCITT DATA PATTERN
8270 035220 012737 000100 002472 MOV $64,XCOUNT ;# OF CHARACTERS TO TRANSMIT
8271 035226 013777 002344 145034 MOV IPCSAR,$PCSR ;SET UP PARAMETERS AND ADDRESS
8272 035234 112737 000245 002342 MOV $245,IPCR ;SET UP CHARACTER LENGTH
8273
8274 035242 CALL $BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
8275 035246 005037 002356 CLR MAINT ;CLEAR FLAG TO INDICATE NO MAINTENACE LOOPBACK
8276 035252 005037 002332 CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
8277 035256 012737 000001 002340 MOV $1,HIGH ;FLAG TO USE HIGH SPEED INT. SERVICE ROUTINE.
8278 035264 CALL $DATA
8279 035270 103402 BCS 20$ ;IF ERROR SKIP DATA CHECK.
8280
8281 035272 CALL $CHECK ;CHECK THAT THE DATA WAS CORRECT.
8282 035276 20$: CLR HIGH ;CLEAR FLAG FOR HIGH SPEED ISRS.
8283 035276 005037 002340 50$:
8284 035302
8285
8286 035302 ENDTST
8287 (3) 035302 L10133: TRAP C$ETST
8288 (3) 035302 104401

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-12
 CVDPVC.P11 16-AUG-84 14:18 TEST 32 - BOP DATA TEST

```

8290 .SBTTL TEST 32 - BOP DATA TEST
8291
8292 ;*****
8293 ;* TEST 32 - DPV-11
8294 ;* BOP DATA TEST
8295 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8296 ;* DATA IS CORRECTLY RECEIVED.
8297 ;* SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ZERO,
8298 ;* 7 BIT CHARACTERS, USER SELECTED LOOPBACK.
8299 ;*
8300 ;*****
8301 BGNTST
8302 (3) 035304
8303 035304 103470
8304 035310
8305 035312
8306 035316 104410
8307 (3) 035316
8308 (3) 035320 000152
8309 035322 012737 100000 002362
8310 035330 012737 000400 002344
8311 035336 052737 010000 002344
8312 035344 112737 000123 002344
8313 035352 012737 000001 002414
8314 035360 012737 000002 002336
8315 035366 012737 000007 002352
8316 035374 012737 000400 002434
8317 035402 012737 001000 002422
8318 035410 012737 002502 002470
8319 035416 012737 000100 002472
8320
8321
8322 035424 013777 002344 144636
8323 035432 112737 000347 002342
8324
8325
8326 035440
8327 035444 005037 002356
8328 035450 005037 002332
8329 035454
8330 035460 103402
8331
8332
8333 035462
8334 035466
8335 035472
8336 035472
8337 (3) 035472
8338 (3) 035472 104401
8339
8340
8341
8342
8343
8344
8345
8346

```

```

CALL $SPEED ;CAN THE CPU SUPPORT THE LOOPBACK?
BCS 50$ ;IF NOT, SKIP THE TEST.
CALL $RESET ;RESET THE DPV
ESCAPE TST ;IF ERROR, BR TO THE END.

MOV #BOP,MODE ;FLAG THAT WE ARE IN BOP MODE.
MOV #CCITT,IPCSAR ;SET CRC-CCITT PRESET TO ZERO
BIS #SECADR,IPCSAR ;SET SECONDARY ADDRESS.
MOVB #123,IPCSAR ;SECONDARY ADDRESS.
MOV #1,START ;SEND 1 FLAG
MOV #2,HEADER ;SEND 2 HEADER CHARACTERS
MOV #7,LENGTH ;CHARACTER LENGTH OF 7 BITS.
MOV #TSOM,TSTART ;START OF MESSAGE.
MOV #TEOM,TEND ;END OF MESSAGE
MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
MOV #64,XCOUNT ;# OF CHARACTERS TO TRANSMIT

MOV IPCSAR,$PCSR ;SET UP PARAMETERS AND ADDRESS
MOVB #347,IPCR ;SET UP CHARACTER LENGTH

CALL $BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
CLR MAINT ;CLEAR FLAG TO INDICATE NO MAINTENACE LOOPBACK
CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
CALL $DATA
BCS 20$ ;IF ERROR SKIP DATA CHECK.

CALL $CHECK ;CHECK THAT THE DATA WAS CORRECT.
CALL $MODEM ;PRINT OUT MODEM CONTROL STATUS.

ENDTST

```

```

T32::
TRAP C$ESCAPE
WORD L10134-.

L10134:
TRAP C$ETST

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 29-13
 CVDPVC.P11 16-AUG-84 14:18 TEST 33 - BOP DATA TEST

```

8338 .SBTTL          TEST 33 - BOP DATA TEST
8339
8340 ;*****
8341 ;*          TEST 33 - DPV-11
8342 ;* BOP DATA TEST
8343 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8344 ;* DATA IS CORRECTLY RECEIVED.
8345 ;*          SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ONES,
8346 ;*                               8 BIT CHARACTERS, USER SELECTED LOOPBACK.
8347 ;*
8348 ;*****
8349 BGNTST
8350
8351          (3) 035474
8352          (3) 035474
8353          (3) 035500 103461
8354          (3) 035506 104410
8355          (3) 035510 000134
8356          035512 012737 100000 002362
8357          035520 012737 000000 002344
8358          035526 012737 000001 002414
8359          035534 012737 000002 002336
8360          035542 012737 000010 002352
8361          035550 012737 000400 002434
8362          035556 012737 001000 002422
8363          035564 012737 002502 002470
8364          035572 012737 000100 002472
8365          035600 013777 002344 144462
8366          035606 105037 002342
8367
8368          035612
8369          035616 005037 002356
8370          035622 005037 002332
8371          035626
8372          035632 103402
8373
8374          035634
8375          035640
8376          035640
8377          035644
8378
8379          035644
8380          (3) 035644
8381          (3) 035644 104401

```

```

          CALL    $SPEED          ;CAN THE CPU SUPPORT THE LOOPBACK?
          BCS     50$              ;IF NOT, SKIP THE TEST.
          CALL    $RESET          ;RESET THE DPV
          ESCAPE  TST              ;IF ERROR, BR TO THE END.
                                     TRAP    C$ESCAPE
                                     .WORD   L10135-.
          MOV     #BOP,MODE        ;FLAG THAT WE ARE IN BOP MODE.
          MOV     #CCITT1,IPCSAR   ;SET CRC-CCITT PRESET TO ONE
          MOV     #1,START         ;SEND 1 FLAG
          MOV     #2,HEADER        ;SEND 2 HEADER CHARACTERS
          MOV     #8,LENGTH        ;CHARACTER LENGTH OF 8 BITS.
          MOV     #TSM,TSTART      ;START OF MESSAGE.
          MOV     #TEOM,TEND       ;END OF MESSAGE
          MOV     #CCITT,XTYPE     ;USE CCITT DATA PATTERN
          MOV     #64,XCOUNT      ;# OF CHARACTERS TO TRANSMIT
          ;
          MOV     IPCSAR,$PCSR     ;SET UP PARAMETERS AND ADDRESS
          CLRB    IPCR            ;SET UP CHARACTER LENGTH
          ;
          CALL    $BUFRS          ;SET UP TRANSMIT AND RECEIVE BUFFERS.
          CLR     MAINT           ;CLEAR FLAG TO INDICATE NO MAINTENACE LOOPBACK
          CLR     EXERR           ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
          CALL    $DATA
          BCS     20$              ;IF ERROR SKIP DATA CHECK.
          ;
          CALL    $CHECK           ;CHECK THAT THE DATA WAS CORRECT.
          ;
          CALL    $MODEM          ;PRINT OUT MODEM CONTROL STATUS.
          ;
          ENDTST

```

```

          20$:
          CALL    $CHECK
          ;
          50$:
          CALL    $MODEM
          ;
          L10135:
          TRAP    C$ETST

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30
 CVDPVCL.P11 16-AUG-84 14:18 TEST 34 - BOP DATA TEST

```

8382 .SBTTL TEST 34 - BOP DATA TEST
8383
8384 ;*****
8385 ;* TEST 34 - DPV-11
8386 ;* BOP DATA TEST
8387 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8388 ;* DATA IS CORRECTLY RECEIVED.
8389 ;* NOTE: CERTAIN USYNRTS ONLY TRANSMIT A SPECIAL START SEQUENCE WHEN
8390 ;* TRANSMIT START AND END OF MESSAGE ARE SET BY A BYTE OPERATION.
8391 ;* SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ONES,
8392 ;* 6 BIT CHARACTERS, USER SELECTED LOOPBACK.
8393 ;*
8394 ;*****
8395 BGNTST
8396
8397 (3) 035646 103462
8398 035652
8399 035654
8400 035660 104410
8401 (3) 035662 000136
8402 035664 012737 100000 002362
8403 035672 012737 000000 002344
8404 035700 012737 000002 002414
8405 035706 012737 000002 002336
8406 035714 012737 000006 002352
8407 035722 012737 000003 002434
8408 035730 012737 001000 002422
8409 035736 012737 002502 002470
8410 035744 012737 000100 002472
8411
8412
8413
8414 035752 013777 002344 144310
8415 035760 112737 000306 002342
8416
8417
8418 035766 005037 002356
8419 035772 005037 002332
8420 036002 103402
8421 036006
8422 036010
8423 036014
8424 036020
8425 (3) 036020 104401
      (3) 036020
  
```

```

      CALL    $SPEED      ;CAN THE CPU SUPPORT THE LOOPBACK?
      BCS     50$         ;IF NOT, SKIP THE TEST.
      CALL    $RESET      ;RESET THE DPV
      ESCAPE  TST         ;IF ERROR, BR TO THE END.

      MOV     @BOP,MODE    ;FLAG THAT WE ARE IN BOP MODE.
      MOV     @CCITT1,IPCSAR ;SET CRC-CCITT PRESET TO ONE.
      MOV     @2,START     ;SEND 1 FLAG
      MOV     @2,HEADER    ;SEND 2 HEADER CHARACTERS
      MOV     @6,LENGTH    ;CHARACTER LENGTH OF 6 BITS.
      MOV     @3,TSTART    ;SET TSON AND TEOM IN BYTE MODE.
      MOV     @TEOM,TEND   ;END OF MESSAGE
      MOV     @1CCITT,XTYPE ;USE CCITT DATA PATTERN
      MOV     @64.,XCOUNT  ;# OF CHARACTERS TO TRANSMIT

      MOV     IPCSAR,$PCSR ;SET UP PARAMETERS AND ADDRESS
      MOVB    @306,IPCR   ;SET UP CHARACTER LENGTH

      CALL    $BUFRS      ;SET UP TRANSMIT AND RECEIVE BUFFERS.
      CLR     MAINT       ;CLEAR FLAG TO INDICATE NO MAINTENACE LOOPBACK
      CLR     EXERR       ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
      CALL    $DATA
      BCS     20$         ;IF ERROR SKIP DATA CHECK.

      CALL    $CHECK      ;CHECK THAT THE DATA WAS CORRECT.

      CALL    $MODEM      ;PRINT OUT MODEM CONTROL STATUS.

      20$:
      50$:
      ENDTST
  
```

```

      L10136:
      TRAP    C$ESCAPE
      L10136-.
      TRAP    C$ETST
  
```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16 AUG-84 14:19 PAGE 30-1
 CVDPVC.P11 16-AUG-84 14:18 TEST 35 - BOP DATA TEST

```

8427      .SBTTL          TEST 35 - BOP DATA TEST
8428
8429      ;*****
8430      ;*          TEST 35 - DPV-11
8431      ;* BOP DATA TEST
8432      ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8433      ;* DATA IS CORRECTLY RECEIVED.
8434      ;*      SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ZEROS,
8435      ;*      7 BIT CHARACTERS, USER SELECTED LOOPBACK.
8436      ;*
8437      ;*****
8438      BGNTST
8439      (3) 036022
8440      036022          103465
8441      036030
8442      036034
8443      (3) 036034      104410
8444      (3) 036036      000144
8445      036040      012737      100000      002362
8446      036046      012737      000400      002344
8447      036054      012737      100000      002344
8448      036062      012737      000001      002414
8449      036070      012737      000002      002336
8450      036076      012737      000007      002352
8451      036104      012737      000400      002434
8452      036112      012737      001000      002422
8453      036120      012737      002502      002470
8454      036126      012737      000100      002472
8455      036134      013777      002344      144126
8456      036142      112737      000347      002342
8457
8458      036150
8459      036154      005037      002356
8460      036160      005037      002332
8461      036164
8462      036170      103402
8463
8464      036172
8465      036176
8466      036176
8467      036202
8468
8469      036202
8470      (3) 036202
8471      (3) 036202      104401

      CALL      %SPEED          ;CAN THE CPU SUPPORT THE LOOPBACK?
      BCS      501              ;IF NOT, SKIP THE TEST.
      CALL      %RESET          ;RESET THE DPV
      ESCAPE    TST              ;IF ERROR, BR TO THE END.

      MOV      %BOP.MODE        ;FLAG THAT WE ARE IN BOP MODE.
      MOV      %CCITT0,IPCSAR    ;SET CRC-CCITT PRESET TO ZERO
      MOV      %APA,IPCSAR      ;ALL PARTIES ADDRESS.
      MOV      %1,START         ;SEND 1 FLAG
      MOV      %2,HEADER        ;SEND 2 HEADER CHARACTERS
      MOV      %7,LENGTH        ;CHARACTER LENGTH OF 7 BITS.
      MOV      %TSON,TSTART     ;START OF MESSAGE
      MOV      %TEOM,TEND       ;END OF MESSAGE
      MOV      %CCITT,XTYPE     ;USE CCITT DATA PATTERN
      MOV      %64.,XCOUNT      ;# OF CHARACTERS TO TRANSMIT
      ;
      MOV      IPCSAR,%PCSR      ;SET UP PARAMETERS AND ADDRESS
      MOVB     %347,IPCR        ;SET UP CHARACTER LENGTH

      CALL      %BUFERS          ;SET UP TRANSMIT AND RECEIVE BUFFERS.
      CLR      MAINT            ;CLEAR FLAG TO INDICATE NO MAINTENACE LOOPBACK
      CLR      EXERR            ;FLAG THAT NO ERRORS ARE EXPECTED IN %DATA
      CALL      %DATA
      BCS      201              ;IF ERROR SKIP DATA CHECK.

      CALL      %CHECK           ;CHECK THAT THE DATA WAS CORRECT.
      CALL      %MODEM          ;PRINT OUT MODEM CONTROL STATUS.

      201:
      501:
      ENDTST

      L10137:
      TRAP      C%ETST
  
```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-2
 CVDPVC.P11 16-AUG-84 14:18 TEST 36 - BOP DATA TEST

```

8472 .SBTTL TEST 36 - BOP DATA TEST
8473
8474 ;*****
8475 ;* TEST 36 - DPV-11
8476 ;* BOP DATA TEST
8477 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8478 ;* DATA IS CORRECTLY RECEIVED.
8479 ;* SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ZERO, LOOP SET,
8480 ;* 8 BIT CHARACTERS, USER SELECTED LOOPBACK.
8481 ;*
8482 ;*****
8483 BGNTST
8484 (3) 036204
8485 036204 103465
8486 036210
8487 036212
8488 (3) 036216 104410
8489 (3) 036220 000144
8490 036222 012737 100000 002362
8491 036230 012737 000400 002344
8492 036236 052737 020000 002344
8493 036244 012737 000001 002414
8494 036252 012737 000002 002336
8495 036260 012737 000010 002352
8496 036266 012737 000400 002434
8497 036274 012737 005000 002422
8498 036302 012737 002502 002470
8499 036310 012737 000100 002472
8500 036316 013777 002344 143744
8501 036324 105037 002342
8502
8503 036330
8504 036334 005037 002356
8505 036340 012737 000001 002332
8506 036346
8507 036352 103402
8508
8509 036354
8510 (3) 036360
8511 036360
8512 036364
8513
8514 036364
8515 (3) 036364
8516 (3) 036364 104401

CALL $SPEED ;CAN THE CPU SUPPORT THE LOOPBACK?
BCS 50$ ;IF NOT, SKIP THE TEST.
CALL $RESET ;RESET THE DPV
ESCAPE TST ;IF ERROR, BR TO THE END.

TRAP C$ESCAPE
.WORD L10140-.

MOV $BOP,MODE ;FLAG THAT WE ARE IN BOP MODE.
MOV $CCITT,IPCSAR ;SET CRC-CCITT PRESET TO ZERO
BIS $LOOP,IPCSAR ;SET LOOP MODE TO RECOGNIZE THE GO AHEAD.
MOV $1,START ;SEND 1 FLAG
MOV $2,HEADER ;SEND 2 HEADER CHARACTERS
MOV $8,LENGTH ;CHARACTER LENGTH OF 8 BITS.
MOV $TSM,TSTART ;START OF MESSAGE
MOV $TGA!TEOM,TEND ;TRANSMIT GO AHEAD AT END OF MESSAGE.
MOV $1CCITT,XTYPE ;USE CCITT DATA PATTERN
MOV $64,,XCOUNT ;# OF CHARACTERS TO TRANSMIT

MOV IPCSAR,$PC$AR ;SET UP PARAMETERS AND ADDRESS
CLRB IPCR ;SET UP CHARACTER LENGTH

CALL $BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
CLR MAINT ;CLEAR FLAG TO INDICATE NO MAINTENACE LOOPBACK
MOV $1,EXERR ;FLAG THAT AN ERROR IS EXPECTED IN $DATA
CALL $DATA
BCS 20$ ;IF ERROR SKIP DATA CHECK.

CALL $CHECK ;CHECK THAT THE DATA WAS CORRECT.
CALL $MODEM ;PRINT OUT MODEM CONTROL STATUS.

20$:
50$:
ENDTST

L10140: TRAP C$ETST

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-3
 CVDPVC.P11 16-AUG-84 14:18 TEST 37 - BCP DATA TEST

```

8518 .SBTTL TEST 37 - BCP DATA TEST
8519
8520 ;*****
8521 ;* TEST 37 - DPV-11
8522 ;* BCP DATA TEST
8523 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8524 ;* DATA IS CORRECTLY RECEIVED.
8525 ;* SELECTED OPTIONS: BCP MODE, VRC-ODD PARITY, IDLE BIT SET
8526 ;* 6 BIT CHARACTERS, USER SELECTED LOOPBACK.
8527 ;*
8528 ;*****
8529 BGNTST
8530 (3) 036366
8531 036366 103475
8532 036372
8533 036374
8534 036400 104410
8535 (3) 036400 000162
8536 036402 005037 002362
8537 036404 012737 000024 002344
8538 036410 052737 002000 002344
8539 036416 052737 040000 002344
8540 036424 052737 040000 002344
8541 036432 052737 004000 002344
8542 036440 012737 000002 002414
8543 036446 012737 000001 002336
8544 036454 012737 000006 002352
8545 036462 012737 000424 002434
8546 036470 012737 001000 002422
8547 036476 012737 002502 002470
8548 036504 012737 000100 002472
8549 036512 112737 000306 002342
8550 036520 113777 002342 143554
8551 036526 013777 002344 143534
8552 036534
8553 036540 005037 002356
8554 036544 005037 002332
8555 036550
8556 036554 103402
8557
8558 036556
8559 036562 204:
8560 036562
8561 036566 504:
8562
8563 036566
8564 (3) 036566 104401
      (3) 036566
      (3) 036566 104401
      (3) 036566
  
```

CALL	%SPEED	;	CAN THE CPU SUPPORT THE LOOPBACK?
BCS	504	;	IF NOT, SKIP THE TEST.
CALL	%RESET	;	RESET THE DPV
ESCAPE	TST	;	IF ERROR, BR TO THE END.
			TRAP C%ESCAPE
			.WORD L10141-
CLR	MODE	;	FLAG THAT WE ARE IN BCP MODE.
MOV	%2*,IPCSAR	;	LOAD SYNCH IN PCSAR (FOR RECEIVER ONLY)
BIS	%VRC,IPCSAR	;	SET ODD VRC
BIS	%PROTO,IPCSAR	;	SET BCP PROTOCOL
BIS	%IDLE,IPCSAR	;	TRANSMIT SYNCH FROM TDSR
MOV	%2,START	;	SEND 2 SYNCHS
MOV	%1,HEADER	;	SEND 1 HEADER CHARACTER
MOV	%6,LENGTH	;	CHARACTER LENGTH OF 6 BITS.
MOV	%TSM,24,TSTART	;	START OF MESSAGE AND SYNCH CHARACTER.
MOV	%TEOM,TEND	;	END OF MESSAGE
MOV	%CCITT,XTYPE	;	USE CCITT DATA PATTERN
MOV	%64,XCOUNT	;	% OF CHARACTERS TO TRANSMIT
		;	
MOVB	%306,IPCR	;	SET UP CHARACTER LENGTH
MOVB	IPCR,%PCR	;	SET UP CHARACTER LENGTH
MOV	IPCSAR,%PCSAR	;	SET UP PARAMETERS AND ADDRESS
		;	
CALL	%BUFFS	;	SET UP TRANSMIT AND RECEIVE BUFFERS.
CLR	MAINT	;	CLEAR FLAG TO INDICATE NO MAINTENANCE LOOPBACK
CLR	EXERR	;	FLAG THAT NO ERRORS ARE EXPECTED IN %DATA
CALL	%DATA	;	
BCS	204	;	IF ERROR SKIP DATA CHECK.
		;	
CALL	%CHECK	;	CHECK THAT THE DATA WAS CORRECT.
		;	
CALL	%MODEM	;	PRINT OUT MODEM CONTROL STATUS.
		;	
			L10141:
			TRAP C%ETST

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-4
 CVDPVC.P11 16-AUG-84 14:18 TEST 38 - BCP DATA TEST

```

8566 .SBTTL TEST 38 - BCP DATA TEST
8567
8568 ;*****
8569 ;* TEST 38 - DPV-11
8570 ;* BCP DATA TEST
8571 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8572 ;* DATA IS CORRECTLY RECEIVED.
8573 ;* SELECTED OPTIONS: BCP MODE, VRC-EVEN PARITY,
8574 ;* 5 BIT CHARACTERS, USER SELECTED LOOPBACK.
8575 ;*
8576 ;*****
8577 BGNTST
      T38::
8578 CALL $SPEED ;CAN THE CPU SUPPORT THE LOOPBACK?
8579 BCS 50$ ;IF NOT, SKIP THE TEST.
8580 CALL $RESET ;RESET THE DPV
8581 ESCAPE TST ;IF ERROR, BR TO THE END.
      TRAP C$ESCAPE
      .WORD L10142-.
8582 CLR MODE ;FLAG THAT WE ARE IN BCP MODE.
8583 MOV $VRCE,IPCSAR ;SET EVEN VRC
8584 BIS $PROTO,IPCSAR ;SET BCP PROTOCOL
8585 MOVB $105,IPCSAR ;SYNCH.
8586 MOV $2,START ;SEND 2 SYNCHS
8587 MOV $1,HEADER ;SEND 1 HEADER CHARACTER
8588 MOV $5,LENGTH ;CHARACTER LENGTH OF 5 BITS.
8589 MOV $TSOM,TSTART ;START OF MESSAGE
8590 MOV $TEOM,TEND ;END OF MESSAGE
8591 MOV $CCITT,XTYPE ;USE CCITT DATA PATTERN
8592 MOV $64,XCOUNT ;# OF CHARACTERS TO TRANSMIT
8593
8594 MOVB $245,IPCR ;SET UP CHARACTER LENGTH
8595 MOVB IPCR,$PCR ;SET UP CHARACTER LENGTH
8596 MOV IPCSAR,$PCRSAR ;SET UP PARAMETERS AND ADDRESS
8597
8598
8599 CALL $BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
8600 MOV $1,HIGH ;FLAG TO USE HIGH SPEED INT. SERVICE ROUTINE.
8601 CLR MAINT ;CLEAR FLAG TO INDICATE NO MAINTENACE LOOPBACK
8602 CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
8603 CALL $DATA
8604 BCS 20$ ;IF ERROR SKIP DATA CHECK.
8605
8606 CALL $CHECK ;CHECK THAT THE DATA WAS CORRECT.
8607 20$: CLR HIGH ;CLEAR FLAG TO USE HIGH SPEED ISRS.
8608 50$:
8609
8610
8611 ENDTST
      L10142:
      TRAP C$ETST
8612
8613

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-5
 CVDPVC.P11 16-AUG-84 14:18 TEST 39 - BCP DATA TEST

.SBTTL TEST 39 - BCP DATA TEST

```

*****
;*          TEST 39 - DPV-11
;* BCP DATA TEST
;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
;* DATA IS CORRECTLY RECEIVED.
;*   SELECTED OPTIONS: BCP MODE, CRC-16 PRESET TO ONES, STRIP SYNCHS,
;*                     7 BIT CHARACTERS, USER SELECTED LOOPBACK.
;*
*****
BGNTST

```

T39::

```

CALL  $SPEED      ;CAN THE CPU SUPPORT THE LOOPBACK?
BCS   50$         ;IF NOT, SKIP THE TEST.
CALL  $RESET      ;RESET THE DPV
ESCAPE TST        ;IF ERROR, BR TO T1' END.

```

TRAP C\$ESCAPE
 .WORD L10143-

```

CLR    MODE      ;FLAG THAT WE ARE IN BCP MODE.
MOV    #CRC16,IPCSAR ;SET CRC 16
BIS    #PROTO,IPCSAR ;SET BCP PROTOCOL
BIS    #SSYNCH,IPCSAR ;STRIP SYNCH.
MOVB   #217,IPCSAR ;SYNCH
MOV    #5,START  ;SEND 5 SYNCHS
MOV    #1,HEADER ;SEND 1 HEADER CHARACTER
MOV    #7,LENGTH ;CHARACTER LENGTH OF 7 BITS.
MOV    #TSOM,TSTART ;START OF MESSAGE
MOV    #TEOM,TEND  ;END OF MESSAGE
MOV    #CCITT,XTYPE ;USE CCITT DATA PATTERN
MOV    #64,,XCOUNT ;# OF CHARACTERS TO TRANSMIT
;
MOVB   #347,IPCR  ;CHARACTER LENGTH
MOVB   IPCR,BPCR  ;SET UP CHARACTER LENGTH
MOV    IPCSAR,BPCSR ;SET UP PARAMETERS AND ADDRESS

```

```

CALL  $BUFFERS  ;SET UP TRANSMIT AND RECEIVE BUFFERS.
CLR    MAINT     ;CLEAR FLAG TO INDICATE NO MAINTENANCE LOOPBACK
CLR    EXERR     ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
CALL  $DATA
BCS   20$       ;IF ERROR SKIP DATA CHECK.

```

```

20$: CALL  $CHECK ;CHECK THAT THE DATA WAS CORRECT.
50$: CALL  $MODEM ;PRINT OUT MODEM CONTROL STATUS.

```

ENDTST

L10143: TRAP C\$ETST

```

8615
8616
8617
8618
8619
8620
8621
8622
8623
8624
8625
8626 036772
      (3) 036772
8627 036772
8628 036776 103475
8629 037000
8630 037004
      (3) 037004 104410
      (3) 037006 000164
8631 037010 005037 002362
8632 037014 012737 001400 002344
8633 037022 052737 040000 002344
8634 037030 052737 020000 002344
8635 037036 112737 000217 002344
8636 037044 012737 000005 002414
8637 037052 012737 000001 002336
8638 037060 012737 000007 002352
8639 037066 012737 000400 002434
8640 037074 012737 001000 002422
8641 037102 012737 002502 002470
8642 037110 012737 000100 002472
8643
8644 037116 112737 000347 002342
8645 037124 113777 002342 143150
8646 037132 013777 002344 143130
8647
8648
8649 037140
8650 037144 005037 002356
8651 037150 005037 002332
8652 037154
8653 037160 103402
8654
8655 037162
8656 037166
8657 037166
8658 037172
8659
8660 037172
      (3) 037172
      (3) 037172 104401
8661

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-6
 CVDPVC.P11 16-AUG-84 14:18 TEST 40 - BCP DATA TEST

```

8663 .SBTTL TEST 40 - BCP DATA TEST
8664
8665 ;*****
8666 ;* TEST 40 - DPV-11
8667 ;* BCP DATA TEST
8668 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8669 ;* DATA IS CORRECTLY RECEIVED.
8670 ;* SELECTED OPTIONS: BCP MODE, CRC-16 PRESET TO ONES,
8671 ;* 8 BIT CHARACTERS, USER SELECTED LOOPBACK.
8672 ;*
8673 ;*****
8674 BGNTST
      T40::
8675 (3) 037174 CALL $SPEED ;CAN THE CPU SUPPORT THE LOOPBACK?
8676 037200 103463 BCS 50$ ;IF NOT, SKIP THE TEST.
8677 037202 CALL $RESET ;RESET THE DPV
8678 037206 ESCAPE TST ;IF ERROR, BR TO THE END.
      TRAP C$ESCAPE
      .WORD L10144-.
8679 (3) 037206 104410 CLR MODE ;FLAG THAT WE ARE IN BCP MODE.
8680 (3) 037210 000140 MOV #CRC16,IPCSAR ;SET CRC16
8681 037212 005037 002362 BIS #PROTO,IPCSAR ;SET BCP PROTOCOL
8682 037216 012737 001400 002344 MOV #2,START ;SEND 2 SYNCHS
8683 037224 052737 040000 002344 MOV #1,HEADER ;SEND 1 HEADER CHARACTER
8684 037232 012737 000002 002414 MOV #8,LENGTH ;CHARACTER LENGTH OF 8 BITS.
8685 037240 012737 000001 002336 MOV #TSOM,TSTART ;START OF MESSAGE
8686 037246 012737 000010 002352 MOV #TEOM,TEND ;END OF MESSAGE
8687 037254 012737 000400 002434 MOV #CCITT,XTYPE ;USE CCITT DATA PATTERN
8688 037262 012737 001000 002422 MOV #64,XCOUNT ;# OF CHARACTERS TO TRANSMIT
8689 037276 012737 000100 002472
8690 CLRB IPCR ;CHARACTER LENGTH
8691 037304 105037 002342 MOV IPCSAR,$PCSR ;SET UP PARAMETERS AND ADDRESS
8692 037310 013777 002344 142752
8693
8694 037316 CALL $BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
8695 037322 005037 002356 CLR MAINT ;CLEAR FLAG TO INDICATE NO MAINTENACE LOOPBACK
8696 037326 005037 002332 CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
8697 037332 CALL $DATA
8698 037336 103402 BCS 20$ ;IF ERROR SKIP DATA CHECK.
8699
8700 CALL $CHECK ;CHECK THAT THE DATA WAS CORRECT.
8701 20$: CALL $MODEM ;PRINT OUT MODEM CONTROL STATUS.
8702 037344
8703 037350 50$:
8704
8705 ENDTST
      L10144:
      TRAP C$ETST
8706 (3) 037350 104401
8707
8708
8709

```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-7
 CVDPVC.P11 16-AUG-84 14:18 TEST 41 - DDCMP DATA TEST

```

8711 .SBTTL TEST 41 - DDCMP DATA TEST
8712
8713 ;*****
8714 ;* TEST 41 - DPV-11
8715 ;* DDCMP DATA TEST
8716 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE USING THE
8717 ;* DDCMP MESSAGE FORMAT. CHECK THAT THE DATA IS CORRECTLY RECEIVED
8718 ;* AND THAT THE CRC CHARACTERS ARE RECEIVED IN THE PROPER DDCMP
8719 ;* ORDER.
8720 ;* SELECTED OPTIONS: BCP MODE, CRC-16 PRESET TO ONES, STRIP SYNCHS
8721 ;* 8 BIT CHARACTERS, USER SELECTED LOOPBACK.
8722 ;*
8723 ;*****
8724 BGNTST
8725 (3) 037352
8726 037352 103521
8727 037360
8728 037364
8729 (3) 037364 104410
8730 (3) 037366 000234
8731 037370 012737 000006 002414
8732 037376 005037 002336
8733
8734 037402 012777 061626 142660
8735 037410 012701 003274
8736 037414 012703 000014
8737 037420 005021
8738 037422 005303
8739 037424 001375
8740
8741
8742 037426 012701 003274
8743 037432 012702 002650
8744 037436 012703 000006
8745 037442 005037 002376
8746 037446 005037 002360
8747
8748 037452
8749 (7) 037452 012746 000200
8750 (6) 037456 012746 017620
8751 (5) 037462 013746 002264
8752 (4) 037466 012746 000003
8753 (3) 037472 104437
8754 (2) 037474 062706 000010
8755
8756 037500
8757 (7) 037500 012746 000200
8758 (6) 037504 012746 016732
8759 (5) 037510 013746 002262
8760 (4) 037514 012746 000003
8761 (3) 037520 104437
8762 (2) 037522 062706 000010
8763
8764 037526
8765 (3) 037526 012700 000000

;*****
;* TEST 41 - DPV-11
;* DDCMP DATA TEST
;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE USING THE
;* DDCMP MESSAGE FORMAT. CHECK THAT THE DATA IS CORRECTLY RECEIVED
;* AND THAT THE CRC CHARACTERS ARE RECEIVED IN THE PROPER DDCMP
;* ORDER.
;* SELECTED OPTIONS: BCP MODE, CRC-16 PRESET TO ONES, STRIP SYNCHS
;* 8 BIT CHARACTERS, USER SELECTED LOOPBACK.
;*****

T41::
CALL $SPEED ;CAN THE CPU SUPPORT THE LOOPBACK?
BCS 50$ ;IF NOT, SKIP THE TEST.
CALL $RESET ;RESET THE DPV
ESCAPE TST ;IF ERROR, BR TO THE END.

TRAP C$ESCAPE
WORD L10145-.

MOV #6,START ;SEND 6 SYNCHS
CLR HEADER ;CLEAR DDCMP HEADER FLAG

MOV #SSYNCH!PROTO!CRC16!SYN,$PCSAF ;SET BCP PROTOCOL AND CRC16.
;STRIP SYNCH AND SYNCH CHAR.

MOV #RCVBUF,R1 ;RECEIVE BUFFER
MOV #14,R3 ;BUFFER COUNT

1$:
CLR (R1)+ ;CLEAR THE BUFFER
DEC R3 ;DECREMENT COUNT
BNE 1$ ;CONTINUE UNTIL DONE.

MOV #RCVBUF,R1 ;RECEIVE BUFFER.
MOV #DDCMP,R2 ;TRANSMIT BUFFER ADDRESS
MOV #DDCMP1,R3 ;TRANSMIT COUNT
CLR RFLAG ;CLEAR RECEIVE FLAG.
CLR MCFLAG ;CLEAR MODEM CONTROL FLAG.

SETVEC XMTVEC,$XDDCMP,$PRI04 ;TRANSMIT VECTOR

MOV #PRI04,-(SP)
MOV #XDDCMP,-(SP)
MOV XMTVEC,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP

SETVEC RCVEC,$RDATA,$PRI04 ;RECEIVE VECTOR.

MOV #PRI04,-(SP)
MOV #RDATA,-(SP)
MOV RCVEC,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP

SETPRI #PRI00 ;ENABLE INTERRUPTS

MOV #PRI00,R0

```

CVDPVCO DVP11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-8
 CVDPVC.P11 16-AUG-84 14:18 TEST 41 - DDCMP DATA TEST

(3)	037532	104441				TRAP	C\$SPRI
8751							
8752	037534	005037	002332	CLR	EXERR		
8753	037540	012737	000027 002474	MOV	#DDCMP1+DDCMP2+4, ECOUNT		
8754	037546			CALL	\$DATA1		
8755	037552			ESCAPE	TST		
(3)	037552	104410				TRAP	C\$ESCAPE
(3)	037554	000046				.WORD	L10145-
8756							
8757	037556	012701	003274	MOV	#RCVBUF, R1		
8758	037562	012702	002650	MOV	#DDCMP, R2		
8759	037566	012703	000006	MOV	#DDCMP1, R3		
8760							
8761	037572			CALL	\$CHK1		
8762	037576			ESCAPE	TST		
(3)	037576	104410				TRAP	C\$ESCAPE
(3)	037600	000022				.WORD	L10145-
8763	037602	062701	000002	ADD	#2, R1		
8764							
8765	037606	012703	000015	MOV	#DDCMP2, R3		
8766	037612			CALL	\$CHK1		
8767	037616			ESCAPE	TST		
(3)	037616	104410				TRAP	C\$ESCAPE
(3)	037620	000002				.WORD	L10145-
8768	037622						
8769							
8770							
8771	037622						
(3)	037622					L10145:	
(3)	037622	104401				TRAP	C\$ETST
8772							
8773							

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-9
 CVDPVC.P11 16-AUG-84 14:18 TEST 42 - HIGH SPEED BCP DATA TEST

```

8775 .SBTTL TEST 42 - HIGH SPEED BCP DATA TEST
8776
8777 ;*****
8778 ;* TEST 42 - DPV-11
8779 ;* BCP DATA TEST
8780 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8781 ;* DATA IS CORRECTLY RECEIVED.
8782 ;* SELECTED OPTIONS: BCP MODE, CRC-16 PRESET TO ONES,
8783 ;* 5 OR 8 BIT CHARACTERS, USER SELECTED LOOPBACK.
8784 ;*
8785 ;*****
8786 BGNTST
8787
8788 CALL $RESET ;RESET THE DPV
8789 ESCAPE TST ;IF ERROR, BR TO THE END.
8790
8791 TRAP C$ESCAPE
8792 .WORD L10146-.
8793
8794 ;SET CRC16 AND BCP PROTOCOL.
8795 ;IPCSAR ;CRC16 AND BCP MODE.
8796 ;SEND 2 SYNCHS
8797
8798 CLR MODE ;FLAG THAT WE ARE IN BCP MODE.
8799 MOV $1,CCITT,XTYPE ;USE CCITT DATA PATTERN
8800 MOV $64,XCOUNT ;# OF CHARACTERS TO TRANSMIT
8801 TST CPU ;IS THIS A LSI 11/23?
8802 BEQ 5$ ;BRANCH IF NOT.
8803 MOV $5,LENGTH ;CHARACTER LENGTH OF 5 BITS.
8804 MOVB $245,BPCR ;SET UP CHARACTER LENGTH.
8805 MOVB $245,IPCR ;REMEMBER CHARACTER LENGTH.
8806 BR 7$
8807
8808 5$: MOV $8,LENGTH ;CHARACTER LENGTH OF 8 BITS.
8809 CLRB IPCR ;SET UP CHARACTER LENGTH.
8810
8811 7$: MOV IPCSAR,BPCSAR ;SET UP PARAMETERS AND ADDRESS
8812 CALL $BUFRS ;SET UP TRANSMIT AND RECEIVE BUFFERS.
8813 CLR MAINT ;CLEAR FLAG TO INDICATE NO MAINTENANCE LOOPBACK
8814 CLR EXERR ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
8815 MOV $1,HIGH ;FLAG THAT THIS IS A HIGH SPEED TEST.
8816 CALL $DATA ;DO THE DATA TRANSFER.
8817 BCC 10$ ;IF NO ERROR, PROCEED.
8818 TST CPU ;WAS THIS A LSI 11/23?
8819 BNE 20$ ;IF YES - SKIP THE PROMPT.
8820 PRINTX $FMG28 ;PROMPT USER: IF THIS IS A LSI11 (M7264)
8821
8822 MOV $FMG28,-(SP)
8823 MOV $1,-(SP)
8824 MOV SP,RO
8825 TRAP C$PNTX
8826 ADD $4,SP

```

CVDPVCO DVP11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-10
CVDPVC.P11 16-AUG-84 14:18 TEST 42 - HIGH SPEED BCP DATA TEST

```
8816                                     ;WITH MEMORY REFRESH, CAN'T RUN.  
8817   040020    000402                BR      20$  
8818                                   10$:            
8819   040022                                CALL $CHECK           ;CHECK THAT THE DATA WAS CORRECT.  
8820   040026                                20$:            
8821   040026    005037    002340        CLR      HIGH             ;CLEAR HIGH SPEED TEST FLAG.  
8822   040032                               ENDTST  
                        L10146:  
(3)   040032                                TRAP     C$ETST  
(3)   040032    104401  
8823  
8824  
8825
```

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-11
 CVDPVC.P11 16-AUG-P* 14:18 TEST 43 - HIGH SPEED BOP DATA TEST

```

8827 .SBTTL          TEST 43 - HIGH SPEED BOP DATA TEST
8828
8829 ;*****
8830 ;*          TEST 43 - DPV-11
8831 ;* BOP DATA TEST
8832 ;* TRANSMIT AND RECEIVE A COMPLETE DATA MESSAGE. CHECK THAT THE
8833 ;* DATA IS CORRECTLY RECEIVED.
8834 ;*          SELECTED OPTIONS: BOP MODE, CRC-CCITT PRESET TO ONES,
8835 ;*          5 OR 8 BIT CHARACTERS, USER SELECTED LOOPBACK.
8836 ;*
8837 ;*****
8838 BGNTST
8839
8840          CALL      $RESET          ;RESET THE DPV
8841          ESCAPE    TST              ;IF ERROR, BR TO THE END.
8842
8843          MOV        $CCITT1,IPCSAR  ;SET CRC-CCITT
8844          MOV        #2,START        ;SEND 2 SYNCHS
8845
8846          MOV        #BOP,MODE       ;FLAG THAT THIS A BOP MODE TEST.
8847
8848          MOV        #2,START        ;SEND 2 SYNCHS
8849          MOV        #1,CCITT,XTYPE ;USE CCITT DATA PATTERN
8850          MOV        #64,XCOUNT    ;# OF CHARACTERS TO TRANSMIT
8851          TST        CPU             ;IS THIS A LSI 11/23?
8852          BEQ        5$             ;BRANCH IF NOT
8853          MOV        #5,LENGTH       ;CHARACTER LENGTH OF 5 BITS.
8854          MOVB       #245,IPCR       ;SET UP CHARACTER LENGTH
8855          BR         7$
8856
8857          MOV        #8,LENGTH       ;CHARACTER LENGTH OF 7 BITS.
8858          CLRB       IPCR            ;SET UP CHARACTER LENGTH.
8859
8860          MOV        IPCSAR,$PCSR    ;SET UP PARAMETERS AND ADDRESS
8861          CALL        $BUFRS         ;SET UP TRANSMIT AND RECEIVE BUFFERS.
8862          CLR        MAINT           ;CLEAR FLAG TO INDICATE NO MAINTENACE LOOPBACK
8863          CLR        EXERR           ;FLAG THAT NO ERRORS ARE EXPECTED IN $DATA
8864          MOV        #1,HIGH         ;FLAG THAT THIS IS A HIGH SPEED TEST.
8865          CALL        $DATA          ;DO THE DATA TRANSFER.
8866          BCC        10$            ;IF NO ERROR, PROCEED.
8867          TST        CPU             ;WAS THIS A LSI 11/23?
8868          BNE        20$            ;IF YES - SKIP THE PROMPT.
8869          PRINTX     #FMG28          ;PROMPT USER: IF THIS IS A LSI11 (M7264)
8870
8871          MOV        #FMG28,-(SP)
8872          MOV        #1,-(SP)
8873          MOV        SP,R0
8874          TRAP       C$PNTX
8875          ADD        #4,SP

```

CVDPVCO DPCV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-12
CVDPVC.P11 16-AUG-84 14:18 TEST 43 - HIGH SPEED BOP DATA TEST

```
8869                                     ;WITH MEMORY REFRESH, CAN'T RUN.  
8870      040232    000402                                BR        20$  
8871      040234                               10$:          CALL     $CHECK  
8872      040234                                         ;CHECK THAT THE DATA WAS CORRECT.  
8873      040240                               20$:          CLR      HIGH  
8874      040240    005037    002340                   ;CLEAR HIGH SPEED TEST FLAG.  
8875      040244       ENDTST  
            (3)      040244                                           L10147:  
            (3)      040244    104401                                   TRAP      C$ETST  
8876  
8877  
8878  
8879  
8880
```

CVDPVC0 DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-13
 CVDPVC.P11 16-AUG-84 14:18 HARDWARE PARAMETER CODING SECTION

.SBTTL HARDWARE PARAMETER CODING SECTION

8882
 8883
 8884
 8885
 8886
 8887
 8888
 8889
 8890
 8891
 8892
 8893

```

*****
; 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.
*****

```

8894 040246
 (3) 040246
 (3) 040250

007015

BGNHRD

.WORD L10150-L\$HARD/2
 L\$HARD::

8895
 8896 040250
 (4) 040250
 (4) 040252
 (4) 040254
 (4) 040256

000031
 040302
 160000
 177776

GPRMA P1,0,0,160000,177776,YES

.WORD T\$CODE
 .WORD P1
 .WORD T\$LQIM
 .WORD T\$HILIM

8897 040260
 (4) 040260
 (4) 040262
 (4) 040264
 (4) 040266

001031
 040314
 000000
 000776

GPRMA P2,2,0,0,776,YES

.WORD T\$CODE
 .WORD P2
 .WORD T\$LQIM
 .WORD T\$HILIM

8898 040270
 (4) 040270
 (4) 040272
 (4) 040274
 (4) 040276
 (4) 040300

002032
 040325
 000007
 000000
 000004

GPRMD P3,4,0,7,0,4,YES

.WORD T\$CODE
 .WORD P3
 .WORD 7
 .WORD T\$LQIM
 .WORD T\$HILIM

8899

8900
 8901 040302
 (2)
 (3) 040302

ENDHRD

.EVEN
 L10150:

8902
 8903 040302 042101 051104 051505 P1:
 040310 035123 000040
 8904 040314 042526 052103 051117 P2:
 040322 020072 000
 8905 040325 114 047517 041120 P3:
 040332 041501 020113 006455
 040340 012
 8906 040341 040 030040 036440
 040346 044440 052116 051105
 040354 040516 026114 030440
 040362 036440 051040 032123
 040370 031462 020054 020062
 040376 020075 051522 031064
 040404 006462 012

.ASCIZ /ADDRESS: /

.ASCIZ /VECTOR: /

.ASCII /LOOPBACK -/<CR><LF>

.ASCII / 0 = INTERNAL, 1 = RS423, 2 = RS422/<CR><LF>

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-14
CVDPVC.P11 16-AUG-84 14:18 HARDWARE PARAMETER CODING SECTION

8907	040407	040	031440	036440	.ASCIZ / 3 = LOCAL MODEM LOOP, 4 = REMOTE MODEM LOOP/
	040414	046040	041517	046101	
	040422	046440	042117	046505	
	040430	046040	047517	026120	
	040436	032040	036440	051040	
	040444	046505	052117	020105	
	040452	047515	042504	020115	
	040460	047514	050117	000	
8908		040466			.EVEN
8909					
8910					
8911					

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 30-15
CVDPVC.P11 16-AUG-84 14:18 PATCH AREA

8913
8914
8915 040466
8916 040526 040526
8917 040526 000240
8918 040530 000240
8919 040532 000240
8920
8921
8922
8923 040534
8924
8925 040534
(2)
(4) 040534 000000
(4) 040536 000000
(3) 040540
8926 000001

.SBTTL PATCH AREA
;***** PATCH AREA *****
PATCH:
 . = .40
 NOP
 NOP
 NOP
;*****

ENDMOD

 LASTAD

L:LAST::
.END

 .EVEN
 .WORD 0
 .WORD 0

CTS	=	020000	37690	4681	4896	6832								
C\$AU	=	000052	36150											
C\$AUTO	=	000061	36150	5214										
C\$BRK	=	000022	36150	4231	4479	8143								
C\$BSEG	=	000004	36150	7261	7289	7312	7341	7362						
C\$BSUB	=	000002	36150	5798	5828	5874	5904	5931	5960	5987	6021	6055	6104	6121
			6414	6486	6562	6616	6676	6917	6937	6958	6977	7002	7027	7086
			7182	7260	7311	7401	7428	7921	7952					7134
C\$CEFG	=	000045	36150											
C\$CLK	=	000062	36150											
C\$CLEA	=	000012	36150	5236										
C\$CLOS	=	000035	36150											
C\$CLP1	=	000006	36150											
C\$CVEC	=	000036	36150	4510	4511	5073	5168	5211	5750	6196	6324	6325	6611	6612
			6669	6729	6799	6800	7057	7058	7128	7129	7176	7177	7225	7226
C\$DCLN	=	000044	36150	5210	5746									
C\$DODU	=	000051	36150	5209	5745									
C\$DRPT	=	000024	36150											
C\$DU	=	000053	36150	5696										
C\$EDIT	=	000003	36150	3657										
C\$ERDF	=	000055	36150	4236	4286	4487	4491	4498	4564	4571	4588	4629	5759	5822
			5897	5925	5953	5981	5993	6036	6047	6070	6078	6116	6143	6185
			6245	6252	6255	6306	6316	6319	6385	6398	6403	6408	6438	6448
			6461	6469	6479	6510	6523	6530	6536	6588	6597	6603	6607	6644
			6660	6664	6704	6713	6719	6725	6787	6793	6853	6873	6930	6950
			6990	6996	7015	7021	7040	7047	7115	7123	7163	7171	7211	7220
			7357	7424	7448	7544	7597	7844	7892	7948	7986	8034	8082	8133
			8169											
C\$ERMR	=	000056	36150											
C\$ERRO	=	000060	36150											
C\$ERSF	=	000054	36150											
C\$ERSO	=	000057	36150											
C\$ESCA	=	000010	36150	5800	5872	6023	6031	6043	6050	6057	6065	6074	6081	6106
			6132	6136	6165	6225	6232	6237	6242	6279	6364	6416	6488	6564
			6678	6759	6828	6919	6939	6960	6979	7004	7029	7088	7130	7136
			7184	7227	7263	7283	7286	7291	7314	7335	7338	7343	7358	7364
			7377	7403	7430	7469	7514	7537	7579	7590	7631	7650	7675	7723
			7821	7841	7869	7889	7923	7945	7954	7978	8010	8058	8106	8215
			8305	8353	8399	8442	8487	8533	8581	8630	8678	8728	8755	

C\$INLP=	000020		3615#												
C\$MANI=	000050		3615#												
C\$MEM =	000031		3615#												
C\$MESS =	000023		3615#	4820	4830	4835	4842	4849	4855	4861	4867	4886	4891	4933	4941
			4945												
C\$OPEN=	000034		3615#												
C\$PNTB=	000014		3615#	4239	4297	4630	4634	4638	4639	4640	4649	4652	4664	4667	4819
			4826	4828	4829	4833	4834	4839	4840	4841	4846	4847	4848	4852	4853
			4854	4858	4859	4860	4864	4865	4866	4873	4875	4876	4877	4878	4879
			4880	4881	4882	4883	4884	4885	4889	4890	4897	4903	4909	4910	4911
			4918	4919	4920	4921	4922	4926	4927	4928	4931	4938	4940	4944	5102
			5131	6991	7016	7041	7042	7117	7165	7213	7215				
C\$PNTF=	000017		3615#	5694											
C\$PNTS=	000016		3615#												
C\$PNTX=	000015		3615#	4718	4765	5744	5762	5994	8815	8868					
C\$QIO =	000377		3615#												
C\$ROBU=	000007		3615#												
C\$REFG=	000047		3615#	5075	5077	5079	5081								
C\$RESE=	000033		3615#	5693	5831										
C\$REVI=	000003		3615#	3657											
C\$RFLA=	000021		3615#												
C\$RPT =	000025		3615#												
C\$SEFG=	000046		3615#												
C\$SPRI=	000041		3615#	4452	5053	6170	6194	6287	6322	6369	6422	6494	6572	6609	6628
			6666	6688	6727	6765	6797	6910	7055	7096	7126	7144	7174	7192	7223
			8750												
C\$SVEC=	000037		3615#	4443	4444	4449	4450	5162	5197	5724	6169	6285	6286	6368	6421
			6493	6570	6571	6626	6627	6686	6687	6763	6764	6909	7094	7095	7142
			7143	7190	7191	8748	8749								
C\$TPRI=	000013		3615#												
DATA	002326		3918#	5446*	5449	5460*	6780								
DDCMP	002650		4016#	4021	8743	8758									
DDCMP1=	000006		4021#	8744	8753	8759									
DDCMP2=	000015		4025#	5621	8753	8765									
DDMSG	002656		4023#	4025											
DFPTBL	002254	G	3700#												
DIAGMC=	000000		3615												
DM	= 001000		3765#	4681	4908	6849									
DSCNG =	100000		3771#	4681											
DSITEN=	000040		3760#	4445	4462	5156	52								

CVDPV20 DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 31-3
 CVDPVC.P11 16-AUG-84 14:18 CROSS REFERENCE TABLE -- USER SYMBOLS

EMG15	014243	4997*	6306	6793															
EMG16	014276	4998*	6319																
EMG17	014345	4999*	6398	6603															
EMG18	014405	5000*	6403	6461	6479	6536	6607	6664	6725										
EMG19	014434	5001*	6455	6660															
EMG2	013473	4487	4984*																
EMG20	014465	5002*	6530	6719															
EMG21	014514	5003*	6597	6653	6713														
EMG22	014556	5004*	6853	6873															
EMG23	014603	5005*	6930	6950	6970														
EMG24	014661	5006*	6990	7015	7040	7115	7163	7211											
EMG25	014725	4571	5007*																
EMG26	014753	4588	5008*																
EMG3	013540	4286	4985*																
EMG30	014766	4491	5009*	8133															
EMG31	015004	4498	5010*	8169															
EMG32	015023	5011*	7424																
EMG33	015046	5012*	7448	7544															
EMG34	015074	5013*																	
EMG35	015135	5014*	7305	7357															
EMG36	015174	5015*	7597																
EMG37	015226	4564	5016*	7986															
EMG38	015240	5017*	7844	7892	7948														
EMG39	015267	5018*	8034	8082															
EMG4	013554	4986*	5822	5897	5925	5953	5981	5993											
EMG40	015321	4629	5019*	6996	7021	7047	7123	7171	7220										
EMG5	013601	4987*	6036	6070															
EMG6	013634	4988*	6047	6078															
EMG7	013671	4989*	6116																
EMG8	013707	4990*	6143																
EMG9	013723	4991*	6185	6787															
EMT0	020240	5759	5765*																
END	016310	5083	5177*																
ERR	- 100000	3816*	5360	8163															
ERRG1	006652 G	4564	4629	4818*															
ERRG10	007472 G	4863*	5981																
ERRG11	007572 G	4286	4870*	5843															
ERRG12	010214 G	4236	4888*																
ERRG13	010272 G	4893*	6853																
ERRG14	010760 G	4571	4935*																
ERRG15	011044 G	4943*	6873																
ERRG2	006700 G	4487	4491	4498	4823*	6143	6185	6192	6245	6252	6255	6306	6316	6319					
		6385	6398	6403	6408	6438	6448	6455	6461	6469	6479	6510	6523	6530					
		6536	6588	6597	6603	6607	6644	6653	6660	6664	6704	6713	6719	6725					
		6787	6793	6930	6950	6970	6990	7015	7040	7115	7163	7211							
ERRG3	007014 G	4582	4832*																
ERRG4	007072 G	4838*	5897																
ERRG7	007172 G	4845*	5822	6036	6047	6070	6078	6116											
ERRG8	007272 G	4851*	5925																
ERRG9	007372 G	4857*	5953	5993															
ERROR	002330	3919*	4431*	4500*	4625	5056*													
EVL	- 000004 G	3725*																	
EXADD	- 000020	3834*	4352																
EXCON	- 000010	3833*	4359																
EXERR	002332	3920*	4485	4496	7281*	7299*	7333*	7351*	7372*	7420*	7444*	7488*	7532*	7588*					
		7648*	7696*	7744*	7791*	7839*	7887*	7942*	7973*	8030*	8078*	8232*	8276*	8324*					

CVDPVCO DPV11 FUNC DIAG MOCY11 30A(1052) 16-AUG-84 14:19 PAGE 31-4
 CVDPVC.P11 16-AUG-84 14:18 CROSS REFERENCE TABLE -- USER SYMBOLS

	8370*	8416*	8460*	8505*	8554*	8602*	8651*	8696*	8752*	8809*	8862*
E\$END = 002100	3615#										
E\$LOAD= 000035	3615#	3657									
FINIT1 016312	5102	5179#									
FINIT2 016405	5131	5180#									
FIVE = 050000	3812#										
FLAG 002334	3921#	5058*	6190								
FMDROP 020000	5694	5699#									
FMG0 011070	4718	4947#									
FMG1 011166	4828	4948#									
FMG10 011574	4847	4878	4921	4957#							
FMG11 011640	4853	4880	4958#								
FMG12 011704	4859	4882	4959#								
FMG13 011750	4865	4884	4960#								
FMG14 012014	4890	4961#									
FMG15 012071	4927	4962#									
FMG16 012133	4928	4963#									
FMG17 012144	4897	4964#									
FMG18 012221	4903	4965#									
FMG19 012270	4909	4966#									
FMG2 011223	4829	4949#									
FMG20 012335	4918	4967#									
FMG21 012422	4910	4919	4968#								
FMG22 012471	4931	4969#									
FMG23 012536	4873	4970#									
FMG24 012605	4940	4971#									
FMG25 012652	4944	4972#									
FMG26 012715	4973#	6991	7016	7041	7117	7165	7213				
FMG27 013011	4765	4974#									
FMG28 013100	4977#	8815	8868								
FMG29 013221	4911	4979#	7042	7215							
FMG3 011260	4819	4826	4833	4889	4938	4950#					
FMG30 013314	4980#	5994									
FMG4 011332	4839	4846	4852	4858	4864	4875	4920	4926	4951#		
FMG5 011377	4841	4848	4854	4860	4866	4877	4879	4881	4883	4885	4922
FMG6 011410	4667	4953#									4952#
FMG7 011413	4840	4876	4954#								
FMG8 011457	4834	4955#									
FMG9 011522	4297	4956#									
FMODEM 006030	4630	4671#									
FMODE0 006115	4638	4672#									
FMODE1 006144	4639	4673#									
FMODE2 006233	4640	4674#									
FMODE3 006257	4649	4675#									
FMODE4 006266	4652	4676#									
FMODE5 006275	4664	4677#									
FMODE6 006325	4634	4678#									
FMS1 004102	4239	4246#									
FMT0 020276	5762	5766#									
FMT1 020350	5744	5767#									
FOUR = 040000	3811#										
FRSPAS 002312	3904#	5070*	5090*								
FRSTIM 002310	3903#	5067	5069*								
F\$AU = 000015	3615#										
F\$AUTO= 000020	3615#	5195	5214								
F\$BGN = 000040	3615#	3618	4818	4823	4832	4838	4845	4851	4857	4863	4870
										4888	4893

```
F$CLEA= 000007
F$DU   = 000016
F$END  = 000041
```

```
F$HARD= 000004
F$HW = 000013
F$INIT= 000006
F$JMP = 000050
F$MOD = 000000
F$MSG = 000011
```

```
F$PROT= 000021
F$PWR  = 000017
F$RPT  = 000012
```

4935	4943	5031	5051	5195	5231	5270	5325	5398	5440	5490	5550	5601
5648	5675	5691	5722	5752	5755	5797	5798	5800	5824	5828	5845	5847
5870	5872	5874	5901	5904	5929	5931	5958	5960	5985	5987	5997	5999
6019	6021	6023	6031	6043	6050	6052	6055	6057	6065	6074	6081	6083
6086	6102	6104	6106	6118	6121	6123	6132	6136	6145	6148	6162	6165
6198	6222	6225	6232	6237	6242	6258	6275	6279	6327	6360	6362	6364
6412	6414	6416	6482	6486	6488	6539	6543	6559	6562	6564	6614	6616
6618	6672	6676	6678	6733	6736	6756	6759	6804	6823	6828	6875	6903
6906	6917	6919	6934	6937	6939	6954	6958	6960	6974	6977	6979	6999
7002	7004	7024	7027	7029	7050	7061	7081	7084	7086	7088	7130	7132
7134	7136	7178	7180	7182	7184	7227	7229	7231	7258	7260	7261	7263
7283	7286	7289	7291	7308	7311	7312	7314	7335	7338	7341	7343	7358
7362	7364	7374	7377	7379	7382	7400	7401	7403	7426	7428	7430	7450
7452	7466	7469	7496	7511	7514	7537	7548	7564	7579	7590	7607	7628
7631	7650	7656	7672	7675	7704	7720	7723	7752	7768	7771	7799	7818
7821	7841	7847	7865	7869	7889	7896	7919	7921	7923	7945	7950	7952
7954	7978	7988	7990	8006	8010	8038	8054	8058	8086	8102	8106	8192
8211	8215	8241	8255	8259	8286	8301	8305	8333	8349	8353	8379	8395
8399	8424	8438	8442	8469	8483	8487	8514	8529	8533	8563	8577	8581
8611	8626	8630	8660	8674	8678	8705	8724	8728	8755	8762	8767	8771
8786	8788	8822	8838	8840	8875	8894	8923					
3615#	5231	5236										
3615#	5691	5696										
3615#	3618	4820	4830	4835	4842	4849	4855	4861	4867	4886	4891	4933
4941	4945	5178	5214	5236	5299	5375	5415	5462	5530	5575	5628	5652
5679	5696	5722	5752	5763	5797	5798	5800	5824	5828	5845	5847	5870
5872	5874	5901	5904	5929	5931	5958	5960	5985	5987	5997	5999	6019
6021	6023	6031	6043	6050	6052	6055	6057	6065	6074	6081	6083	6086
6102	6104	6106	6118	6121	6123	6132	6136	6145	6148	6162	6165	6198
6222	6225	6232	6237	6242	6258	6275	6279	6327	6360	6362	6364	6412
6414	6416	6482	6486	6488	6539	6543	6559	6562	6564	6614	6616	6618
6672	6676	6678	6733	6736	6756	6759	6804	6823	6828	6875	6903	6906
6917	6919	6934	6937	6939	6954	6958	6960	6974	6977	6979	6999	7002
7004	7024	7027	7029	7050	7061	7081	7084	7086	7088	7130	7132	7134
7136	7178	7180	7182	7184	7227	7229	7231	7258	7260	7263		

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 CVDPC.P11 16-AUG-84 14:18 CROSS REFERENCE TABLE -- USER SYMBOLS

F#SEG = 000003	3615#	7261	7287	7289	7307	7312	7339	7341	7360	7362	7378		
F#SOFT= 000005	3615#												
F#SRV = 000010	3615#	5270	5299	5325	5375	5398	5415	5440	5462	5490	5530	5550	5575
	5601	5628	5648	5652	5675	5679	5755	5763					
F#SUB = 000002	3615#	5798	5824	5828	5845	5874	5901	5904	5929	5931	5958	5960	5985
	5987	5997	6021	6052	6055	6083	6104	6118	6121	6145	6362	6412	6414
	6482	6486	6539	6562	6614	6616	6672	6676	6733	6917	6934	6937	6954
	6958	6974	6977	6999	7002	7024	7027	7050	7086	7132	7134	7180	7182
	7229	7260	7308	7311	7379	7401	7426	7428	7450	7921	7950	7952	7988
F#SW = 000014	3615#												
F#TEST= 000001	3615#	5722	5752	5797	5847	5870	5999	6019	6086	6102	6148	6162	6198
	6222	6258	6275	6327	6360	6543	6559	6736	6756	6804	6823	6875	6903
	7061	7081	7231	7258	7382	7400	7452	7466	7496	7511	7548	7564	7607
	7628	7656	7672	7704	7720	7752	7768	7799	7818	7847	7865	7896	7919
	7990	8006	8038	8054	8086	8102	8192	8211	8241	8255	8286	8301	8333
	8349	8379	8395	8424	8438	8469	8483	8514	8529	8563	8577	8611	8626
	8660	8674	8705	8724	8771	8786	8822	8838	8875				
GETPRM 015570	5082	5092#	5097										
G#CNTD= 000200	3615#												
G#DELM= 000372	3615#	4805	6108										
G#DISP= 000003	3615#												
G#EXCP= 000400	3615#												
G#HILI= 000002	3615#												
G#LOLI= 000001	3615#												
G#NO = 000000	3615#												
G#OFFS= 000400	3615#	8896	8897	8898									
G#OFSI= 000376	3615#	8896	8897	8898									
G#PRMA= 000001	3615#	8896	8897										
G#PRMD= 000002	3615#	8898											
G#PRML= 000000	3615#												
G#RADA= 000140	3615#												
G#RADB= 000000	3615#												
G#RADD= 000040	3615#												
G#RADL= 000120	3615#												
G#RADO= 000020	3615#	8896	8897	8898									
G#XFER= 000004	3615#												
G#YES = 000010	3615#	8896	8897	8898									
HEADER 002336	3922#	5512	5516*	5519*	5618	5620*	7268*	7293*	7320*	7345*	7366*	7407*	7434*
	7473*	7519*	7581*	7635*	7681*	7729*	7777*	7826*	7874*	7929*	7960*	8016*	8064*
	8219*	8263*	8311*	8357*	8403*	8447*	8492*	8540*	8587*	8637*	8683*	8730*	
	3603#	3636	3659	3685	4068								
HELP = 000000	3923#	4440	4549	5065*	8277*	8283*	8600*	8608*	8810*	8821*	8863*	8874*	
HIGH 002340	3725#												
HOE = 100000 G	3725#												
IBE = 010000 G	3725#												
IC = 040000	3770#	4681	4902	6839									
IDLE = 004000	3791#	7432	7727	8538									
IDU = 000040 G	3725#												
IER = 020000 G	3725#												
ILLGL 017744 G	5162	5675#											
IPCR 002342	3924#	4352	4359	5520	5564	7276*	7296*	7328*	7348*	7369*	7415*	7439*	7481*
	7527*	7584*	7643*	7689*	7691	7737*	7738	7784*	7785	7834*	7882*	7936*	7968*
	8023*	8071*	8227*	8271*	8319*	8365*	8411*	8455*	8500*	8547*	8548	8594*	8595
	8644*	8645	8690*	8800*	8804*	8853*	8857*						
IPCSAR 002344	3925#	4341	4346	4348	4557	7265*	7266*	7275	7295	7316*	7317*	7327	7347
	7368	7405*	7414	7431*	7432*	7438	7471*	7480	7516*	7517*	7526	7567*	7582
	7633*	7642	7677*	7678*	7679*	7690	7725*	7726*	7727*	7739	7773*	7774*	7775*

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IRDSR 002350	7786	7823*	7824*	7833	7871*	7872*	7881	7925*	7926*	7927*	7937	7956*	7957*
IRXCSR 002346	7958*	7967	8012*	8013*	8014*	8025	8060*	8061*	8062*	8073	8108*	8109*	8217*
ISR = 000100 G	8226	8261*	8270	8307*	8308*	8309*	8318	8355*	8364	8401*	8410	8444*	8445*
IXE = 004000 G	8454	8489*	8490*	8499	8535*	8536*	8537*	8538*	8549	8583*	8584*	8585*	8596
I\$AU = 000041	8632*	8633*	8634*	8635*	8646	8680*	8681*	8691	8790*	8806	8841*	8859	
I\$AUTO = 000041	3927*	4553	4559	5352*	5355	5360	7422	7446	7539	7541	7594*	7595	7842
I\$CLN = 000041	7890	7946	8032	8080	8155*	8158	8163	8165					
I\$DU = 000041	3926*	5272*	5279	5288	5327*	5330	5341	5350	5353	5358	8154*	8156	8161
I\$HRD = 000041	3725*												
I\$INIT = 000041	3725*												
I\$MOD = 000041	3615*	5195*	5214*										
I\$MSG = 000041	3615*	5231*	5236*										
	3615*	5691*	5696*										
	8894*	8901*											
	3615*	5051*	5178*										
	3615*	3618*	8923*										
	3615*	4818*	4820*	4823*	4830*	4832*	4835*	4838*	4842*	4845*	4849*	4851*	4855*
	4857*	4861*	4863*	4867*	4870*	4886*	4888*	4891*	4893*	4933*	4935*	4941*	4943*
	4945*												
I\$PROT = 000040	3615*	5031*											
I\$PTAB = 000041	3615*												
I\$PWR = 000041	3615*												
I\$RPT = 000041	3615*												
I\$SEG = 000041	3615*	5722	5797	5798	5828	5870	5874	5904	5931	5960	5987	6019	6021
	6055	6102	6104	6121	6162	6222	6275	6360	6362	6414	6486	6559	6562
	6616	6676	6756	6823	6903	6917	6937	6958	6977	7002	7027	7081	7086
	7134	7182	7258	7260	7261*	7287*	7289*	7307*	7311	7312*	7339*	7341*	7360*
	7362*	7378*	7400	7401	7428	7466	7511	7564	7628	7672	7720	7768	7818
	7865	7919	7921	7952	8006	8054	8102	8211	8255	8301	8349	8395	8438
	8483	8529	8577	8626	8674	8724	8786	8838					
I\$SETU = 000041	3615*												
I\$SRV = 000041	3615*	5270*	5299*	5325*	5375*	5398*	5415*	5440*	5462*	5490*	5530*	5550*	5575*
	5601*	5628*	5648*	5652*	5675*	5679*	5755*	5763*					
I\$SUB = 000041	3615*	5722	5797	5798*	5824*	5828*	5845*	5870	5874*	5901*	5904*	5929*	5931*
	5958*	5960*	5985*	5987*	5997*	6019	6021*	6052*	6055*	6083*	6102	6104*	6118*
	6121*	6145*	6162	6222	6275	6360	6362*	6412*	6414*	6482*	6486*	6539*	6559
	6562*	6614*	6616*	6672*	6676*	6733*	6756	6823	6903	6917*	6934*	6937*	6954*
	6958*	6974*	6977*	6999*	7002*	7024*	7027*	7050*	7081	7086*	7132*	7134*	7180*
	7182*	7229*	7258	7260*	7308*	7311*	7379*	7400	7401*	7426*	7428*	7450*	7466
	7511	7564	7628	7672	7720	7768	7818	7865	7919	7921*	7950*	7952*	7988*
	8006	8054	8102	8211	8255	8301	8349	8395	8438	8483	8529	8577	8626
	8674	8724	8786	8838									
I\$TST = 000041	3615*	5722*	5752*	5797*	5798	5800	5828	5847*	5870*	5872	5874	5904	5931
	5960	5987	5999*	6019*	6021	6023	6031	6043	6050	6055	6057	6065	6074
	6081	6086*	6102*	6104	6106	6121	6123	6132	6136	6148*	6162*	6165	6198*
	6222*	6225	6232	6237	6242	6258*	6275*	6279	6327*	6360*	6362	6364	6414
	6416	6486	6488	6543*	6559*	6562	6564	6616	6618	6676	6678	6736*	6756*
	6759	6804*	6823*	6828	6875*	6903*	6906	6917	6919	6937	6939	6958	6960
	6977	6979	7002	7004	7027	7029	7061*	7081*	7084	7086	7088	7130	7134
	7136	7178	7182	7184	7227	7231*	7258*	7260	7263	7283	7286	7291	7311
	7314	7335	7338	7343	7358	7364	7374	7377	7382*	7400*	7401	7403	7428
	7430	7452*	7466*	7469	7496*	7511*	7514	7537	7548*	7564*	7579	7590	7607*
	7628*	7631	7650	7656*	7672*	7675	7704*	7720*	7723	7752*	7768*	7771	7799*
	7818*	7821	7841	7847*	7865*	7869	7889	7896*	7919*	7921	7923	7945	7952
	7954	7978	7990*	8006*	8010	8038*	8054*	8058	8086*	8102*	8106	8192*	8211*

[illegible]

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 CVDPVC.P11 16-AUG 84 14:18 CROSS REFERENCE TABLE USER SYMBOLS

L\$REV	002010	G	36570																	
L\$SPC	002056	G	36570																	
L\$SPCP	002020	G	36570																	
L\$SPTP	002024	G	36570																	
L\$STA	002030	G	36570																	
L\$TEST	002114	G	36570	4718	4765															
L\$TIML	002014	G	36570																	
L\$UNIT	002012	G	36570	5094																
L10000	002262		3700	37070																
L10001	006676		48200																	
L10002	007012		48300																	
L10003	007070		48350																	
L10004	007170		48420																	
L10005	007270		48490																	
L10006	007370		48550																	
L10007	007470		48610																	
L10010	007570		48670																	
L10011	010212		48860																	
L10012	010270		48910																	
L10013	010756		49330																	
L10014	011042		49410																	
L10015	011066		49450																	
L10017	016310		51780																	
L10020	016562		52140																	
L10021	016600		52360																	
L10022	016730		52990																	
L10023	017162		53750																	
L10024	017230		54150																	
L10025	017336		54620																	
L10026	017510		55300																	
L10027	017616		55750																	
L10030	017732		56280																	
L10031	017742		56520																	
L10032	017746		56790																	
L10033	017776		56960																	
L10034	020164		57520																	
L10035	020236		57630																	
L10036	020656		5800	58470																
L10037	020756		58240																	
L10040	020854		58450																	
L10041	021406		5872	59990																
L10042	020774		59010																	
L10043	021104		59290																	
L10044	021214		59580																	
L10045	021324		59850																	
L10046	021404		59970																	
L10047	021750		6023	6031	6043	6050	6057	6065	6074	6081	60860									
L10050	021576		60520																	
L10051	021746		60830																	
L10052	022202		6106	6123	6132	6136	61480													
L10053	022050		61180																	
L10054	022200		61450																	
L10055	022360		6165	61980																
L10056	022612		6225	6232	6237	6242	62580													
L10057	023110		6279	63270																
L10060	024116		6364	6416	6488	65430														

SEQ 209

[illegible]

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 CVDPVC.P11 16-AUG-84 14:18 CROSS REFERENCE TABLE -- USER SYMBOLS

MAINT	002356	3930*	4453	7280*	7332*	7419*	7443*	7487*	7531*	7587*	7647*	7695*	7743*	7790*
		7838*	7886*	7941*	7972*	8029*	8077*	8231*	8275*	8323*	8369*	8415*	8459*	8504*
		8553*	8601*	8650*	8695*	8808*	8861*							
MASK	004514	4369	4382*											
MCFLAG	002360	3931*	4430*	4627	4630	4631	4633*	465*	4661*	5274*	5275	5332*	5333	5339
		6282*	6567*	6622*	6682*	6762*	6921*	6928	6941*	6948	6962*	6968	6981*	6988
		6994	7006*	7013	7019	7031*	7038	7045	7091*	7110	7121	7139*	7158	7169
		7187*	7206	7218	8746*									
MFPT	= 000007	3857*	5163											
MM	= 000010	3824*	5142	5160	5814	6026	6060	6126	6228	6297	6375	6428	6500	6578
		6634	6694	6776	7106	7154	7202							
MMASK	006420	4643	4681*											
MODE	002362	3932*	4338	4551	5365	7264*	7315*	7404*	7470*	7515*	7566*	7632*	7676*	7724*
		7772*	7822*	7870*	7924*	7955*	8011*	8059*	8107*	8216*	8260*	8306*	8354*	8400*
		8443*	8488*	8534*	8582*	8631*	8679*	8793*	8845*					
MODEM	002444	3970*	4289*	4290*	4293*	4637	5341*	5342*	5345*					
NESTPC	002364	3933*												
NEWST	015552	5080	5088*	5095										
NOERR	= 003400	3787*	7567											
NONE1	= 001000	3788*	7431											
NONE2	= 003000	3789*												
NXM	017734 G	5197	5648*											
NXMFLG	002366	3934*	5061*	5198*	5207	5232	5650*	5725*	5742	5756	5760*			
ONE	= 010000	3808*												
OVER	002370	3935*	5064*	5293	6624*	6670*								
O\$APTS	= 000000	3615*	3657											
O\$AU	= 000000	3615*	3657											
O\$BGNR	= 000000	3615*	3657											
O\$BGNS	= 000000	3615*	3657											
O\$DU	= 000001	3615*	3634*	3657										
O\$ERRT	= 000000	3615*	3657											
O\$GNSW	= 000000	3615*	3657											
O\$POIN	= 000001	3615*	3634*	3657										
O\$SETU	= 000000	3615*	3657	8925										
PATCH	040466	8915*												
PCR	= 002302	3892*	4279	4853	4880	5520*	5564*	5906*	5907	5910*	5911	5916*	5917	5920*
		5927*	7483*	7691*	7738*	7785*	8548*	8595*	8645*	8799*				
PCSAR	= 002270	3887*	6226*	6294*	6772*	7103*	7151*	7199*	7275*	7295*	7327*	7347*	7368*	7414*
		7438*	7480*	7526*	7582*	7642*	7690*	7739*	7786*	7833*	7881*	7937*	7967*	8025*
		8073*	8226*	8270*	8318*	8364*	8410*	8454*	8499*	8549*	8596*	8646*	8691*	8732*
		8806*	8859*											
PNT	= 001000 G	3725*												
PRI	= 002000 G	3725*												
PRI00	= 000000 G	3725*	4452	6170	6287	6369	6422	6494	6572	6628	6688	6765	6910	7096
		7144	7192	8750										
PRI01	= 000040 G	3725*												
PRI02	= 000100 G	3725*												
PRI03	= 000140 G	3725*												
PRI04	= 000200 G	3725*	4443	4444	4449	4450	6169	6285	6286	6368	6421	6493	6570	6571
		6626	6627	6686	6687	6763	6764	6909	7094	7095	7142	7143	7190	7191
		8748	8749											
PRI05	= 000240 G	3725*												
PRI06	= 000300 G	3725*												
PRI07	= 000340 G	3725*	5053	5162	5197	5724	6194	6322	6609	6666	6727	6797	7055	7126
		7174	7223											
PROTO	= 040000	3795*	7679	7726	7775	7927	7958	8014	8062	8537	8584	8633	8681	8732

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 CVDPVC.P1: 16 AUG-84 14:18 CROSS REFERENCE TABLE - USER SYMBOLS

		8790												
PSTACK	002372	3936*	5054*											
P1	040302	8896	8903*											
P2	040314	8897	8904*											
P3	040325	8898	8905*											
RABORT=	002000	3804*	5360	6528	6717	7422	7446	7541	8163					
RCOUNT	002500	3980*	4438*	4567	4940	5356*	5367	5509*	5609*	8121*	8159*			
RCVBUF	003274	4036*	4037	4373	4435	4575	7979	8118	8734	8742	8757			
RCVEC	002262	3875*	4444	4450	4511	5133*	6286	6324	6571	6611	6627	6668	6687	6729
		6763	6799	6909	7057	7094	7128	7142	7176	7190	7225	8749		
RDATA	016732 G	4450	5325*	8749										
RDATA2	017164 G	4444	5398*											
RDATRY=	000200	3763*	5279	5350	5353	6233	6238	6241	6250	6314	6390	6517	8152	8156
RDSR =	002270	3889*	4275	5297	5352	5407	5836	6392	6453	6528	8155			
REG	002374	3937*	4221*	4222*	4228	4890								
REOM =	001000	3803*	6393	6601	7539	8165								
RESET =	000001	3821*	4272	4509	5234	6188								
RETURN=	000207	3853*												
RFLAG	002376	3938*	4428*	4473	4494	5059*	5281*	5290*	5362*	5370*	5403*	5410*	6281*	6301
		6310*	6312	6565*	6593	6620*	6649	6680*	6709	6761*	6791	6920*	6940*	6961*
		6980*	7005*	7030*	7090*	7138*	7186*	8745*						
RINT	016602 G	5270*	6286	6571	6627	6687	6763	6909	7094	7142	7190			
RL =	000001	3754*	5153											
ROVER =	004000	3805*	5360	6453	6658	8163								
RR =	010000	3768*	4681	4896	6834									
RSAVE	002400	3939*	5297*	6392*	6393	6601	6658	6717						
RSIZE =	000400	4037*	4374											
RSDM =	000400	3802*												
RSTARY=	002000	3766*	5288	5350	5358	6390	6401	6443	6459	6464	6476	6515	6533	6605
		6662	6722	8152	8161									
RTS =	000004	3757*	4681	4894	4896	5145	6829	6857	6860	6924	6944	6965	6984	7092
RXACT =	004000	3767*	6233	6238	6243	6250	6314	6381	6406	6434	6506	6584	6640	6700
RXCSR =	002266	3886*	4273	4289	4455*	4460*	4894	4900	4906	4915	5272	5277*	5286*	5327
		5335*	5372*	5400	5412*	5834	5878*	5879	5882*	5889*	5890	5893*	5894	5899*
		6227*	6233	6238	6241	6243	6248*	6250	6295*	6309*	6314	6377*	6381	6390
		6401	6406	6430*	6434	6443	6459	6464	6474*	6476	6502*	6506	6515	6517
		6533	6580*	6584	6605	6636*	6640	6662	6696*	6700	6722	6774*	6830*	6832
		6834	6837*	6839	6842*	6847*	6849	6857*	6861	6864	6866*	6867	6869*	6870
		6924*	6944*	6965*	6984*	7009*	7034*	7105*	7153*	7201*	8124*	8152	8154	
RXENA =	000020	3759*	5138	5159	6227	6248	6295	6309	6377	6430	6474	6502	6580	6636
		6696	6774	7105	7153	7201								
RXINI	002402	3940*	5138*	5145*	5148*	5153*	5155	8124						
RXINIT	002404	3941*	4445*	4460	4462*	5155*	5156*							
RXITEN=	000100	3761*	5156	5159	5372	5412	6295	6580	6636	6696	6774	6924	6984	7009
		7034	7105	7153	7201									
RXMINI	002406	3942*	4455	5159*										
SAVE	002410	3943*												
SAVTIM	002412	3944*	5176*	7302	7354									
SECADR=	010000	3792*	4346	7266	7317	8308								
SEVEN =	070000	3814*												
SF =	000001	3753*	4681	4915	6841	6857	6866							
SFR =	000400	3764*												
SIX =	060000	3813*												
SQ =	000040	3826*	4917	6844										
SSYNCH=	020000	3793*	7774	8634	8732									
STARES	002314	3905*	4716	4763	5086*	5091*	5829							

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STARST 015546	5076	5078	5085*											
START 002414	3945*	5442	5445*	5492	5506*	5551	5556*	5559*	5603	5606*	6283*	6366*	6419*	
	6490*	6568*	6623*	6683*	6773*	7104*	7152*	7200*	7267*	7292*	7319*	7344*	7365*	
	7406*	7433*	7472*	7518*	7580*	7634*	7680*	7728*	7776*	7825*	7873*	7928*	7959*	
	8015*	8063*	8218*	8262*	8310*	8356*	8402*	8446*	8491*	8539*	8586*	8636*	8682*	
	8729*	8791*	8842*	8847*										
SUBRPC 002416	3946*	4217*	4218*	4242*	4284*	4285*	4287*	4465*	4466*	4501*	4507*	4562*	4563*	
	4569*	4570*	4584*	4585*	4590*	4623*	4624*	4819	4824	4826	4833	4871	4873	
	4889	4936	4938	5055*										
SVCGBL = 000000	3615*	3626*	3657	3683	3700	4055	4060	4818	4823	4832	4838	4845	4851	
	4857	4863	4870	4888	4893	4935	4943	5031	5051	5195	5231	5270	5325	
	5398	5440	5490	5550	5601	5648	5675	5691	5755	8894	8925*			
SVCINS = 000001	3615*	3623*	3657	3683	3700	4055	4060	4231	4236	4239	4286	4297	4443	
	4444	4449	4450	4452	4479	4487	4491	4498	4510	4511	4564	4571	4588	
	4629	4630	4634	4638	4639	4640	4649	4652	4664	4667	4718	4765	4805	
	4819	4820	4826	4828	4829	4830	4833	4834	4835	4839	4840	4841	4842	
	4846	4847	4848	4849	4852	4853	4854	4855	4858	4859	4860	4861	4864	
	4865	4866	4867	4873	4875	4876	4877	4878	4879	4880	4881	4882	4883	
	4884	4885	4886	4889	4890	4891	4897	4903	4909	4910	4911	4918	4919	
	4920	4921	4922	4926	4927	4928	4931	4933	4938	4940	4941	4944	4945	
	5053	5073	5075	5076	5077	5078	5079	5080	5081	5082	5096	5097	5102	
	5131	5162	5168	5178	5197	5209	5210	5211	5214	5236	5299	5375	5415	
	5462	5530	5575	5628	5652	5679	5693	5694	5696	5724	5744	5745	5746	
	5750	5752	5759	5762	5763	5798	5800	5822	5824	5828	5831	5843	5845	
	5847	5872	5874	5897	5901	5904	5925	5929	5931	5953	5958	5960	5981	
	5985	5987	5993	5994	5997	5999	6021	6023	6031	6036	6043	6047	6050	
	6052	6055	6057	6065	6070	6074	6078	6081	6083	6086	6104	6106	6108	
	6116	6118	6121	6123	6132	6136	6143	6145	6148	6165	6169	6170	6185	
	6192	6194	6196	6198	6225	6232	6237	6242	6245	6252	6255	6258	6279	
	6285	6286	6287	6306	6316	6319	6322	6324	6325	6327	6362	6364	6368	
	6369	6385	6398	6403	6408	6412	6414	6416	6421	6422	6438	6448	6455	
	6461	6469	6479	6482	6486	6488	6493	6494	6510	6523	6530	6536	6539	
	6543	6562	6564	6570	6571	6572	6588	6597	6603	6607	6609	6611	6612	
	6614	6616	6618	6626	6627	6628	6644	6653	6660	6664	6666	6668	6669	
	6672	6676	6678	6686	6687	6688	6704	6713	6719	6725	6727	6729	6733	
	6736	6759	6763	6764	6765	6787	6793	6797	6799	6800	6804	6828	6853	
	6873	6875	6906	6909	6910	6917	6917	6930	6934	6937	6939	6950	6954	
	6958	6960	6970	6974	6977	6979	6990	6991	6996	6999	7002	7004	7015	
	7016	7021	7024	7027	7029	7040	7041	7042	7047	7050	7055	7057	7058	
	7061	7084	7086	7088	7094	7095	7096	7115	7117	7123	7126	7128	7129	
	7130	7132	7134	7136	7142	7143	7144	7163	7165	7171	7174	7176	7177	
	7178	7180	7182	7184	7190	7191	7192	7211	7213	7215	7220	7223	7225	
	7226	7227	7229	7231	7260	7261	7263	7283	7286	7287	7289	7291	7305	
	7307	7308	7311	7312	7314	7335	7338	7339	7341	7343	7357	7358	7360	
	7362	7364	7374	7377	7378	7379	7382	7401	7403	7424	7426	7428	7430	
	7448	7450	7452	7469	7496	7514	7537	7544	7548	7579	7590	7597	7607	
	7631	7650	7656	7675	7704	7723	7752	7771	7799	7821	7841	7844	7847	
	7869	7889	7892	7896	7921	7923	7945	7948	7950	7952	7954	7978	7986	
	7988	7990	8010	8034	8038	8058	8082	8086	8106	8133	8143	8148	8169	
	8192	8215	8241	8259	8286	8305	8333	8353	8379	8399	8424	8442	8469	
	8487	8514	8533	8563	8581	8611	8630	8660	8678	8705	8728	8748	8749	
	8750	8755	8762	8767	8771	8788	8815	8822	8840	8868	8875	8894	8896	
	8897	8898	8901	8925										
SVCSUB = 000001	3615*	3625*	5798	5828	5874	5904	5931	5960	5987	6021	6055	6104	6121	
	6362	6414	6486	6562	6616	6676	6917	6937	6958	6977	7002	7027	7086	
	7134	7182	7260	7311	7401	7428	7921	7952						

SVCTAG= 000001

3615♦	3627♦	3707	4820	4830	4835	4842	4849	4855	4861	4867	4886	4891
4933	4941	4945	5178	5214	5236	5299	5375	5415	5462	5530	5575	5628
5652	5679	5696	5752	5763	5824	5845	5847	5901	5929	5958	5985	5997
5999	6052	6083	6086	6118	6145	6148	6198	6258	6327	6412	6482	6539
6543	6614	6672	6733	6736	6804	6875	6934	6954	6974	6999	7024	7050
7061	7132	7180	7229	7231	7287	7307	7308	7339	7360	7378	7379	7382
7426	7450	7452	7496	7548	7607	7656	7704	7752	7799	7847	7896	7950
7988	7990	8038	8086	8192	8241	8286	8333	8379	8424	8469	8514	8563
8611	8660	8705	8771	8822	8875	8901						
3615♦	3624♦	5722	5797	5870	6019	6102	6162	6222	6275	6360	6559	6756
6823	6903	7081	7258	7400	7466	7511	7564	7628	7672	7720	7768	7818
7865	7919	8006	8054	8102	8211	8255	8301	8349	8395	8438	8483	8529
8577	8626	8674	8724	8786	8838							

SVCTST= 000001

```
SW00 = 000001
SW01 = 000002
SW02 = 000004
SW03 = 000010
SW04 = 000020
SW05 = 000040
SW06 = 000100
SW07 = 000200
SW08 = 000400
SW09 = 001000
SW10 = 002000
SW11 = 004000
SW12 = 010000
SW13 = 020000
SW14 = 040000
SW15 = 100000
SYN = 000226
S$LSYM= 010000
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38520	8732											
36150	37070	48200	48300	48350	48420	48490	48550	48610	48670	48860	48910	49330
49410	49450	51780	52140	52360	52990	53750	54150	54620	55300	55750	56280	56520
56790	56960	57520	57630	58240	58450	58470	59010	59290	59580	59850	59970	59990
60520	60830	60860	61180	61450	61480	61980	62580	63270	64120	64820	65390	65430
66140	66720	67330	67360	68040	68750	69340	69540	69740	69990	70240	70500	70610
71320	71800	72290	72310	72610	72890	73080	73120	73410	73620	73790	73820	74260
74500	74520	74960	75480	76070	76560	77040	77520	77990	78470	78960	79500	79880
79900	80380	80860	81920	82410	82860	83330	83790	84240	84690	85140	85630	86110

TBE = 000004

TDSR = 002274

8660#	8705#	8771#	8822#	8875#	8901#							
3823#	4237	4679	6030	6042	6046	6064	6077	6112	6115	6131	6135	6231
6236	8138											
3891#	4281	4471	5444#	5453#	5456#	5459#	5504#	5515#	5522#	5526#	5554#	5560#
5566#	5570#	5605#	5612#	5613#	5617#	5802#	5840	5934#	5935	5938#	5939	5944#
5945	5947#	5955#	5988#	6029#	6040#	6063#	6177#	6114	6130#	6134#	6139	6230#
6235#	6240#	8127#	8131	8174	8177#	8179#	8183#					

TEMP 002420
TEND 002422

3947*												
3948*	5526	7271*	7323*	7410*	7476*	7522*	7572*	7638*	7684*	7732*	7780*	7829*
7877*	7932*	7963*	8019*	8067*	8222*	8266*	8314*	8360*	8406*	8450*	8495*	8543*
8590*	8640*	8686*										
3840*	5456	5570	5612	5617	7271	7323	7476	7522	7572	7638	7684	7732
7780	7932	7963	8019	8067	8183	8222	8266	8314	8360	8406	8450	8495
8543	8590	8640	8686									

TERR = 100000
TFLAG 002424

[illegible]

TGA = 004000

THREE = 030000	3810#													
TIME0 002426	3950#	4432#	4483#	7303	7355									
TIMER 002430	3951#	4467	5171#	5174#	5176	7298#	7302#	7350#	7354#	8122				
TM = 000040	3827#	4291	4293	4681	5343	5345								
TOGGLE 002432	3952#	5063#	5282	5284	5285#	7092#	7140#	7188#						
TSOM = 000400	3839#	5444	5515	5554	5560	5605	5612	6029	6063	6130	6230	6235	7270	
	7322	7409	7475	7521	7571	7683	7731	7779	7828	7876	7931	7962	8018	
	8066	8127	8174	8177	8221	8265	8313	8359	8449	8494	8542	8589	8639	
	8685													
TSTART 002434	3953#	5494	5500	5501#	5504	7270#	7322#	7409#	7475#	7521#	7571#	7637#	7683#	
	7731#	7779#	7828#	7876#	7931#	7962#	8018#	8066#	8221#	8265#	8313#	8359#	8405#	
	8449#	8494#	8542#	8589#	8639#	8685#								
TURN 002306	3896#	4477	4714	4761	5137#	5140	5146	5151	6024	6058	6124			
TWO = 020000	3809#													
TXABO = 002000	3841#	5453	7410	7829	7877									
TXACT = 000002	3822#	6032	6044	6066	6075									
TXCSR = 002272	3890#	4272#	4277	4291	4456#	4461#	4490#	4509#	5234#	5343	5527#	5571#	5624#	
	5803	5806#	5807	5910#	5811	5814#	5815	5818#	5819	5838	6026#	6028#	6030	
	6032	6034	6041#	6042	6044	6060#	6062#	6064	6066	6068	6075	6112	6126#	
	6129#	6131	6135	6177#	6188#	6228#	6231	6236	6297#	6375#	6428#	6500#	6578#	
	6634#	6694#	6776#	6844	7106#	7154#	7202#	8125#	8138					
TXENA = 000020	3825#	4490	5139	5160	5814	6028	6035	6041	6062	6069	6129	6177	6228	
	6297	6375	6428	6500	6578	6634	6694	6776	7106					
TXIE = 000100	3829#	5158	5160	5527	5571	5624	6177	6297	6375	6428	6500	6578	6634	
	6694	6776	7106	7154	7202									
TXINI 002436	3954#	5139#	5142#	5157	8125									
TXINIT 002440	3955#	4461	5157#	5158#										
TXMINI 002442	3956#	4456	5160#											
T\$ARGC= 000001	3657#	4239#	4297#	4630#	4634#	4638#	4639#	4640#	4649#	4652#	4664#	4667#	4718#	
	4765#	4819#	4826#	4828#	4829#	4833#	4834#	4839#	4840#	4841#	4846#	4847#	4848#	
	4852#	4853#	4854#	4858#	4859#	4860#	4864#	4865#	4866#	4873#	4875#	4876#	4877#	
	4878#	4879#	4880#	4881#	4882#	4883#	4884#	4885#	4889#	4890#	4897#	4903#	4909#	
	4910#	4911#	4918#	4919#	4920#	4921#	4922#	4926#	4927#	4928#	4931#	4938#	4940#	
	4944#	5102#	5131#	5694#	5744#	5762#	5994#	6991#	7016#	7041#	7042#	71		

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T\$LOLI= 000000	8896#	8897#	8898#										
T\$LSYM= 010000	3615#	3707	4820	4830	4835	4842	4849	4855	4861	4867	4886	4891	4933
	4941	4945	5178	5214	5236	5299	5375	5415	5462	5530	5575	5628	5652
	5679	5696	5752	5763	5824	5845	5847	5901	5929	5958	5985	5997	5999
	6052	6083	6086	6118	6145	6148	6198	6258	6327	6412	6482	6539	6543
	6614	6672	6733	6736	6804	6875	6934	6954	6974	6999	7024	7050	7061
	7132	7180	7229	7231	7308	7379	7382	7426	7450	7452	7496	7548	7607
	7656	7704	7752	7799	7847	7836	7950	7988	7990	8038	8086	8192	8241
	8286	8333	8379	8424	8469	8514	8563	8611	8660	8705	8771	8822	8875
	8901												
T\$LTNO= 000053	8925#												
T\$NEST= 177777	3615#	3618#	3700#	3707#	4818#	4820#	4823#	4830#	4832#	4835#	4838#	4842#	4845#
	4849#	4851#	4855#	4857#	4861#	4863#	4867#	4870#	4886#	4888#	4891#	4893#	4933#
	4935#	4941#	4943#	4945#	5031#	5037#	5051#	5178#	5195#	5214#	5231#	5236#	5270#
	5299#	5325#	5375#	5398#	5415#	5440#	5462#	5490#	5530#	5550#	5575#	5601#	5628#
	5648#	5652#	5675#	5679#	5691#	5696#	5722#	5752#	5755#	5763#	5797#	5847#	5870#
	5828#	5845#	5847#	5870#	5874#	5901#	5904#	5929#	5931#	5958#	5960#	5985#	5987#
	5997#	5999#	6019#	6021#	6052#	6055#	6083#	6086#	6102#	6104#	6118#	6121#	6145#
	6148#	6162#	6198#	6222#	6238#	6275#	6327#	6360#	6362#	6412#	6414#	6482#	6486#
	6539#	6543#	6553#	6562#	6614#	6616#	6672#	6676#	6733#	6736#	6756#	6804#	6823#
	6875#	6903#	6917#	6934#	6937#	6954#	6958#	6974#	6977#	6999#	7002#	7024#	7027#
	7050#	7061#	7081#	7086#	7132#	7134#	7180#	7182#	7229#	7231#	7258#	7260#	7261#
	7287#	7289#	7307#	7308#	7311#	7312#	7339#	7341#	7360#	7362#	7378#	7379#	7382#
	7400#	7401#	7426#	7428#	7450#	7452#	7466#	7496#	7511#	7548#	7564#	7607#	7628#
	7656#	7672#	7704#	7720#	7752#	7768#	7799#	7818#	7847#	7865#	7896#	7919#	7921#
	7950#	7952#	7988#	7990#	8006#	8038#	8054#	8086#	8102#	8192#	8211#	8241#	8255#
	8286#	8301#	8333#	8349#	8379#	8395#	8424#	8438#	8469#	8483#	8514#	8529#	8563#
	8577#	8611#	8626#	8660#	8674#	8705#	8724#	8771#	8786#	8822#	8838#	8875#	8894#
	8901#	8923#											
T\$NS0 = 000000	3618#	8923											
T\$NS1 = 000004	3700#	3707	4818#	4820	4823#	4830	4832#	4835	4838#	4842	4845#	4849	4851#
	4855	4857#	4861	4863#	4867	4870#	4886	4888#	4891	4893#	4933	4935#	4941
	4943#	4945	5031#	5037	5051#	5178	5195#	5214	5231#	5236	5270#	5299	5325#
	5375	5398#	5415	5440#	5462	5490#	5530	5550#	5575	5601#	5628	5648#	5652
	5675#	5679	5691#	5696	5722#	5752	5755#	5763	5797#	5847	5870#	5999	6019#
	6086	6102#	6148	6162#	6198	6222#	6258	6275#	6327	6360#	6543	6559#	6736
	6756#	6804	6823#	6875	6903#	7061	7081#	7231	7258#	7382	7400#	7452	7466#
	7496	7511#	7548	7564#	7607	7628#	7656	7672#	7704	7720#	7752	7768#	7799
	7818#	7847	7865#	7896	7919#	7990	8006#	8038	8054#	8086	8102#	8192	8211#
	8241	8255#	8286	8301#	8333	8349#	8379	8395#	8424	8438#	8469	8483#	8514
	8529#	8563	8577#	8611	8626#	8660	8674#	8705	8724#	8771	8786#	8822	8838#
	8875	8894#	8901										
T\$NS2 = 000002	5798#	5824	5828#	5845	5874#	5901	5904#	5929	5931#	5958	5960#	5985	5987#
	5997	6021#	6052	6055#	6083	6104#	6118	6121#	6145	6362#	6412	6414#	6482
	6486#	6539	6562#	6614	6616#	6672	6676#	6733	6917#	6934	6937#	6954	6958#
	6974	6977#	6999	7002#	7024	7027#	7050	7086#	7132	7134#	7180	7182#	7229
	7260#	7308	7311#	7379	7401#	7426	7428#	7450	7921#	7950	7952#	7988	
	7261#	7287	7289#	7307	7312#	7339	7341#	7360	7362#	7378			
T\$NS3 = 000003													
T\$PTNU= 000000	3615#												
T\$SAVL= 177777	3615#												
T\$SEGL= 177777	3615#	7261#	7287#	7289#	7307#	7312#	7339#	7341#	7360#	7362#	7378#		
T\$SEKO= 010002	7261#	7287	7289#	7307	7312#	7339	7341#	7360	7362#	7378			
T\$SUBN= 000000	3615#	5722#	5797#	5798#	5828#	5870#	5874#	5904#	5931#	5960#	5987#	6019#	6021#
	6055#	6102#	6104#	6121#	6162#	6222#	6275#	6360#	6362#	6414#	6486#	6559#	6562#
	6615#	6676#	6756#	6823#	6903#	6917#	6937#	6958#	6977#	7002#	7027#	7081#	7086#
	7134#	7182#	7258#	7260#	7311#	7400#	7401#	7428#	7466#	7511#	7564#	7628#	7672#

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	7720#	7768#	7818#	7865#	7919#	7921#	7952#	8006#	8054#	8102#	8211#	8255#	8301#
	8349#	8395#	8438#	8483#	8529#	8577#	8626#	8674#	8724#	8786#	8838#		
T\$TAGL= 177777	3615#												
T\$TAGN= 010151	3615#	3700#	4818#	4823#	4832#	4838#	4845#	4851#	4857#	4863#	4870#	4888#	4893#
	4935#	4943#	5031#	5051#	5195#	5231#	5270#	5325#	5398#	5440#	5490#	5550#	5601#
	5648#	5675#	5691#	5722#	5755#	5797#	5798#	5828#	5870#	5874#	5904#	5931#	5960#
	5987#	6019#	6021#	6055#	6102#	6104#	6121#	6162#	6222#	6275#	6360#	6362#	6414#
	6486#	6559#	6562#	6616#	6676#	6756#	6823#	6903#	6917#	6937#	6958#	6977#	7002#
	7027#	7081#	7086#	7134#	7182#	7258#	7260#	7311#	7400#	7401#	7428#	7466#	7511#
	7564#	7628#	7672#	7720#	7768#	7818#	7865#	7919#	7921#	7952#	8006#	8054#	8102#
	8211#	8255#	8301#	8349#	8395#	8438#	8483#	8529#	8577#	8626#	8674#	8724#	8786#
	8838#	8894#											
T\$TEMP= 000000	3683#	3707#	4820#	4830#	4835#	4842#	4849#	4855#	4861#	4867#	4886#	4891#	4933#
	4941#	4945#	5037#	5178#	5214#	5236#	5299#	5375#	5415#	5462#	5530#	5575#	5628#
	5652#	5679#	5696#	5752#	5763#	5800#	5824#	5845#	5847#	5872#	5901#	5929#	5958#
	5985#	5997#	5999#	6023#	6031#	6043#	6050#	6052#	6057#	6065#	6074#	6081#	6083#
	6086#	6106#	6118#	6123#	6132#	6136#	6145#	6148#	6165#	6198#	6225#	6232#	6237#
	6242#	6258#	6279#	6327#	6364#	6412#	6416#	6482#	6488#	6539#	6543#	6564#	6614#
	6618#	6672#	6678#	6733#	6736#	6759#	6804#	6828#	6875#	6906#	6919#	6934#	6939#
	6954#	6960#	6974#	6979#	6999#	7004#	7024#	7029#	7050#	7061#	7084#	7088#	7130#
	7132#	7136#	7178#	7180#	7184#	7227#	7229#	7231#	7263#	7283#	7286#	7287#	7291#
	7307#	7308#	7314#	7335#	7338#	7339#	7343#	7358#	7360#	7364#	7374#	7377#	7378#
	7379#	7382#	7403#	7426#	7430#	7450#	7452#	7469#	7496#	7514#	7537#	7548#	7579#
	7590#	7607#	7631#	7650#	7656#	7675#	7704#	7723#	7752#	7771#	7799#	7821#	7841#
	7847#	7869#	7889#	7896#	7923#	7945#	7950#	7954#	7978#	7988#	7990#	8010#	8038#
	8058#	8086#	8106#	8192#	8215#	8241#	8259#	8286#	8305#	8333#	8353#	8379#	8399#
	8424#	8442#	8469#	8487#	8514#	8533#	8563#	8581#	8611#	8630#	8660#	8678#	8705#
	8728#	8755#	8762#	8767#	8771#	8788#	8822#	8840#	8875#	8896#	8897#	8898#	8901#
	8923#												
T\$TEST= 000053	3615#	5722#	5797#	5798	5828	5870#	5874	5904	5931	5960	5987	6019#	6021
	6055	6102#	6104	6121	6162#	6222#	6275#	6360#	6362	6414	6486	6559#	6562
	6616	6676	6756#	6823#	6903#	6917	6937	6958	6977	7002	7027	7081#	7086
	7134	7182	7258#	7260	7311	7400#	7401	7428	7466#	7511#	7564#	7628#	7672#
	7720#	7768#	7818#	7865#	7919#	7921	7952	8006#	8054#	8102#	8211#	8255#	8301#
	8349#	8395#	8438#	8483#	8529#	8577#	8626#	8674#	8724#	8786#	8838#	8925	
T\$TSTM= 177777	3615#	4231	4236	4239	4286	4297	4443	4444	4449	4450	4452	4479	4487
	4491	4498	4510	4511	4564	4571	4588	4629	4630	4634	4638	4639	4640
	4649	4652	4664	4667	4718	4765	4819	4820	4826	4828	4829	4830	4833
	4834	4835	4839	4840	4841	4842	4846	4847	4848	4849	4852	4853	4854
	4855	4858	4859	4860	4861	4864	4865	4866	4867	4873	4875	4876	4877
	4878	4879	4880	4881	4882	4883	4884	4885	4886	4889	4890	4891	4897
	4903	4909	4910	4911	4918	4919	4920	4921	4922	4926	4927	4928	4931
	4933	4938	4940	4941	4944	4945	5053	5073	5075	5077	5079	5081	5096
	5102	5131	5162	5168	5178	5197	5209	5210	5211	5214	5236	5693	5694
	5696	5724	5744	5745	5746	5750	5752	5759	5762	5798	5800	5822	5824
	5828	5831	5843	5845	5847	5872	5874	5897	5901	5904	5925	5929	5931
	5953	5958	5960	5981	5985	5987	5993	5994	5997	5999	6021	6023	6031
	6036	6043	6047	6050	6052	6055	6057	6065	6070	6074	6078	6081	6083
	6086	6104	6106	6116	6118	6121	6123	6132	6136	6143	6145	6148	6165
	6169	6170	6185	6192	6194	6196	6198	6225	6232	6237	6242	6245	6252
	6255	6258	6279	6285	6286	6287	6306	6316	6319	6322	6324	6325	6327
	6362	6364	6368	6369	6385	6398	6403	6408	6412	6414	6416	6421	6422
	6438	6448	6455	6461	6469	6479	6482	6486	6488	6493	6494	6510	6523
	6530	6536	6539	6543	6562	6564	6570	6571	6572	6588	6597	6603	6607
	6609	6611	6612	6614	6616	6618	6626	6627	6628	6644	6653	6660	6664
	6666	6668	6669	6672	6676	6678	6686	6687	6688	6704	6713	6719	6725

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		6727	6729	6733	6736	6759	6763	6764	6765	6787	6793	6797	6799	6800
		6804	6828	6853	6873	6875	6906	6909	6910	6917	6919	6930	6934	6937
		6939	6950	6954	6958	6960	6970	6974	6977	6979	6990	6991	6996	6999
		7002	7004	7015	7016	7021	7024	7027	7029	7040	7041	7042	7047	7050
		7055	7057	7058	7061	7084	7086	7088	7094	7095	7096	7115	7117	7123
		7126	7128	7129	7130	7132	7134	7136	7142	7143	7144	7163	7165	7171
		7174	7176	7177	7178	7180	7182	7184	7190	7191	7192	7211	7213	7215
		7220	7223	7225	7226	7227	7229	7231	7260	7261	7263	7283	7286	7287
		7289	7291	7305	7307	7308	7311	7312	7314	7335	7338	7339	7341	7343
		7357	7358	7360	7362	7364	7374	7377	7378	7379	7382	7401	7403	7424
		7426	7428	7430	7448	7450	7452	7469	7496	7514	7537	7544	7548	7579
		7590	7597	7607	7631	7650	7656	7675	7704	7723	7752	7771	7799	7821
		7841	7844	7847	7869	7889	7892	7896	7921	7923	7945	7948	7950	7952
		7954	7978	7986	7988	7990	8010	8034	8038	8058	8082	8086	8106	8133
		8143	8148	8169	8192	8215	8241	8259	8286	8305	8333	8353	8379	8399
		8424	8442	8469	8487	8514	8533	8563	8581	8611	8630	8660	8678	8705
		8728	8748	8749	8750	8755	8762	8767	8771	8788	8815	8822	8840	8868
		8875												
T\$TSTS=	000001	3615#	5722#	5797#	5870#	6019#	6102#	6162#	6222#	6275#	6360#	6559#	6756#	6823#
		6903#	7081#	7258#	7400#	7466#	7511#	7564#	7628#	7672#	7720#	7768#	7818#	7865#
		7919#	8006#	8054#	8102#	8211#	8255#	8301#	8349#	8395#	8438#	8483#	8529#	8577#
		8626#	8674#	8724#	8786#	8838#								
T\$\$AUT=	010020	5195#	5214											
T\$\$CLE=	010021	5231#	5236											
T\$\$DU =	010033	5691#	5696											
T\$\$HAR=	010150	8894#	8901											
T\$\$HM =	010000	3700#	3707											
T\$\$INI=	010017	5051#	5178											
T\$\$MSG=	010015	4818#	4820	4823#	4830	4832#	4835	4838#	4842	4845#	4849	4851#	4855	4857#
		4861	4863#	4867	4870#	4886	4888#	4891	4893#	4933	4935#	4941	4943#	4945
T\$\$PRO=	010016	5031#												
T\$\$SEG=	010002	7261#	7287#	7289#	7307#	7312#	7339#	7341#	7360#	7362#	7378#			
T\$\$SRV=	010035	5270#	5299	5325#	5375	5398#	5415	5440#	5462	5490#	5530	5550#	5575	5601#
		5628	5648#	5652	5675#	5679	5755#	5763						
T\$\$SUB=	010126	5798#	58											

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T10.2	024416	6616#	
T10.3	024726	6676#	
T11	025234 G	3683	6756#
T12	025500 G	3683	6823#
T13	025770 G	3683	6903#
T13.1	026036	6917#	
T13.2	026114	6937#	
T13.3	026172	6958#	
T13.4	026250	6977#	
T13.5	026370	7002#	
T13.6	026510	7027#	
T14	026700 G	3683	7081#
T14.1	026712	7086#	
T14.2	027202	7134#	
T14.3	027472	7182#	
T15	030004 G	3683	7258#
T15.1	030004	7260#	
T15.2	030306	7311#	
T16	030714 G	3683	7400#
T16.1	030714	7401#	
T16.2	031076	7428#	
T17	031240 G	3683	7466#
T18	031412 G	3683	7511#
T19	031622 G	3683	7564#
T2	020434 G	3683	5797#
T2.1	020434	5798#	
T2.2	020566	5828#	
T20	032072 G	3683	7628#
T21	032240 G	3683	7672#
T22	032424 G	3683	7720#
T23	032610 G	3683	7768#
T24	032774 G	3683	7818#
T25	033164 G	3683	7865#
T26	033352 G	3683	7919#
T26.1	033352	7921#	
T26.2	033550	7952#	
T27	033770 G	3683	8006#
T28	034160 G	3683	8054#
T29	034350 G	3683	8102#
T3	020660 G	3683	5870#
T3.1	020670	5874#	
T3.2	020776	5904#	
T3.3	021106	5931#	
T3.4	021216	5960#	
T3.5	021326	5987#	
T30	034746 G	3683	8211#
T31	035122 G	3683	8255#
T32	035304 G	3683	8301#
T33	035474 G	3683	8349#
T34	035646 G	3683	8395#
T35	036022 G	3683	8438#
T36	036204 G	3683	8483#
T37	036366 G	3683	8529#
T38	036570 G	3683	8577#
T39	036772 G	3683	8626#
T4	021410 G	3683	6019#

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T4.1		021410		6021#															
T4.2		021600		6055#															
T40		037174	G	3683		8674#													
T41		037352	G	3683		8724#													
T42		037624	G	3683		8786#													
T43		040034	G	3683		8838#													
T5		021752	G	3683		6102#													
T5.1		021752		6104#															
T5.2		022052		6121#															
T6		022204	G	3683		6162#													
T7		022362	G	3683		6222#													
T8		022614	G	3683		6275#													
T9		023112	G	3683		6360#													
T9.1		023112		6362#															
T9.2		023350		6414#															
T9.3		023646		6486#															
UAM	=	000200	G	3725#															
VRCB	=	002400		3786#		7677	8060	8583											
VRCO	=	002000		3785#		7725	7773	8012	8536										
XCOUNT		002472		3977#		4337	4356*	4362*	4364*	4366	4437	4446	4567	4576	7273*	7325*	7412*		
				7436*		7478*	7524*	7574*	7640*	7686*	7734*	7782*	7831*	7879*	7934*	7965*	7980		
				8021*		8069*	8112*	8120	8224*	8268*	8316*	8362*	8408*	8452*	8497*	8545*	8592*		
				8642*		8688*	8795*	8849*											
				4449		5490#													
XDATA	017340	G		4443		5550#													
XDATA2	017512	G		5601#		8748													
XDDCMP	017620	G		5440#		6169	6285	6368	6421	6493	6570	6626	6686	6764	7095	7143	7191		
XINT	017232	G		3979#		4433*	4940	5508*	5523*	5562	5567*	5608*	5614*	8176*	8180*				
XMITD	002476			4031#		4336	4436	4574	7300*	7352*	7371*	8119							
XMTBUF	002674			3876#		4443	4449	4510	5134*	5135*	6169	6196	6285	6325	6368	6421	6493		
XMTVEC	002264			6570		6612	6626	6669	6686	6764	6800	7058	7095	7129	7143	7177	7191		
				7226		8748													
XTYPE	002470			3976#		4335	7272*	7324*	7411*	7435*	7477*	7523*	7573*	7639*	7685*	7733*	7781*		
				7830*		7878*	7933*	7964*	8020*	8068*	8111*	8223*	8267*	8315*	8361*	8407*	8451*		
				8496*		8544*	8591*	8641*	8687										

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\$LSTTA= 000001	3622#												
\$MODEM 005452	4622#	8238	8330	8376	8422	8466	8511	8560	8657	8702			
\$RESET 004136	4271#	5799	5871	6022	6056	6073	6105	6122	6164	6224	6278	6321	6363
	6415	6487	6563	6617	6677	6758	6796	6827	6918	6938	6959	6978	7003
	7028	7054	7087	7125	7135	7173	7183	7222	7262	7290	7313	7342	7363
	7402	7429	7468	7513	7578	7630	7674	7722	7770	7820	7868	7922	7953
	8009	8057	8105	8214	8258	8304	8352	8398	8441	8486	8532	8580	8629
	8677	8727	8787	8839									
\$SPEED 006522	4758#	8103	8212	8256	8302	8350	8396	8439	8484	8530	8578	8627	8675
	8725												
\$TURN 006444	4713#	6824	6904	7082									
\$WAIT 003724	4216#	6030	6042	6064	6131	6135	6231	6236	6241				
• 040540	3609#	3970#	4010	4011#	4021	4025	4027#	4031#	4036#	4037	4060#	4247#	4383#
	4805	5020#	5700#	5800	5872	6023	6031	6043	6050	6057	6065	6074	6081
	6106	6108	6123	6132	6136	6165	6225	6232	6237	6242	6279	6364	6416
	6488	6564	6618	6678	6759	6828	6906	6919	6939	6960	6979	7004	7029
	7084	7088	7130	7136	7178	7184	7227	7263	7283	7286	7291	7314	7335
	7338	7343	7358	7364	7374	7377	7403	7430	7469	7514	7537	7579	7590
	7631	7650	7675	7723	7771	7821	7841	7869	7889	7923	7945	7954	7978
	8010	8058	8106	8215	8259	8305	8353	8399	8442	8487	8533	8581	8630
	8678	8728	8755	8762	8767	8788	8840	8908#	8916#				

B	COMPL	150	36150	5076	5078	5080											
B	ERROR	190	36150														
B	GNAU	230	36150														
B	GNAUT	310	36150	5195													
B	GNC LN	390	36150	5231													
B	GNDU	470	36150	5691													
B	GHPRO	550	36150	8894													
B	GHPW	660	36150	3700													
B	GINI	770	36150	5051													
B	GIMOD	850	36150	3618													
B	GIMSG	980	36150	4818	4823	4832	4838	4845	4851	4857	4863	4870	4888	4893	4935	4943	
B	GIPRC	1060	36150	5031													
B	GIP TA	1140	36150														
B	GIPRT	1440	36150														
B	GISEG	1520	36150	7261	7289	7312	7341	7362									
B	GISET	1610	36150														
B	GISFT	1820	36150														
B	GISRV	1930	36150	5270	5325	5398	5440	5490	5550	5601	5648	5675	5755				
B	GISUB	2010	36150	5790	5828	5874	5904	5931	5960	5987	6021	6055	6104	6121	6362	6414	
		6486	6562	6616	6676	6917	6937	6958	6977	7002	7027	7086	7134	7182	7260	7311	
		7401	7426	7921	7952												
B	GISM	2250	36150														
B	GISTST	2360	36150	5722	5797	5870	6019	6102	6162	6222	6275	6360	6559	6756	6823	6903	
		7081	7258	7400	7466	7511	7564	7628	7672	7720	7768	7818	7865	7919	8006	8054	
		8102	8211	8255	8301	8349	8395	8438	8483	8529	8577	8626	8674	8724	8786	8838	
B	ICOMP	2660	36150	5082	5097												
B	IERRO	2700	36150														
B	IBREAK	2740	36150	4231	4479	8143											
B	IBRESET	2780	36150	5693	5831												
B	ICALL	40960	5799	5871	6022	6056	6073	6105	6122	6164	6224	6278	6321	6363	6415	6487	
		6563	6617	6677	6758	6796	6824	6827	6904	6918	6938	6959	6978	7003	7028	7054	
		7082	7087	7125	7135	7173	7183	7222	7262	7279	7282	7285	7290	7301	7313	7331	
		7334	7337	7342	7353	7363	7373	7376	7402	7418	7421	7429	7442	7445	7468	7486	
		7489	7492	7513	7530	7533	7536	7575	7578	7589	7630	7646	7649	7652	7674	7694	
		7697	7700	7722	7742	7745	7748	7770	7789	7792	7795	7820	7837	7840	7868	7885	
		7															

ENDAU	3890	36150														
ENDAUT	4010	36150	5214													
ENDCLN	4130	36150	5236													
ENDCOM	4250	36150														
ENDDU	4410	36150	5696													
ENDHRD	4530	36150	8901													
ENDHM	4650	36150	3707													
ENDINI	4750	36150	5178													
ENDMOD	4870	36150	8923													
ENDMSG	5000	36150	4820	4830	4835	4842	4849	4855	4861	4867	4886	4891	4933	4941	4945	
ENDPRO	5120	36150	5037													
ENDPTA	5200	36150														
ENDRPT	5290	36150														
ENDSEG	5410	36150	7287	7307	7339	7360	7378									
ENDSET	5550	36150														
ENDSFT	5680	36150														
ENDSRV	5800	36150	5299	5375	5415	5462	5530	5575	5628	5652	5679	5763				
ENDSUB	5960	36150	5824	5845	5901	5929	5958	5985	5997	6052	6083	6118	6145	6412	6482	
	6539	6614	6672	6733	6934	6954	6974	6999	7024	7050	7132	7180	7229	7308	7379	
	7426	7450	7950	7988												
ENDSW	6140	36150														
ENDTST	6240	36150	5752	5847	5999	6086	6148	6198	6258	6327	6543	6736	6804	6875	7061	
	7231	7382	7452	7496	7548	7607	7656	7704	7752	7799	7847	7896	7990	8038	8086	
	8102	8241	8286	8333	8379	8424	8469	8514	8563	8611	8660	8705	8771	8822	8875	
EQUALS	6420	36150	3725													
ERRDF	7140	36150	4236	4286	4487	4491	4498	4564	4571	4588	4629	5759	5822	5843	5897	
	5925	5953	5981	5993	6036	6047	6070	6078	6116	6143	6185	6192	6245	6252	6255	
	6306	6316	6319	6385	6398	6403	6408	6438	6448	6455	6461	6469	6479	6510	6523	
	6530	6536	6588	6597	6603	6607	6644	6653	6660	6664	6704	6713	6719	6725	6787	
	6793	6853	6873	6930	6950	6970	6990	6996	7015	7021	7040	7047	7115	7123	7163	
	7171	7211	7220	7305	7357	7424	7448	7544	7597	7844	7892	7948	7986	8034	8082	
	8133	8148	8169													
ERRHRD	7180	36150														
ERROR	7220	36150														
ERRSF	7260	36150														
ERRSJF	7300	36150														
ERRTBL	7340	36150														
ESCAPE	7440	36150														

CVDPVCO DVP11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 32-2
CVDPVC.P11 16-AUG-84 14:18 CROSS REFERENCE TABLE -- MACRO NAMES

HEADER	9540	36150	3657												
INLOOP	9620	36150													
IOSETU	9660	36150													
IOSTAR	9740	36150													
KT11	9820	36150													
LASTAD	11470	36150	8925												
MANUAL	11620	36150													
MEMORY	11660	36150													
M\$BYTE	20000	36150	36570												
M\$CHEC	21180	36150	69060	70840											
M\$CNT0	21820	36150	88960	88970	80980										
M\$COUN	20660	36150	42390	42970	46300	46340	46380	46390	46400	46490	46520	46640	46670	47180	47650
	48190	48260	48280	48290	48330	48340	48390	48400	48410	48460	48470	48480	48520	48530	48540
	48580	48590	48600	48640	48650	48660	48730	48750	48760	48770	48780	48790	48800	48810	48820
	48830	48840	48850	48890	48900	48970	49030	49090	49100	49110	49180	49190	49200	49210	49220
	49260	49270	49280	49310	49380	49400	49440	51020	51310	56940	57440	57620	59940	69910	70160
	70410	70420	71170	71650	72130	72150	88150	88680							
M\$DATA	18670	36150	36570	40550	40600										
M\$DECR	20290	36150	37070	48200	48300	48350	48420	48490	48550	48610	48670	48860	48910	49330	49410
	49450	50370	51780	52140	52360	52990	53750	54150	54620	55300	55750	56280	56520	56790	56960
	57520	57630	58240	58450	58470	59010	59290	59580	59850	59970	59990	60520	60830	60860	61180
	61450	61480	61980	62580	63270	64120	64820	65390	65430	66140	66720	67330	67360	68040	68750
	69340	69540	69740	69990	70240	70500	70610	71320	71800	72290	72310	72870	73070	73080	73390
	73600	73780	73790	73820	74260	74500	74520	74960	75480	76070	76560	77040	77520	77990	78470
	78960	79500	79880	79900	80380	80860	81920	82410	82860	83330	83790	84240	84690	85140	85630
	86110	86600	87050	87710	88220	88750	89010	89230							
M\$DEFA	21700	36150	88960	88970	88980										
M\$ENDE	20740	36150	37070	48200	48300	48350	48420	48490	48550	48610	48670	48860	48910	49330	49410
	49450	51780	52140	52360	52990	53750	54150	54620	55300	55750	56280	56520	56790	56960	57520
	57630	58240	58450	58470	59010	59290	59580	59850	59970	59990	60520	60830	60860	61180	61450
	61480	61980	62580	63270	64120	64820	65390	65430	66140	66720	67330	67360	67400	68750	69340
	69540	69740	69990	70240	70500	70610	71320	71800	72290	72310	72870	73070	73080	73390	73600

CVDPVCO DPV11 FUNC DIAG MACY11 30A(1052) 16-AUG-84 14:19 PAGE 32-8
 CVDPVC.P11 16-AUG-84 14:18 CROSS REFERENCE TABLE -- MACRO NAMES

	7283#	7286#	7287#	7289#	7291#	7305#	7307#	7308#	7311#	7312#	7314#	7335#	7338#	7339#	7341#
	7343#	7357#	7358#	7360#	7362#	7364#	7374#	7377#	7378#	7379#	7382#	7401#	7403#	7424#	7426#
	7428#	7430#	7448#	7450#	7452#	7469#	7496#	7514#	7537#	7544#	7548#	7579#	7590#	7597#	7607#
	7631#	7650#	7656#	7675#	7704#	7723#	7752#	7771#	7799#	7821#	7841#	7844#	7847#	7869#	7889#
	7892#	7896#	7921#	7923#	7945#	7948#	7950#	7952#	7954#	7978#	7986#	7988#	7990#	8010#	8034#
	8038#	8058#	8082#	8086#	8106#	8133#	8143#	8148#	8169#	8192#	8215#	8241#	8259#	8286#	8305#
	8333#	8353#	8379#	8399#	8424#	8442#	8469#	8487#	8514#	8533#	8563#	8581#	8611#	8630#	8660#
	8678#	8705#	8728#	8748#	8749#	8750#	8755#	8762#	8767#	8771#	8788#	8815#	8822#	8840#	8868#
	8875#														
M\$WORD	1994#	3615#	3657#	3683#	4236#	4286#	4487#	4491#	4498#	4564#	4571#	4588#	4629#	5759#	5822#
	5843#	5897#	5925#	5953#	5981#	5993#	6036#	6047#	6070#	6078#	6116#	6143#	6185#	6192#	6245#
	6252#	6255#	6306#	6316#	6319#	6385#	6398#	6403#	6408#	6438#	6448#	6455#	6461#	6469#	6479#
	6510#	6523#	6530#	6536#	6588#	6597#	6603#	6607#	6644#	6653#	6660#	6664#	6704#	6713#	6719#
	6725#	6787#	6793#	6853#	6873#	6906#	6930#	6950#	6970#	6990#	6996#	7015#	7021#	7040#	7047#
	7084#	7115#	7123#	7163#	7171#	7211#	7220#	7305#	7357#	7424#	7448#	7544#	7597#	7844#	7892#
	7948#	7986#	8034#	8082#	8133#	8148#	8169#	8896#	8897#	8898#	8925				
M\$XFER	1682#	3615#													
OPEN	1171#	3615#													
POINTE	1176#	3615#	3634												
POP	4119#	4241	5347												
PRINTB	1239#	3615#	4239	4297	4630	4634	4638	4639	4640	4649	4652	4664	4667	4819	4826
	4828	4829	4833	4834	4839	4840	4841	4846	4847	4848	4852	4853	4854	4858	4859
	4860	4864	4865	4866	4873	4875	4876	4877	4878	4879	4880	4881	4882	4883	4884
	4885	4889	4890	4897	4903	4909	4910	4911	4918	4919	4920	4921	4922	4926	4927
	4928	4931	4938	4940	4944	5102	5131	6991	7016	7041	7042	7117	7165	7213	7215
PRINTF	1279#	3615#	5694												
PRINTS	1319#	3615#													
PRINTX	1359#	3615#	4718	4765	5744	5762	5994	8815	8868						
PUSH	4109#	4224	5338												
READBU	1399#	3615#													
READBF	1403#	3615#	5075	5077	5079	5081									
RFLAGS	1408#	3615#													
SETPRI	1413#	3615#	4452	5053	6170	6194	6287	6322	6369	6422	6494	6572	6609	6628	6666
	6688	6727	6765	6797	6910	7055	7096	7126	7144	7174	7192	7223	8750		
SETVEC	1418#	3615#	4443	4444	4449	4450	5162	5197	5724	6169	6285	6286	6368	6421	6493
	6570	6571	6626	6627	6686	6687	6763	6764	6909	7094	7095	7142	7143	7190	7191
	8748	8749													
SLASH	1424#	3615#													
STARS	1438#	3615#													
SVC	1452#	3614#	3615												
WAIT	4131#	6030	6042	6064	6131	6135	6231	6236	6241						
XFER	1612#	3615#	6906#	7084#											
XFERF	1616#	3615#													
XFERT	1620#	3615#													
\$DELAY	4170#	5832	6189	6249	6311	6519	6831	6838	6843	6848	6858	6927	6947	6967	6987
	7012	7037													

. ABS. 040540 000

ERRORS DETECTED: 0

CVDPVC, CVDPVC/CRF=SVC34R.MLB, CVDPVC.P11

RUN-TIME: 43 53 5 SECONDS

RUN-TIME RATIO: 131/101=1.2

CORE USED: 20K (39 PAGES)