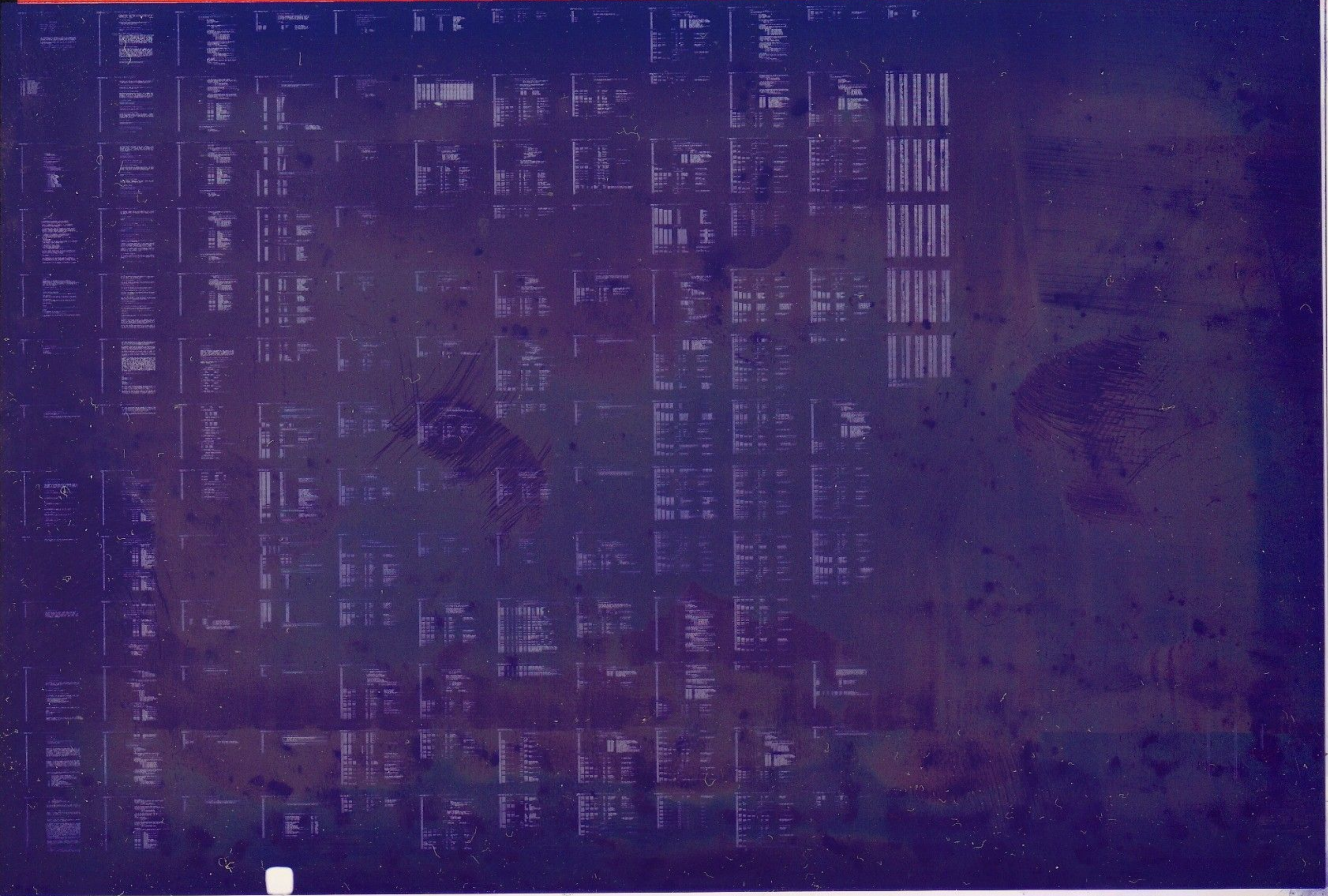


KMV11-A

FCTNL DIAG  
CVKMCAO

AH-T374A-MC  
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IDENTIFICATION

PRODUCT CODE: AC-T373A-MC  
PRODUCT NAME: CVKMCAO KMV11A FCTNL DIAG  
PRODUCT DATE: JAN 1983  
MAINTAINER: CSS ANNECY  
AUTHOR: ALAIN FEUILLET

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## 1.0 INTRODUCTION

### 1.1 PROGRAM ABSTRACT

THIS DIAGNOSTIC IS DESIGNED TO TEST THE KMV11-A FIRMWARE WHICH HANDLES BASIC HDLC/SDLC FRAMING WITH FULL MODEM CONTROL ACCORDING TO DEC STD 052.

BEFORE TO UNDERSTAND THIS DIAGNOSTIC, IT IS RECOMMENDED TO READ THE FIRMWARE FUNCTIONAL SPECIFICATIONS, APPENDIX A OF THE KMV11-A TECHNICAL MANUAL.

THE FUNCTIONAL DIAG, LOADS THE FIRMWARE AS A NORMAL APPLICATION MODE FIRMWARE PROGRAM AND PASSES CONTROL TO THE START ADDRESS OF THE BASIC HDLC/SDLC FIRMWARE. THE FIRMWARE DEFINES THE USE OF THE CSR'S OTHERS THAN BSEL1 (WHICH IS HARDWARE DEFINED AND DESCRIBED IN THE TECHNICAL MANUAL).

THE PURPOSE OF THIS PROGRAM IS TO PERFORM TESTING OF:

- SEQUENCING THE COMMANDS AND RESPONSES RECEIVED
  - XMIT/RECEIVE PATHES USING THE LOOP BACK FACILITY
  - ALL THE POSSIBLE STATUS RETURNED
- DUE TO THE LOOP BACK MODE OF TEST, SOME STATUS CAN'T BE TESTED THESE ARE:

- MODEM DOWN(365)
- FCS ERROR(367)

DUE TO THE FACT THAT THE KMV11-A MODULE UNDER TEST IS CONSIDERED TO RUN CORRECTLY FROM A HARDWARE POINT OF VIEW, THE STATUS 370 (LATENCY ERROR) CAN'T BE TESTED EITHER.

THE XMIT/RECEIVE PATH IS TESTED :

- AT SPEEDS 2.4K, 48K AND 64KBPS
- WITH FULL MODEM CONTROL AND WITH DATA LEADS ONLY
- WITH STATION ADDRESS SEARCH
- FOR ALL FRAME PASSING UPON RECEPTION

ALL THE SUPPORTED MODEM SIGNALS ARE TESTED (ACCORDING TO THE LOOP BACK FACILITY USED), EXCEPT RING INDICATOR (CCITT 125) WHICH IS LOOPED ON TERMINAL IN SERVICE, THE LATTER BEEING NOT SUPPORTED BY THE HDLC FRAMING FIRMWARE.

THIS DIAGNOSTIC DOESN'T REQUIRE ANY MANUAL INTERVENTION DURING TEST PERIOD.

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

THROUGH DIALOGUE WITH THE OPERATOR, THE PROGRAM WILL ALLOW MODIFICATION OF DEVICE PARAMETERS, SUCH AS Q-BUS ADDRESS,



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VECTOR ADDRESS.

CAUTION:

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THIS DIAGNOSTIC IS DESIGNED TO RUN WITH A SPECIFIC FIRMWARE WHICH IS LINKED AND LISTED AS THE LAST PART OF THE PRESENT DIAGNOSTIC. ANY PATCHES INSIDE THE APPLICATION CODE BEFORE OR AFTER IT WAS LOADED BY THE DIAGNOSTIC IN THE KMV RAM, WILL CAUSE FALSE TEST CONDITIONS (PARTICULARLY, THIS CONCERNES CCB'S RDB'S LENGTH AND NUMBER).

## 1.2 HARDWARE INTRODUCTION

TO RUN THE DIAGNOSTIC, EXTERNAL LOOP BACK CONNECTOR MUST BE INSTALLED.

EXTERNAL LOOP BACK CONNECTORS:

-----

KMV11-A CAN OPERATE UNDER THE RS422 OR RS423 RECOMMENDATIONS

RS422 LOOP BACK:

-USE H3255 PLUG TO LOOP DIRECTLY AT THE OUTPUT OF THE MODULE  
-USE H3251 PLUG AT THE END OF BC55U MODEM CABLE CONNECTOR ASSY.

RS423 LOOP BACK:

-USE H3255 PLUG TO LOOP DIRECTLY AT THE OUTPUT OF THE MODULE  
-USE H3251 PLUG AT THE END OF BC55H CABLE CONNECTOR ASSY.

RS232 LOOP BACK:

-SAME AS FOR RS423

CAUTION:

\*\*\*\*\*

USE OF H325 LOOP BACK CONNECTOR WILL CAUSE MESSAGE ERROR IN TESTS

CAUTION:

\*\*\*\*\*

AT THE BEGINNING OF THE DIAG. THE OPERATOR MUST ANSWER BY '1' FOR YES OR '0' FOR NO TO THE QUESTION:  
"IS EXTERNAL LOOP BACK CONNECTOR INSERTED?"

IF HE ANSWERS NO OR IF HE ANSWERS YES (THE PLUG BEING NOT INSERTED), IN BOTH CASES, THE DIAGNOSTIC WILL REPORT AN ERROR AND EXIT CORRESPONDING TESTS.



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## 2.0 HARDWARE REQUIREMENTS

THE FOLLOWING HARDWARE IS REQUIRED TO RUN THE KMV11-A FUNCTIONAL  
DIAGNOSTIC:

PDP11/03,23(+)  
16K MEMORY  
CONSOLE TERMINAL  
THE M7500 MODULE WITH EPROM'S AT ECO LEVEL 1



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### 3.0 PRELIMINARY PROGRAM REQUIREMENTS

THE PROCESSOR AND MEMORY SHOULD BE THOROUGHLY TESTED PRIOR TO RUNNING THIS DIAGNOSTIC.

MOREOVER, IN ORDER TO BE SURE OF THE MODULE FROM A HARDWARE POINT OF VIEW, IT IS GREATLY RECOMMENDED TO RUN THE KMV11-A LINE CONTROLLER STATIC TESTS VKMB AND THE DEC/X11 MODULE XKMD.



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4.0 GENERAL PROGRAM CONSIDERATIONS

4.1 DIAGNOSTIC SUPERVISOR

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

4.2 EXECUTION TIME

THE TOTAL TIME REQUIRED TO RUN THE M7500 FUNCTIONAL TESTS IS ABOUT 180 SECONDS PER PASS FOR EACH UNIT.

4.3 XXDP+

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

4.4 ACT

THIS PROGRAM MAY BE LOADED UNDER ACT 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

MEMORY MANAGEMENT IS NOT UTILIZED IN THIS PROGRAM. IF IT IS INSTALLED, IT IS DISABLED BY THE PROGRAM.

4.7 MEMORY PARITY OPTION

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

4.8 ERROR LOGGING

THE NUMBER OF ERRORS WHICH HAVE OCCURRED ON EACH DEVICE



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UNDER TEST SINCE THE LAST START OR RESTART COMMAND IS KEPT  
IN AN ERROR LOG. THIS LOG MAY BE PRINTED BY USING THE  
"PRINT" COMMAND (SEE SECTION 6.3.8).



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#### 5.0 PROGRAM LOAD MEDIA

THIS PROGRAM CAN BE LOADED FROM PAPER TAPE USING THE ABSOLUTE LOADER OR FROM ACT, 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 QUICK 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 PROMPT (DR>)
- C) ENTER START COMMAND(SEE 6.3.1)
- 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:

```
DIAG. RUN-TIME SERVICES -A-0
VKMCAO
KMV11-A FUNCTIONAL DIAGNOSTIC
UNIT IS M7500
50 HZ (L) N? Y
LSI (L) N? Y
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).



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6.3 PROGRAM OPTIONS

6.3.1 START COMMAND

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

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

<TEST-LIST> IS A SEQUENCE OF DECIMAL NUMBERS (1:2 ETC.) OR RANGES OF DECIMAL NUMBERS (1-5:8-10 ETC.) THAT SPECIFY THE TESTS TO BE EXECUTED. THE NUMBERS ARE SEPARATED BY COLONS. THE NUMBERS RANGE FROM 1 TO THE LARGEST TEST NUMBER IN THE DIAGNOSTIC. THEY MAY BE SPECIFIED IN ANY ORDER. TESTS WILL BE EXECUTED IN NUMERICAL ORDER REGARDLESS OF THE ORDER OF SPECIFICATION. THE DEFAULT IS TO EXECUTE ALL TESTS. ON THIS AND ALL SWITCHES, THE ANGLE BRACKETS <> ARE PUNCTUATION USED IN THE DEFINITION ONLY, AND ARE NOT TO BE TYPED BY THE OPERATOR. SEE EXAMPLE AT END OF 6.3.1.5.

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

<PASS-CNT> IS A DECIMAL NUMBER INDICATING THE DESIRED NUMBER OF PASSES. A PASS IS DEFINED AS THE EXECUTION OF THE FULL DIAGNOSTIC (ALL SELECTED TESTS) AGAINST ALL UNITS SUBMITTED. THE DEFAULT IS NON-ENDING EXECUTION. IN THIS CASE EXIT FROM THE PROGRAM IS ACCOMPLISHED EITHER BY TYPING A CONTROL/C OR BY 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

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INTERVENTION TESTS  
ISR INHIBIT STATISTICAL REPORTS  
IDU INHIBIT DROPPING OF UNITS BY DIAGNOSTIC  
LOT LOOP ON TEST

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

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

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

#### 6.3.1.5 EFFECT OF START COMMAND

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

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

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

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

EXAMPLE:

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

THIS COMMAND WILL CAUSE THREE PASSES TO BE MADE, EACH PASS CONSISTING OF TESTS 1,2,3,4,6,8,9, AND 10 EXECUTED AGAINST ALL UNITS. THERE IS NO DIFFERENCE BETWEEN SAYING <FLAG> AND



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SAYING <FLAG=1>. THE NOTATION <FLAG=0> IS MEANINGFUL ONLY ON A COMMAND OTHER THAN START TO CLEAR A FLAG THAT WAS PREVIOUSLY SET. NOTE THAT ON ALL COMMANDS ONLY THE FIRST THREE LETTERS ARE SCANNED.

6.3.2 RESTART COMMAND

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

6.3.2.1 TESTS, PASS, AND FLAGS SWITCHES

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

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

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

6.3.2.3 EFFECT OF RESTART COMMAND

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

6.3.3 CONTINUE COMMAND

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

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

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

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

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

6.3.3.3 EFFECT OF CONTINUE COMMAND

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

6.3.4 PROCEED COMMAND

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

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

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

6.3.4.2 EFFECT OF PROCEED COMMAND

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

6.3.5 ADD COMMAND

\*\*\*\*\*  
ADD/UNITS:<UNIT-LIST>  
\*\*\*\*\*

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



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THE UNITS SPECIFIED ARE ADDED TO THE TEST SEQUENCE. EACH UNIT MUST HAVE A P-TABLE IN MEMORY DUE TO AN EARLIER HARDWARE DIALGUE. 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

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

6.3.9 FLAGS COMMAND

\*\*\*\*\*  
FLA(GS)  
\*\*\*\*\*

6.3.9.1 EFFECT OF FLAGS COMMAND

THE CURRENT SETTINGS OF ALL FLAGS ARE PRINTED.

6.3.10 ZFLAGS COMMAND

\*\*\*\*\*  
ZFL(AGS)  
\*\*\*\*\*

6.3.10.1 EFFECT OF ZFLAGS COMMAND

ALL FLAGS ARE CLEARED.

6.3.11 CONTROL CHARACTERS

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

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

A CONTROL O (O) ENTERED DURING THE EXECUTION OF A DIAGNOSTIC CAUSES ALL TELETYPE OUTPUT TO BE SURPRESSED 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. KMV11-A CSR ADDRESS : (O) 177000 ?



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THIS IS THE ADDRESS AT WHICH THE CSR REGISTERS (SELO) RESIDE ON THE QBUS. THE ALLOWABLE RANGE IS 160000-177776 (OCTAL), AND THE DEFAULT IS 177000.

2. DEVICE VECTOR ADDRESS : (0) 300 ?

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

3. DEVICE PRIORITY LEVEL : (0) 4 ?

THIS IS THE CPU PRIORITY AT WHICH THE INTERRUPT HANDLERS OF THIS DEVICE WILL BE EXECUTED. THE DEFAULT VALUE IS 4.

4. WILL LOOP CONNECTOR BE USED 0=NO,1=YES : (0) 1 ?

THIS TELLS THE PROGRAM IF THE LOOP-BACK CONNECTOR IS PLUGGED IN OR NOT. THE ALLOWABLE VALUES ARE 0 AND 1, AND THE DEFAULT VALUE IS 1 (PLUGGED IN).

5. IS THE HOST COMPUTER A PDP11/23+ 0=NO,1=YES : (0) 1?

THIS TELLS THE PROGRAM IF IT CAN TEST OR NOT, THE NON EXISTANT MEMORY STATUS FLAG. THE ALLOWABLE VALUES ARE 0 AND 1, AND THE DEFAULT VALUE IS 1 (COMPUTER IS THE PDP11/23+)

#### 6.3.13 SOFTWARE PARAMETERS

NO SOFTWARE PARAMETERS ARE REQUESTED BY THE LOGIC 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.

AFTER THE INITIAL DIALOGUE, THE SUPERVISOR ISSUES THE QUESTION BELOW:

CHANGE HW (L) ?

IF YOUR RESPONSE IS Y (YES), THE SUPERVISOR ASKS FOR THE NUMBER OF UNITS UNDER TEST:

# UNITS (D) ?

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

ON THE FIRST TRIP THRU THE QUESTIONS, ALL OF THE SLOTS IN ALL OF THE P-TABLES ARE FILLED. IF THE OPERATOR TYPES IN LESS THAN N EXPLICIT VALUES IN RESPONSE TO A PARTICULAR QUESTION, THESE VALUES ARE PLACED IN THE P-TABLES (ONE VALUE

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GOING INTO THE PROPER SLOT OF EACH P-TABLE BEGINNING WITH THE FIRST P-TABLE) UNTIL THE STRING OF VALUES IS EXHAUSTED. THE LAST VALUE IN THE STRING BECOMES THE NEW DEFAULT AND IS USED TO FILL THAT SLOT IN THE REMAINING P-TABLES.

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

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

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

A STRING OF VALUES MAY BE GIVEN AS A RANGE (6-10 FOR EXAMPLE). IF THE VALUES REPRESENT PURE NUMERICAL DATA, THIS SAMPLE RANGE TRANSLATES TO THE STRING 6,7,8,9,10 (AN INCREMENT OF 1). IF THE VALUES ARE ADDRESSES, THE SAMPLE RANGE TRANSLATES TO THE STRING 6,8,10 (AN INCREMENT OF 2). NOW LET US SEE HOW WE COULD USE THESE CAPABILITIES TO CONSTRUCT A SET OF P-TABLES. ASSUME THAT WE HAVE 16 UNITS, AND THAT THERE ARE THREE HARDWARE PARAMETERS FOR EACH (THREE SLOTS IN THE P-TABLE, THREE HARDWARE QUESTIONS IN THE DIALOGUE). LET THE DESIRED VALUE FOR THE FIRST PARAMETER BE THE NUMBER 75 FOR ALL 16 TABLES. LET THE DESIRED VALUE FOR THE SECOND PARAMETER BE EQUAL TO THE UNIT NUMBER (0,1,2,...,15) EXCEPT FOR UNIT 12, WHICH SHOULD RECEIVE THE VALUE 11. LET THE DESIRED VALUE FOR THE THIRD PARAMETER BE THE NUMBER 76 FOR THE FIRST 7 UNITS AND THE NUMBER 77 FOR THE LAST 9 UNITS.

THE FOLLOWING DIALOGUE WOULD ACCOMPLISH THIS GOAL:

# UNITS (D) ? 16

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

UNIT 21  
<QUESTION 1> ?  
<QUESTION 2> ? 7-11,,13-15  
<QUESTION 3> ? 77

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

THE SECOND TIME THRU THE SERIES, TABLES 16 THRU THE END ARE GOING TO BE AFFECTED (NOTE THAT THIS PIECE OF INFORMATION IS PRINTED OUT FOR THE THE OPERATOR IN THE FORM "UNIT XX" AT THE BEGINNING OF EACH SERIES). QUESTION 1 IS RESPONDED TO



CVKMCA0 KMV11-A FCTNL DIAG  
PROGRAM DOCUMENT

MACRO M1200 06-JAN-83 10:39 PAGE 9-9

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

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

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7.0 TEST DESCRIPTIONS

\*\*\*\*\*TEST01\*\*\*\*\*

\*\* - VERIFY THAT THE KMV11-A CAN BE INITIALIZED

MODE: APPLICATION MODE

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR

\*\*\*\*\*

\*\*\*\*\*TEST02\*\*\*\*\*

\*\* - SELF-TEST RUNNING TEST

KMV ON BOARD SWITCHES MUST BE:  
E13-SW8 ON  
E29-SW10 OFF

MODE: APPLICATION MODE

REPORTS: ERROR 1 SELF TEST IS NOT CORRECTLY RUN  
ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR

\*\*\*\*\*

\*\*\*\*\*TEST03\*\*\*\*\*

\*\* - TEST IF APPLICATION PROGRAM CAN BE LOADED AND STARTED

MODE: APPLICATION MODE

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR  
ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10004 DATA COMPARE ERROR  
ERROR 10008 UNEXPECTED EPROM'S ON KMV

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\*\*\*\*\*TEST04\*\*\*\*\*

\*\* - TEST OF THE CSR HANDSHAKING WITHOUT INTERRUPT

COMMAND LOADED: READ MODEM (F14)

RESPONSE EXPECTED: READ MODEM RESPONSE WITH :  
STATUS = 371  
MODEM = ALL OFF

REPORTS:	ERROR 10000	KMV11 FAILS TO RESET MASTER CLEAR
	ERROR 10001	RUN FUNCTION NOT CORRECTLY PERFORMED
	ERROR 10002	WRITE FUNCTION NOT CORRECTLY PERFORMED
	ERROR 10003	READ FUNCTION NOT CORRECTLY PERFORMED
	ERROR 10004	DATA COMPARE ERROR
	ERROR 10005	UNEXPECTED INTERRUPT IN
	ERROR 10006	UNEXPECTED INTERRUPT OUT
	ERROR 10007	NO MORE INTERRUPT WHILE QIO PENDING
	ERROR 10008	UNEXPECTED EPROM'S ON KMV
	ERROR 10009	UNEXPECTED QIO RESPONSE
	ERROR 00002	RDYI NOT ASSERTED BY THE KMV AFTER AN INPUT REQ
	ERROR 00003	RDYO NOT ASSERTED BY THE KMV IN RESPONSE
	ERROR 00004	UNEXPECTED INTERRUPT RECEIVED IEI&IEO DISABLED

\*\*\*\*\*

\*\*\*\*\*TEST05\*\*\*\*\*

\*\* - TEST OF THE CSR HANDSHAKING WITH INTERRUPTS

COMMAND LOADED: READ MODEM (F14)

RESPONSE EXPECTED: READ MODEM RESPONSE WITH :  
STATUS = 371  
MODEM = ALL OFF

REPORTS:	ERROR 10000	KMV11 FAILS TO RESET MASTER CLEAR
	ERROR 10001	RUN FUNCTION NOT CORRECTLY PERFORMED
	ERROR 10002	WRITE FUNCTION NOT CORRECTLY PERFORMED
	ERROR 10003	READ FUNCTION NOT CORRECTLY PERFORMED
	ERROR 10004	DATA COMPARE ERROR
	ERROR 10005	UNEXPECTED INTERRUPT IN
	ERROR 10006	UNEXPECTED INTERRUPT OUT
	ERROR 10007	NO MORE INTERRUPT WHILE QIO

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ERROR 10008 PENDING  
ERROR 10009 UNEXPECTED EPROM'S ON KMV  
UNEXPECTED QIO RESPONSE

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\*\*\*\*\*TEST06\*\*\*\*\*

\*\* - TEST OF QIO PROCESSING IN CASE OF KMV RESOURCE ERROR

TO DO THIS TEST, THE KMV POOL IS ARTIFICIALLY EMPTIED  
BEFORE ANY TRANSACTIONS.

COMMAND LOADED: ALL COMMANDS

RESPONSE EXPECTED:

STATUS = 357 (FOR ALL EXCEPT F16,F17)  
STATE = S1 (READ COMMAND ONLY)  
MODEM = ALL OFF (F16,F17 AND F14 ONLY)

REPORTS:

ERROR 10000 KMV11 FAILS TO RESET MASTER  
CLEAR  
ERROR 10001 RUN FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10002 WRITE FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10003 READ FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10004 DATA COMPARE ERROR  
ERROR 10005 UNEXPECTED INTERRUPT IN  
ERROR 10006 UNEXPECTED INTERRUPT OUT  
ERROR 10007 NO MORE INTERRUPT WHILE QIO  
PENDING  
ERROR 10008 UNEXPECTED EPROM'S ON KMV  
ERROR 10009 UNEXPECTED QIO RESPONSE

\*\*\*\*\*

\*\*\*\*\*TEST07\*\*\*\*\*

\*\* - TEST OF QIO PROCESSING AS BELOW:

SUBTEST1 - STATE = S1

ALL THE COMMANDS EXCEPT F1 ARE PASSED  
WHILE THE LINE IS NOT CONFIGURATED.

EXPECTED STATUS ARE:

STATUS = 371 FOR F2,F5,F6,F7,F10,F14  
= 1 FOR F16,F17  
= NONE FOR DUMMY COMMANDS

SUBTEST2 - ENTER COMMAND F16 TWICE

ENTER COMMAND F1 TWICE FOR:  
SDLC PROTOCOL  
FULL MODEM CONTROL  
CLOCK SOURCE INTERNAL



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RATE = 2.4K

EXPECTED RESPONSES ARE:  
STATUS = 363 FOR SECOND F16  
          = 363 FOR SECOND F1  
          = 1 FOR F16 WITH MODEM OFF  
          = 1 FOR F4 WITH S109 CHANGE  
          = 1 FOR F4 WITH S106 CHANGE  
          = 1 FOR F4 WITH S107 CHANGE  
          = 1 FOR F1

CURRENT STATE = S6  
MODEM = ALL ON(EXCEPT S125 WHICH IS LOOPED ON  
          THE TERMINAL IN SERVICE SIGNAL =OFF)

SUBTEST3 - DECONFIGURATE THE LINE

ENTER COMMAND F17 TWICE  
ENTER COMMAND F14 TWICE  
ENTER COMMAND F16 TWICE  
ENTER COMMAND F1  
" " F2 TWICE  
" " F1

EXPECTED RESPONSES ARE:  
STATUS = 363 FOR F17  
          = 363 FOR F16  
          = 371 FOR F1  
          = 1 FOR F17  
          = 363 FOR F2  
          = 356 FOR F1  
          = 1 FOR F14 WITH STATE=S6 AND  
          S142+S112+S109+S106+S107 ON  
          = 1 FOR F16 WITH THE SAME PARAMETERS  
          = 1 FOR F4 WITH S106 & S109 CHANGE  
          = 1 FOR F4 WITH S107 CHANGE  
          = 1 FOR F2 COMPLETED

THEN CURRENT STATE = S1  
MODEM = ALL OFF

SUBTEST4 - TEST THAT WE ARE OFF LINE AGAIN

ENTER COMMAND F17 FOR STATUS = 1  
                  F14 FOR STATUS = 371

REPORTS:           ERROR 1000       KMV11 FAILS TO RESET MASTER  
  CLEAR  
                  ERROR 1001       RUN FUNCTION NOT CORRECTLY  
  PERFORMED  
                  ERROR 1002       WRITE FUNCTION NOT CORRECTLY  
  PERFORMED  
                  ERROR 1003       READ FUNCTION NOT CORRECTLY  
  PERFORMED  
                  ERROR 1004       DATA COMPARE ERROR  
                  ERROR 1005       UNEXPECTED INTERRUPT IN  
                  ERROR 1006       UNEXPECTED INTERRUPT OUT  
                  ERROR 1007       NO MORE INTERRUPT WHILE QIO  
  PENDING

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ERROR 10008 UNEXPECTED EPROM'S ON KMV  
ERROR 10009 UNEXPECTED QIO RESPONSE  
ERROR 10010 UNEXPECTED NUMBER OF RESP-  
ONSES  
ERROR 10012 LOOP BACK NOT USED

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\*\*\*\*\*TEST08\*\*\*\*\*

TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 2.4K  
WITH FULL MODEM CONTROL

CONFIGURATE: SDLC PROTOCOL  
FULL MODEM CONTROL  
WITHOUT ADDRESS SEARCH  
CLOCK SOURCE INTERNAL  
RATE = 2.4K

BEFORE SUBTESTS, A COMMAND F14 IS GIVEN FIRST  
TO CONTROL MODEMS AND THE LINE STATE, SUCH AS:  
STATE = S6  
MODEM = S142+S112+S109+S106+S107 ON

SUBTEST1 - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE  
OF 2 BUFFERS.  
THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR  
XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG  
EXPECTED RESPONSES ARE:  
STATUS = 360 FOR F6 THIRD BUFFER PASSED  
= 372 FOR F5 1 BYTE LONG BUFFER  
= 360 FOR F5 THIRD BUFFER PASSED  
= 1 FOR F5 FIRST BUFFER XMITTED  
= 1 FOR F6 FIRST BUFFER FELT  
= 1 FOR F5 SECOND BUFFER XMITTED  
= 1 FOR F6 SECOND BUFFER FELT

SUBTEST2 - TEST OF BUFFER OVERFLOW STATUS 373 FOR RECEPTION  
A 32 BYTE LONG BUFFER IS AFFECTED FOR RECEIVE WHILE  
A 100 BYTE LONG BUFFER IS PASSED TO XMIT.  
EXPECTED RESPONSES ARE:  
STATUS = 1 FOR F5 BUFFER XMITTED  
= 373 FOR F6 BUFFER OVERFLOW

SUBTEST3 - TEST OF NON EXISTENT MEMORY STATUS 374  
TWO RECEIVE BUFFER ARE AFFECTED ONE OF WHICH WITH  
NON EXISTENT ADDRESS  
TWO XMIT BUFFERS ARE PASSED ONE OF WHICH WITH NON  
EXISTENT ADDRESS  
EXPECTED RESPONSES ARE:  
STATUS = 374 FOR F6 NON EXISTENT MEMORY BUFFER  
= 1 FOR F5 COORRECT BUFFER  
= 374 FOR F5 NON EXISTENT MEMORY BUFFER  
= 364 FOR F6 RECEIVE ABORT

SUBTEST4 - TEST OF ABORT RECEIVED STATUS 364 AND ACTION OF XMIT



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ABORT COMMAND.  
ONE RECEIVE BUFFER IS AFFECTED THEN, TWO XMIT BUFFERS  
ARE PASSED. AFTER A SHORT WAIT, XMIT ABORT IS GIVEN  
EXPECTED STATUS ARE:  
STATUS = 1 FOR F7 XMIT ABORTED  
= 364 FOR F6 ABORT RECEIVED

SUBTEST5 - TEST OF ACTION OF RECEIVE ABORT COMMAND.  
TWO RECEIVE BUFFERS ARE AFFECTED THEN, TWO XMIT ONES  
ARE PASSED. AFTER A SHORT WAIT, RECEIVE ABORT IS GIVEN  
EXPECTED STATUS ARE:  
STATUS = 1 FOR F10 RECEIVE ABORTED  
= 1 FOR F5 FIRST BUFFER SENT  
= 1 FOR F5 SECOND BUFFER SENT

SUBTEST6 - TEST OF KMV RDB OVERFLOW DURING XMIT/RECEIVE BUFFER  
ONE RECEIVE BUFFER IS AFFECTED,  
THEN TWO XMIT BUFFER ARE PASSED THE FIRST ONE TOO  
LONG.  
EXPECTED STATUS ARE:  
STATUS = 373 FOR FIRST F5  
= 1 FOR SECOND F5  
= 1 FOR F6

SUBTEST7 - TEST OF A DECONFIGURATE DURING XMIT/RECEIVE BUFFER,  
TWO RECEIVE BUFFERS ARE AFFECTED THEN, TWO XMIT ONES  
ARE PASSED. AFTER A SHORT WAIT, DECONFIGURATE IS PASSED  
EXPECTED STATUS IS:  
STATUS = 1 FOR F2 DECONFIGURATE DONE  
AND ALL BUFFERS ARE KILLED

PATTERN: INCREMENTAL  
FOR EACH TEST WHERE A CORRECT BUFFER IS OBTAINED, THIS BUFFER  
IS COMPARED TO THE CORRESPONDING XMIT BUFFER

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER  
CLEAR  
ERROR 10001 RUN FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10002 WRITE FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10003 READ FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10004 DATA COMPARE ERROR  
ERROR 10005 UNEXPECTED INTERRUPT IN  
ERROR 10006 UNEXPECTED INTERRUPT OUT  
ERROR 10007 NO MORE INTERRUPT WHILE QIO  
PENDING  
ERROR 10008 UNEXPECTED EPROM'S ON KMV  
ERROR 10009 UNEXPECTED QIO RESPONSE  
ERROR 10010 UNEXPECTED NUMBER OF RESP-  
ONSES RECEIVED  
ERROR 10011 UNEXPECTED DATA RECEIVED  
ERROR 10012 LOOP BACK NOT USED

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\*\*\*\*\*TEST09\*\*\*\*\*

TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 2.4K  
WITH DATA LEADS ONLY

CONFIGURATE: HDLC PROTOCOL  
DATA LEADS ONLY  
WITHOUT ADDRESS SEARCH  
CLOCK SOURCE INTERNAL  
RATE = 2.4K

BEFORE SUBTESTS A COMMAND F14 IS GIVEN FIRST TO CONTROL  
THE LINE STATE AND MODEM SUCH AS:  
STATE = S6  
MODEM = S142 ONLY

SUBTEST1 - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE  
OF 2 BUFFERS.  
THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR  
XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG  
EXPECTED RESPONSES ARE:  
STATUS = 360 FOR F6 THIRD BUFFER PASSED  
= 372 FOR F5 1 BYTE LONG BUFFER  
= 360 FOR F5 THIRD BUFFER PASSED  
= 1 FOR F5 FIRST BUFFER XMITTED  
= 1 FOR F6 FIRST BUFFER FELT  
= 1 FOR F5 SECOND BUFFER XMITTED  
= 1 FOR F6 SECOND BUFFER FELT

SUBTEST2 - TEST OF BUFFER OVERFLOW STATUS 373 FOR RECEPTION  
A 32 BYTE LONG BUFFER IS AFFECTED FOR RECEIVE WHILE  
A 100 BYTE LONG BUFFER IS PASSED TO XMIT.  
EXPECTED RESPONSES ARE:  
STATUS = 1 FOR F5 BUFFER XMITTED  
STATUS = 373 FOR F6 BUFFER OVERFLOW

SUBTEST3 - TEST OF NON EXISTENT MEMORY STATUS 374  
TWO RECEIVE BUFFER ARE AFFECTED ONE OF WHICH WITH  
NON EXISTENT ADDRESS  
TWO XMIT BUFFERS ARE PASSED ONE OF WHICH WITH NON  
EXISTENT ADDRESS  
EXPECTED RESPONSES ARE:  
STATUS = 374 FOR F6 NON EXISTENT MEMORY BUFFER  
= 1 FOR F5 COORRECT BUFFER  
= 374 FOR F5 NON EXISTENT MEMORY BUFFER  
= 364 FOR F6 RECEIVE ABORT

SUBTEST4 - TEST OF ABORT RECEIVED STATUS 364 AND ACTION OF XMIT  
ABORT COMMAND.  
ONE RECEIVE BUFFER IS AFFECTED THEN, TWO XMIT BUFFERS  
ARE PASSED. AFTER A SHORT WAIT, XMIT ABORT IS GIVEN  
TWICE.  
EXPECTED STATUS ARE:  
STATUS = 1 FOR F7 XMIT ABORTED  
= 364 FOR F6 ABORT RECEIVED



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SUBTEST5 - TEST OF ACTION OF RECEIVE ABORT COMMAND.  
TWO RECEIVE BUFFERS ARE AFFECTED THEN, TWO XMIT ONES  
ARE PASSED. AFTER A SHORT WAIT, RECEIVE ABORT IS GIVEN  
EXPECTED STATUS ARE:  
STATUS = 1 FOR F10 RECEIVE ABORTED  
= 1 FOR F5 FIRST BUFFER SENT  
= 1 FOR F5 SECOND BUFFER SENT

SUBTEST6 - TEST OF KMV RDB OVERFLOW DURING XMIT/RECEIVE BUFFER  
ONE RECEIVE BUFFER IS AFFECTED,  
THEN TWO XMIT BUFFER ARE PASSED THE FIRST ONE TOO LONG  
EXPECTED STATUS ARE:  
STATUS = 373 FOR FIRST F5  
= 1 FOR SECOND F5  
= 1 FOR F6

SUBTEST7 - TEST OF A DECONFIGURATE DURING XMIT/RECEIVE BUFFER,  
TWO RECEIVE BUFFERS ARE AFFECTED THEN, TWO XMIT ONES  
ARE PASSED. AFTER A SHORT WAIT, DECONFIGURATE IS PASSED  
EXPECTED STATUS IS:  
STATUS = 1 FOR F2 DECONFIGURATE DONE  
AND ALL BUFFERS ARE KILLED

PATTERN: INCREMENTAL

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER  
CLEAR  
ERROR 10001 RUN FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10002 WRITE FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10003 READ FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10004 DATA COMPARE ERROR  
ERROR 10005 UNEXPECTED INTERRUPT IN  
ERROR 10006 EXPECTED INTERRUPT OUT  
ERROR 10007 NO MORE INTERRUPT WHILE QIO  
PENDING  
ERROR 10008 UNEXPECTED EPROM'S ON KMV  
ERROR 10009 UNEXPECTED QIO RESPONSE  
ERROR 10010 UNEXPECTED NUMBER OF RESP-  
ONSES RECEIVED  
ERROR 10011 UNEXPECTED DATA RECEIVED  
ERROR 10012 LOOP BACK NOT USED

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\*\*\*\*\*TEST10\*\*\*\*\*

TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 64K  
WITH FULL MODEM CONTROL

CONFIGURATE: SDLC PROTOCOL  
FULL MODEM CONTROL  
WITHOUT ADDRESS SEARCH

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CLOCK SOURCE INTERNAL  
RATE = 64K

BEFORE TEST, A COMMAND F14 IS GIVEN FIRST  
TO CONTROL MODEMS AND THE LINE STATE, SUCH AS:  
STATE = S6  
MODEM = S142+S112+S109+S106+S107 ON

TEST

- TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE  
OF 2 BUFFERS.  
THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR  
XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG  
EXPECTED RESPONSES ARE:  
STATUS = 360 FOR F6 THIRD BUFFER PASSED  
          = 372 FOR F5 1 BYTE LONG BUFFER  
          = 360 FOR F5 THIRD BUFFER PASSED  
          = 1 FOR F5 FIRST BUFFER XMITTED  
          = 1 FOR F6 FIRST BUFFER FELT  
          = 1 FOR F5 SECOND BUFFER XMITTED  
          = 1 FOR F6 SECOND BUFFER FELT

PATTERN: INCREMENTAL

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER  
          CLEAR  
          ERROR 10001 RUN FUNCTION NOT CORRECTLY  
                      PERFORMED  
          ERROR 10002 WRITE FUNCTION NOT CORRECTLY  
                      PERFORMED  
          ERROR 10003 READ FUNCTION NOT CORRECTLY  
                      PERFORMED  
          ERROR 10004 DATA COMPARE ERROR  
          ERROR 10005 UNEXPECTED INTERRUPT IN  
          ERROR 10006 UNEXPECTED INTERRUPT OUT  
          ERROR 10007 NO MORE INTERRUPT WHILE QIO  
                      PENDING  
          ERROR 10008 UNEXPECTED EPROM'S ON KMV  
          ERROR 10009 UNEXPECTED QIO RESPONSE  
          ERROR 10010 UNEXPECTED NUMBER OF RESP-  
                      ONSES RECEIVED  
          ERROR 10011 UNEXPECTED DATA RECEIVED  
          ERROR 10012 LOOP BACK NOT USED

\*\*\*\*\*

\*\*\*\*\*TEST11\*\*\*\*\*

TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 64K  
WITH DATA LEADS ONLY

CONFIGURATE: HDLC PROTOCOL  
              DATA LEADS ONLY  
              WITHOUT ADDRESS SEARCH  
              CLOCK SOURCE INTERNAL  
              RATE = 64K



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BEFORE TEST, A COMMAND F14 IS GIVEN FIRST  
TO CONTROL MODEMS AND THE LINE STATE, SUCH AS:  
STATE = S6  
MODEM = S142 ON

SUBTEST1

- TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE  
OF 2 BUFFERS.  
THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR  
XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG  
EXPECTED RESPONSES ARE:  
STATUS = 360 FOR F6 THIRD BUFFER PASSED  
= 372 FOR F5 1 BYTE LONG BUFFER  
= 360 FOR F5 THIRD BUFFER PASSED  
= 1 FOR F5 FIRST BUFFER XMITTED  
= 1 FOR F6 FIRST BUFFER FELT  
= 1 FOR F5 SECOND BUFFER XMITTED  
= 1 FOR F6 SECOND BUFFER FELT

PATTERN: INCREMENTAL

REPORTS:	ERROR 10000	KMV11 FAILS TO RESET MASTER CLEAR
	ERROR 10001	RUN FUNCTION NOT CORRECTLY PERFORMED
	ERROR 10002	WRITE FUNCTION NOT CORRECTLY PERFORMED
	ERROR 10003	READ FUNCTION NOT CORRECTLY PERFORMED
	ERROR 10004	DATA COMPARE ERROR
	ERROR 10005	UNEXPECTED INTERRUPT IN
	ERROR 10006	UNEXPECTED INTERRUPT OUT
	ERROR 10007	NO MORE INTERRUPT WHILE QIO PENDING
	ERROR 10008	UNEXPECTED EPROM'S ON KMV
	ERROR 10009	UNEXPECTED QIO RESPONSE
	ERROR 10010	UNEXPECTED NUMBER OF RESPONSES RECEIVED
	ERROR 10011	UNEXPECTED DATA RECEIVED
	ERROR 10012	LOOP BACK NOT USED

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\*\*\*\*\*TEST12\*\*\*\*\*

TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 48K  
WITH FULL MODEM CONTROL AND ADDRESS SEARCH

CONFIGURATE: SDLC PROTOCOL  
FULL MODEM CONTROL  
WITH ADDRESS SEARCH(252)  
CLOCK SOURCE INTERNAL  
RATE = 48K

BEFORE TEST, A COMMAND F14 IS GIVEN FIRST

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TO CONTROL MODEMS AND THE LINE STATE, SUCH AS:  
STATE = S6  
MODEM = S142+S109+S106+S107 ON

TEST:

- TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE  
OF 1 OF 2 BUFFERS.  
THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR  
XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG  
AND ONE OF WHICH WITH BAD STATION ADDRESS  
EXPECTED RESPONSES ARE:  
STATUS = 360 FOR F6 THIRD BUFFER PASSED  
= 372 FOR F5 1 BYTE LONG BUFFER  
= 360 FOR F5 THIRD BUFFER PASSED  
= 1 FOR F5 FIRST BUFFER XMITTED  
= 1 FOR F5 SECOND BUFFER XMITTED  
= 1 FOR F6 SECOND BUFFER RECEIVED

PATTERN:

INCREMENTAL

REPORTS:

ERROR 10000 KMV11 FAILS TO RESET MASTER  
CLEAR  
ERROR 10001 RUN FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10002 WRITE FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10003 READ FUNCTION NOT CORRECTLY  
PERFORMED  
ERROR 10004 DATA COMPARE ERROR  
ERROR 10005 UNEXPECTED INTERRUPT IN  
ERROR 10006 UNEXPECTED INTERRUPT OUT  
ERROR 10007 NO MORE INTERRUPT WHILE QIO  
PENDING  
ERROR 10008 UNEXPECTED EPROM'S ON KMV  
ERROR 10009 UNEXPECTED QIO RESPONSE  
ERROR 10010 UNEXPECTED NUMBER OF RESP-  
ONSES RECEIVED  
ERROR 10011 UNEXPECTED DATA RECEIVED  
ERROR 10012 LOOP BACK NOT USED

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PROGRAM DOCUMENT

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## 8.0 ERROR INFORMATION

### 8.1 ERROR REPORTING

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

THE FOLLOWING EXAMPLE PROVIDE TYPICAL ERROR REPORT:

VKMAO HRD ERR 10007 ON UNIT 00 TST 005 SUB 000 PC: 032164

NO-MORE INPUT INTERRUPTS WHILE QIO PENDING  
NUMBER OF PENDING INPUTS = 3  
NUMBER OF RESPONSES = 1

#### - ERROR REPORT LIST -

#### 8.1.1 ERROR REPORTS NOTICED INSIDE SUB-ROUTINES

\*\* - ERROR REPORT 10000  
KMV11 FAILS TO RESET MASTER CLEAR

	READ	EXPECTED
SELO	040000	000000

\*\* - ERROR REPORT 10001  
RUN FUNCTION NOT CORRECTLY PERFORMED

	READ	EXPECTED
SELO	040000	000000

\*\* - ERROR REPORT 10002  
WRITE FUNCTION NOT CORRECTLY PERFORMED

	READ	EXPECTED
SELO	040000	000000

\*\* - ERROR REPORT 10003  
READ FUNCTION NOT CORRECTLY PERFORMED

	READ	EXPECTED
SELO	040000	000000

\*\* - ERROR REPORT 10004  
DATA COMPARE ERROR DURING APPLICATION CODE LOADING

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ADDRESS	READ	EXPECTED
1500	34000	002737
1501		
1502		
1503	** - ERROR REPORT 10005	
1504	UNEXPECTED INTERRUPT IN	
1505		
1506	SELO	READ = 000000
1507	SEL2	READ = 000000
1508	SEL4	READ = 000000
1509	SEL6	READ = 000000
1510		
1511	NUMBER OF PENDING INPUTS = 06	
1512	NUMBER OF RESPONSES = 00	
1513		
1514	** - ERROR REPORT 10006	
1515	UNEXPECTED INTERRUPT OUT	
1516		
1517	SELO	READ = 000000
1518	SEL2	READ = 000000
1519	SEL4	READ = 000000
1520	SEL6	READ = 000000
1521		
1522	NUMBER OF PENDING INPUTS = 06	
1523	NUMBER OF RESPONSES = 00	
1524		
1525	** - ERROR REPORT 10007	
1526	NO MORE INTERRUPT IN WHILE INPUTS ARE PENDING	
1527		
1528	NUMBER OF PENDING INPUTS = 06	
1529	NUMBER OF RESPONSES = 00	
1530		
1531	** - ERROR REPORT 10008	
1532	UNEXPECTED EPROM'S ECO LEVEL	
1533		
1534	OBTAINED ECO LEVEL = 000001	
1535	EXPECTED ONE = 000002	
1536		
1537	** - ERROR REPORT 10009	
1538	UNEXPECTED QIO RESPONSE	
1539		
1540	BAD QIO RESPONSE NUMBER = 2 (SPECIFY THE SEQUENCING NUMBER OF IT)	
1541		
1542	SEL2	READ = 000201
1543	SEL4	READ = 000000
1544	SEL4	READ = 000400
1545		
1546	** - ERROR REPORT 10010	
1547	UNEXPECTED NUMBER OF RESPONSES RECEIVED	
1548		
1549	EXPECTED NUMBER OF RESPONSES = 3	
1550	NUMBER OF RESPONSES RECEIVED = 1	
1551		
1552	** - ERROR REPORT 10011	
1553	UNEXPECTED DATA RECEIVED	
1554		
1555	TRANSMIT BUFFER ADDRESS : 005512	
1556	RECEIVE BUFFER ADDRESS : 002512	



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PROGRAM DOCUMENT

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1557	RECORD SIZE	:	100 (DECIMAL)	
1558	BYTES IN ERROR	:	88 (DECIMAL)	
1559				
1560		ADDRESS		DATA
1561	XMIT BUFFER:	005552		040
1562	RCV BUFFER:	002552		000
1563				
1564	XMIT BUFFER:	005553		041
1565	RCV BUFFER:	002553		000
1566				
1567	.... UP TO 8 ERROR ARE REPORTED ONLY			
1568	** - ERROR REPCRT 10012			
1569	THIS TEST IS SKIPPED BECAUSE THERE IS NO EXTERNAL LOOP			
1570				
1571				
1572				
1573	8.1.2 ERROR REPORT NOTICED INSIDE THE TEST:			
1574				
1575	** - ERROR REPORT 00001			
1576	SELF TEST IS NOT CORRECTLY RUN			
1577				
1578	** - ERROR REPORT 00002			
1579	RDYI NOT ASSERTED BY THE KMV AFTER AN RQI			
1580				
1581	SEL02 = 000000		EXPECTED VALUE = 000400	
1582				
1583	** - ERROR REPORT 00003			
1584	RDYO NOT ASSERTED BY THE KMV FOR A VALID RESPONSE			
1585				
1586	SEL02 = 000000		EXPECTED VALUE = 000204	

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9.0 HISTORY

- VERSION 01, REVISION 00

NOVEMBER 1982

@



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```

1609
1610          002000          .NLIST ME
1611                                     .=2000
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1616
1617 002000          .MCALL SVC
1618                                     SVC
1619                                     ; INITIALIZE SUPERVISOR MACROS
1620
1621
1622
1623 002000          BGNMOD VKMCAO
1624
1625
1626          177777          $LSTIN= -1
1627          177777          $LSTTAG= -1
1628          177777          SVCINS= -1          ; LIST INSTRUCTIONS, SHIFTED RIGHT
1629          177777          SVCTST= -1         ; LIST TEST TAGS, SHIFTED RIGHT
1630          177777          SVCSUB= -1         ; LIST SUBTEST TAGS, SHIFTED RIGHT
1631          177777          SVCGBL= -1         ; LIST GLOBAL TAGS, SHIFTED RIGHT
1632          177777          SVCTAG= -1         ; LIST OTHER TAGS, SHIFTED RIGHT
1633
1634          ; CHANGE THE VALUES OF THE SVC... SYMBOLS TO BE ZERO IF YOU WISH
1635          ; TO ALIGN THE MACRO CALLS AND THEIR EXPANSIONS. CHANGE THE
1636          ; SYMBOLS TO BE MINUS-ONE TO NOT LIST THE EXPANSIONS. YOU MAY
1637          ; CHANGE THE SYMBOLS AT ANY POINT IN YOUR PROGRAM.
1638
1639

```

CVKMCA0 KMV11-A FCTNL DIAG  
PROGRAM HEADER

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1647 002000  
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1669 002000  
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.SBTTL PROGRAM HEADER

:.++  
: THE PROGRAM HEADER IS THE INTERFACE BETWEEN  
: THE DIAGNOSTIC PROGRAM AND THE SUPERVISOR.  
:--

POINTER BGN DU,BGNSETUP

HEADER VKMCA0,A,0,180.,0

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PROGRAM HEADER

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002122

002122 000000

002124 177777

002126 177777

002130

;++  
: THIS TABLE IS USED BY THE RUNTIME SERVICES  
: TO PROTECT THE LOAD MEDIA.  
:--

BGNPROT

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:OFFSET INTO P-TABLE FOR CSR ADDRESS  
:OFFSET INTO P-TABLE FOR MASSBUS ADDRESS  
:OFFSET INTO P-TABLE FOR DRIVE NUMBER

ENDPROT







CVKMCAO KMV11-A FCTNL DIAG  
DEFAULT HARDWARE P-TABLE

MACRO M1200 06-JAN-83 10:39 PAGE 18

1765  
1773  
1774  
1775  
1776  
1777  
1778  
1779  
1780  
1781  
1782  
1783  
1784  
1794  
1795  
1810  
1811 002176

.SBTTL GLOBAL EQUATES SECTION

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

.LIST ME  
EQUALS

: BIT DIFINITIONS

100000	BIT15== 100000
040000	BIT14== 40000
020000	BIT13== 20000
010000	BIT12== 10000
004000	BIT11== 4000
002000	BIT10== 2000
001000	BIT09== 1000
000400	BIT08== 400
000200	BIT07== 200
000100	BIT06== 100
000040	BIT05== 40
000020	BIT04== 20
000010	BIT03== 10
000004	BIT02== 4
000002	BIT01== 2
000001	BIT00== 1

001000	BIT9== BIT09
000400	BIT8== BIT08
000200	BIT7== BIT07
000100	BIT6== BIT06
000040	BIT5== BIT05
000020	BIT4== BIT04
000010	BIT3== BIT03
000004	BIT2== BIT02
000002	BIT1== BIT01
000001	BIT0== BIT00

: EVENT FLAG DEFINITIONS  
: EF32:EF17 RESERVED FOR SUPERVISOR TO PROGRAM COMMUNICATION

000040	EF.START== 32.	: START COMMAND WAS ISSUED
000037	EF.RESTART== 31.	: RESTART COMMAND WAS ISSUED
000036	EF.CONTINUE== 30.	: CONTINUE COMMAND WAS ISSUED
000035	EF.NEW== 29.	: A NEW PASS HAS BEEN STARTED
000034	EF.PWR== 28.	: A POWER-FAIL/POWER-UP OCCURRED



.; PRIORITY LEVEL DEFINITIONS

000340	PRI07== 340
000300	PRI06== 300
000240	PRI05== 240
000200	PRI04== 200
000140	PRI03== 140
000100	PRI02== 100
000040	PRI01== 40
000000	PRI00== 0

.; OPERATOR FLAG BITS

000004	EVL== 4
000010	LOT== 10
000020	ADR== 20
000040	IDU== 40
000100	ISR== 100
000200	UAM== 200
000400	BOE== 400
001000	PNT== 1000
002000	PRI== 2000
004000	IXE== 4000
010000	IBE== 10000
020000	IER== 20000
040000	LOE== 40000
100000	HOE== 100000

.NLIST ME

.;\*\*\*\*\*  
 ;\* PROGRAM DIRECT ASSIGNMENTS  
 ;\*\*\*\*\*

.; CSR OFFSETS DEFINITIONS

1812		
1813		
1814		
1815		
1816		
1817		
1818		
1819		
1820		
1821		
1822	000000	SELO = 0
1823	000002	SEL2 = SEL0+2
1824	000004	SEL4 = SEL2+2
1825	000006	SEL6 = SEL4+2
1826	000010	SEL10 = SEL6+2
1827	000012	SEL12 = SEL10+2
1828	000014	SEL14 = SEL12+2
1829	000016	SEL16 = SEL14+2
1830		
1831	000000	BSELO = 0
1832	000001	BSEL1 = BSELO+1
1833	000002	BSEL2 = BSEL1+1
1834	000003	BSEL3 = BSEL2+1
1835	000004	BSEL4 = BSEL3+1
1836	000005	BSEL5 = BSEL4+1
1837	000006	BSEL6 = BSEL5+1
1838	000007	BSEL7 = BSEL6+1
1839		
1840	000010	CSRLEN = 8.

;LENGTH OF CSR IN WORDS

CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL EQUATES SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 18-2

```

1841
1842
1843      ; M.M.U. REGISTERS
1844      ;
1845
1846      172340      PAR0      = 172340      ;PAGE ADDRESS REGISTER 0
1847      172356      PAR7      = 172356      ;PAGE ADDRESS REGISTER 7
1848      172300      PDR0      = PAR0-40     ;PAGE DESCRIPTOR REGISTER 0
1849      077406      PDDEF     = 77406      ;PLF=128 ED=UP ACF=R/W
1850
1851      177572      SR0       = 177572     ;STATUS REGISTER 0
1852      172516      SR3       = 172516     ;STATUS REGISTER 3
1853
1854      ;
1855      ; SELO BIT DEFINITIONS
1856      ;
1857
1858      100000      RUN       = BIT15      ;TO RUN APPLICATION FIRMWARE OR, IF
1859      ;MCLR SET, TO RUN SELF-TEST
1860      040000      MCLR      = BIT14      ;MASTER CLEAR
1861      020000      WRITE     = BIT13      ;TO LOAD APPLICATION CODE
1862      010000      MODE      = BIT12      ;RESERVED
1863      002000      READ      = BIT10      ;TO UNLOAD APPLICATION CODE
1864      001000      LOOP      = BIT09      ;TO SELECT INTERNAL LOOP
1865      000400      ERR       = BIT08      ;LOAD/UNLOAD ILLEGAL ADDRESS ERROR
1866      000200      RQI       = BIT07      ;TO REQUEST CSR TRANSACTION
1867      000020      IEO       = BIT04      ;INTERRUPT ENABLE OUT
1868      000001      IEI       = BIT00      ;INTERRUPT ENABLE IN
1869
1870      ;
1871      ; BSEL2 BIT DEFINITIONS
1872      ;
1873
1874      000200      RDYO      = BIT07      ;READY OUT - SET BY KMV11
1875      000020      RDYI      = BIT04      ;READY IN - SET BY KMV11
1876
1877      ;
1878      ; KMV11-A COMMAND AND RESPONSE CODES
1879      ;
1880
1881      000000      F0        = 0          ;DUMMY COMMAND
1882      000001      F1        = 1          ;CONFIGURATE
1883      000002      F2        = 2          ;DECONFIGURATE
1884      000003      F3        = 3          ;DUMMY COMMAND
1885      000004      F4        = 4          ;DUMMY COMMAND
1886      000005      F5        = 5          ;TRANSMIT
1887      000006      F6        = 6          ;RECEIVE
1888      000007      F7        = 7          ;KILL TRANSMIT
1889      000010      F10       = 10         ;KILL RECEIVE
1890      000011      F11       = 11         ;DUMMY COMMAND
1891      000012      F12       = 12         ;DUMMY COMMAND
1892      000013      F13       = 13         ;MODEM CHANGE RESPONSE
1893      000014      F14       = 14         ;READ MODEM LEADS
1894      000015      F15       = 15         ;DUMMY
1895      000016      F16       = 16         ;START MODEM SURVEY
1896      000017      F17       = 17         ;STOP MODEM SURVEY
1897

```

CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL EQUATES SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 18-3

```

1898
1899
1900
1901
1902      000001      SUCCES = 1           ;COMMAND CORRECTLY PERFORMED
1903      000374      NXMEM  = 374          ;NON EXISTENT BUFFER MEMORY
1904      000373      BUFOVF = 373          ;BUFFER OVERFLOW
1905      000372      FRMLER = 372          ;FRAME LENGTH ERROR
1906      000371      OUTSEQ = 371          ;OUT OF SEQUENCE
1907      000370      LTCYER = 370          ;LATENCY ERROR
1908      000367      FCSER  = 367          ;FCS ERROR
1909      000365      MODDWN = 365          ;MODEM DOWN
1910      000364      RXABO  = 364          ;ABORT RECEIVED
1911      000363      DBLCMD = 363          ;DOUBLE COMMAND
1912      000360      TOOBUF = 360          ;MORE THAN TWO BUFFERS
1913      000357      KMVER  = 357          ;KMV RESSOURCE ERROR
1914      000356      DCONFP = 356          ;DECONFIGURATE PENDING
1915
1916
1917      ; DEC STD 52 STATE OF THE LINE (FROM KMV)
1918
1919
1920      000000      S1      = 0           ;OFF LINE
1921      000001      S3      = 1           ;LINE ENABLE
1922      000002      S5      = 2           ;PENDING START
1923      000003      S6      = 3           ;DATA EXCHANGE
1924      000004      S6A     = 4           ;LINE FAILURE
1925      000005      S7A     = 5           ;LINE DISCONNECT
1926      000006      S7B     = 6           ;DECONFIGURATE
1927
1928
1929      ; READ MODEM LEADS
1930
1931
1932      000001      S109    = BIT00        ;(CD)DATA CHANNEL RECEIVED LINE
1933
1934      000002      S125    = BIT01        ;SIGNAL DETECTOR
1935      000004      S107    = BIT02        ;(RI)CALLING INDICATOR
1936      000010      S106    = BIT03        ;(DSR)DATA SET READY
1937      000020      S112    = BIT04        ;(CTS)READY FOR SENDING
1938      000040      S142    = BIT05        ;DATA SIGNAL RATE SELECTOR
1939
1940
1941      ; DEFINITIONS FOR APPLICATION FIRMWARE LOADING
1942
1943
1944      030354      $START  = COMEXE        ;START ADDRESS TO RUN FIRMWARE
1945      030354      $RAM    = $BUFF        ;FIRST RAM ADDRESS TO LOAD FIRMWARE
1946      160000      $$STR   = 160000      ;FIRST PROM ADDRESS IN KMV
1947      160002      ECONB   = $$STR+2     ;KMV FIRMWARE ECO LEVEL ADDRESS
1948      160004      PARTNB  = $$STR+4     ;KMV PROM NUMBER
1949      000400      $RDBS   = 256.        ;LENGTH OF RDB'S
1950      000017      $RDBC   = 15.        ;NUMBER OF RDB'S
1951
1952
1953      ; CONFIGURATE PARAMETERS
1954      ; - LOADED IN SEL4

```



CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL EQUATES SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 18-4

1955		:		
1956				
1957	000001	SDLC	= BIT00	:BOP SDLC SELECTED
1958				
1959	000010	S140	= BIT03	:REMOTE LOOP BACK REQUEST
1960	000020	S141	= BIT04	:LOCAL LOOP REQUEST
1961	000004	S111	= BIT02	:DATA SIGNALING RATE SELECTOR
1962				
1963	000040	DLO	= BIT05	:DATA LEADS ONLY
1964				
1965	000200	ADSRCH	= BIT07	:ONLY FRAMES WITH GLOBAL ADDRESS OR
1966				:IF ADDRESS MATCH FOUND WILL BE PASSED
1967				
1968	100000	CLKDTE	= BIT15	:CLOCK SOURCE INTERNAL
1969				
1970	000000	C1200	= 0	:1.2K
1971	000400	C2400	= BIT08	:2.4K
1972	001000	C4800	= BIT09	:4.8K
1973	001400	C9600	= BIT08!BIT09	:9.6K
1974	002000	C19K	= BIT10	:19.2K
1975	002400	C48K	= BIT10!BIT08	:48K
1976	003000	C56K	= BIT10!BIT09	:56K
1977	003400	C64K	= BIT10!BIT09!BIT08	:72K
1978				

CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL EQUATES SECTION

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1980  
1981  
1982  
1983  
1984  
1985  
1986  
1987  
1993  
1994  
1995  
1996  
1997  
1998 002176  
1999  
2000  
2001  
2014  
2015 002236  
002236 000000  
002240 000000  
002242 000000  
002244 000000  
  
2016  
2017  
2018  
2019  
2020  
2021 002246 000000  
2022 002250 000000  
2023  
2024 002252 000000  
2025 002254 000000  
2026 002256 000000  
2027  
2028 002260 000000  
2029 002262 000005  
2030 002264 000000  
2031 002266 000000  
2032 002270 000015  
2033 002272 000000  
2034  
2035  
2036  
2037  
2038  
2039 002274 000000  
2040 002276 000000  
2041 002300 000000  
2042 002302 000000  
2043 002304 000000  
2044 002306 000000  
2045 002310 000000  
2046 002312 000000  
2047 002314 000000  
2048 002316 000000  
2049 002320 000000

.SBTTL GLOBAL DATA SECTION

```

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

```

```

:*****
:* STORAGE FOR DEVICE REGISTERS
:*****
DESCRPT <KMV11-A FUNCTIONAL DIAGNOSTIC>

```

```

ERRTBL
ERRTYP:: .WORD 0
ERRNBR:: .WORD 0
ERRMSG:: .WORD 0
ERRBLK:: .WORD 0

```

```

:*****
:* PROGRAM CONTROL DEFINITIONS
:*****

```

```

LOGDEV: 0 ;LOGICAL DEVICE NUMBER
PSTACK: 0 ;BASE LEVEL PROGRAM STACK POINTER

SAVE4: 0
SAVE6: 0
FTIME: 0 ;FIRST PASS FLAG

LOCK: 0 ;ADDRESS FOR LOCK CURRENT DATA
MAXERR: 5 ;MAX ERROR BEFORE DROPPING THE UNIT
ERCNTR: 0 ;UNIT ERROR COUNTER
L$SW: 0
L$UIT: 15 ;MAX NUMBER OF UNIT
UNIT: 0

```

```

:*****
:* MISCELLANEOUS STORAGE
:*****

```

```

GOOD: 0 ;POINT TO GOOD DATA
GOOD0: 0
GOOD2: 0
GOOD4: 0
GOOD6: 0
GOOD10: 0
GOOD12: 0
GOOD14: 0
GOOD16: 0
BAD: 0 ;POINT TO BAD DATA
BAD0: 0

```

CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL DATA SECTION

2050	002322	000000	BAD2:	0	
2051	002324	000000	BAD4:	0	
2052	002326	000000	BAD6:	0	
2053	002330	000000	BAD10:	0	
2054	002332	000000	BAD12:	0	
2055	002334	000000	BAD14:	0	
2056	002336	000000	BAD16:	0	
2057	002340	000000	DATA:	0	: POINTER TO CURRENT PATTERN
2058	002342	000000	RATE:	0	: POINT TO THE CURRENT LINE CLOCK RATE
2059	002344	000000	LCLOOP:	0	: LOCAL LOOP FLAG
2060	002346	000000	LENGTH:	0	: LENGTH OF BUFFER FOR DMA
2061	002350	000000	REG0:	0	: FOR GENERAL REGISTER SAVING
2062	002352	000000	REG1:	0	
2063	002354	000000	REG2:	0	
2064	002356	000000	REG3:	0	
2065	002360	000000	REG4:	0	
2066	002362	000000	REG5:	0	
2067	002364	000000	REG6:	0	
2068	002366	000000	REG7:	0	
2069	002370	000000	ERRFLG:	0	: ERROR FLAGGED UNDER IN/OUT INTERRUPTS
2070	002372	000000	REQCNT:	0	: INPUT COMMAND COUNT
2071	002374	000000	TEMP:	0,0	: TEMPORARY STORAGE
2072	002400	000000	LSTLGH:	0	: EXPECTED RESPONSE LIST LENGTH
2073	002402	000000	RSPCNT:	0	: OUTPUT RESPONSE COUNT
2074	002404	000000	TMOUT:	0	: CURRENT TIME-OUT VALUE
2075	002406	000000	INLST:	0	: POINT TO THE CURRENT INPUT LIST
2076	002410	000000	OUTLST:	0	: POINT TO THE CURRENT OUTPUT LIST
2077	002412	000000	S.LOAD:	0	: STATUS FOR APPLICATION CODE LOADING
2078	002414	000000	APPFLG:	0	: LOADING STATE OF THE APPLICATION CODE
2079	002416	000000	SELNUM:	0	: LOAD WITH CSR OFFSET
2080	002420	000000	XMTADD:	0	: XMIT BUFFER ADDRESS UNDER TEST
2081	002422	000000	RCVADD:	0	: RECEIVE BUFFER ADDRESS UNDER TEST
2082	002424	000000	XMTBUF:	0	: XMIT BUFFER
2083	002426	000000	RCVBUF:	0	: RECEIVE BUFFER
2084	002430	000000	ERRCNT:	0	: BYTES IN ERROR
2085	002432	000000	BADLOC:	.BLKW 18.	: LOAD WITH ADDRESS OF UN-CORRECT DATA
2086	002476	000000	OUTNUM:	0	: CURRENT BAD QIO RESPONSE
2087					
2088	002500	000000	LSTAD:	0	: LAST MEMORY ADDRESS(15-0)
2089	002502	000000	LSTBK:	0	: LAST MEMORY ADDRESS(21-16)
2090					
2091					:*****
2092					:* POINTERS TO KMV11 VECTORS AND REGISTERS
2093					:*****
2094					
2095	002504	000000	KMVCSR:	0	: CSR ADDRESS
2096	002506	000000	INTIN:	0	: POINTER TO INTERRUPT VECTOR XX0
2097	002510	000000	INTOUT:	0	: POINTER TO INTERRUPT VECTOR XX4
2098	002512	000000	PRILEV:	0	: INTERRUPT SERVICING RELATIVE LEVEL
2099	002514	000000	PDPTYP:	0	: PDP11/23+ FLAG
2100					
2101					:*****
2102					:* PROGRAM CONTROL FLAGS
2103					:*****
2104					
2105	002516	000	INIFLG:	.BYTE 0	
2106				.EVEN	



CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL DATA SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 19-2

```

2107 002520      000
2108 002521      000
2109
2110 002522  000000
2111
2112
2113
2114
2115
2116 002524      045      116      045
      002527      101      040      040
      002532      105      120      122
      002535      117      115      040
      002540      120      101      122
      002543      124      040      116
      002546      125      115      102
      002551      105      122      072
      002554      040      040
2117 002556
2118 002571      045      116      000
2119
2120
2121 002574
2122 003174
2123 003574
2124
2125 004574
2126 005174
2127 005574
2128
2129 006574
2130
2131
2132
2133 006620
2134
2135
2136
2137
2138
2139 007010  007012
2140 007012  000000
2141 007014  177777
2142 007016  052525
2143 007020  125252
2144 007022  177776
2145 007024  177775
2146 007026  177773
2147 007030  177767
2148 007032  177757
2149 007034  177737
2150 007036  177677
2151 007040  177577
2152 007042  177377
2153 007044  176777
2154 007046  175777
2155 007050  173777

      LOKFLG: .BYTE  0
      QV.FLG: .BYTE  0
      UUT:    .EVEN
           .WORD  0

;*****
;* DATA STORAGE
;*****

MPROM: .ASCII  /%N%  EPROM PART NUMBER:  /

PROMNB: .BLKB  11.           ;KMV PROM NUMBER TO PRINT
        .ASCIZ  /%N/
        .EVEN

RXBUF0: .BLKB  256.         ;RX BUFFERS FOR DMA
RXBUF1: .BLKB  256.
RXBUF2: .BLKB  512.

TXBUF0: .BLKB  256.         ;TX BUFFERS FOR DMA
TXBUF1: .BLKB  256.
TXBUF2: .BLKB  512.

RSPOKE: .BLKW  10.         ;UP TO 20. RESPONSES ARE POSSIBLE. RSPOKE
                          ;IS USED TO FLAG EXPECTED RESPONSES DURING
                          ;TEST

OUTBUF: .BLKW  3*20.       ;TO SAVE QIO RESPONSES

;*****
;* PATTERN TABLE
;*****

PATTAB: PATTRN           ;TABLE OF DATA FOR TEST
PATTRN: 000000
        177777
        052525
        125252
        177776
        177775
        177773
        177767
        177757
        177737
        177677
        177577
        177377
        176777
        175777
        173777

```

CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL DATA SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 19-3

2156	007052	167777	167777
2157	007054	157777	157777
2158	007056	137777	137777
2159	007060	077777	077777
2160	007062	100000	100000
2161	007064	040000	040000
2162	007066	020000	020000
2163	007070	010000	010000
2164	007072	004000	004000
2165	007074	002000	002000
2166	007076	001000	001000
2167	007100	000400	000400
2168	007102	000200	000200
2169	007104	000100	000100
2170	007106	000040	000040
2171	007110	000020	000020
2172	007112	000010	000010
2173	007114	000004	000004
2174	007116	000002	000002
2175	007120	000001	000001
2176	007122	000000	000000
2177	007124	000112	000000

PATLGH: .-PATRN

```

:*****
:* LOCATION 'GDREV' MUST BE LOADED WITH THE PROM VERSION NUMBER THAT IS
:* COMPATIBLE WITH THIS DIAG.
:*****

```

2178  
2179  
2180  
2181  
2182  
2183  
2184 007126 000001

GDREV: .WORD 1

CVKMCA0 KMV11-A FCTNL DIAG  
GLOBAL DATA SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 20

2186  
2187  
2188 007130  
2189  
2190  
2191  
2192  
2193  
2194 007130  
2195 007330

REGADR:

:\*\*\*\*\*  
:\* STACK USED FOR SUBROUTINE LINKAGE  
:\*\*\*\*\*

.BLKW 100

SSTACK:



CVKMCA0 KMV11-A FCTNL DIAG  
GLOBAL DATA SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 21

2197  
2198  
2199  
2200  
2201  
2202  
2203  
2204  
2205  
2206  
2207  
2208  
2209  
2210  
2211  
2212  
2213  
2220  
2221  
2222  
2223  
2224

007330

.SBTTL GLOBAL TEXT SECTION

```

:XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
:%   THE GLOBAL TEXT SECTION CONTAINS FORMAT STATEMENTS,
:%   MESSAGES, AND ASCII INFORMATION THAT ARE USED IN
:%   MORE THAN ONE TEST.
:XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

:*****
:* NAMES OF DEVICES SUPPORTED BY PROGRAM
:*****
  DEVTYP <M7500>

```

.SBTTL GLOBAL SUBROUTINES

2226  
2227  
2228  
2229  
2230  
2231  
2232  
2233  
2265  
2307  
2308  
2309  
2310  
2311  
2312  
2313  
2314  
2315  
2316  
2317  
2318  
2319  
2320  
2321  
2322  
2323  
2324  
2325  
2326  
2327  
2328  
2329  
2330  
2331  
2332  
2333  
2334  
2335  
2336  
2337  
2338  
2339  
2340  
2341

:/ THE GLOBAL SUBROUTINES ARE CALLED BY MORE THAN ONE TEST /

```

*****
* LIST OF THE MACRO CALLS AND ROUTINES
*
* -TO SAVE GENERAL REGISTERS           : SAVE  012...
* -TO RESTORE GENERAL REGISTERS        : GET   012...
* -TO SHIFT LEFT N LOCATIONS           : ASHL  A,N
* -TO SHIFT RIGHT N LOCATIONS          : ASHR  A,N
* -TO WAIT N TIMES 100 MICROS          : WAIT  N
*
* -TO WRITE DATA IN KMV RAM           : CALL  WDATA
* -TO READ DATA FROM KMV RAM          : CALL  RDATA
* -TO CLEAR A BUFFER                   : CALL  CLEAR
* -TO SIZE MEMORY                      : CALL  ..SIZE
* -TO COMPARE TWO BUFFERS               : CALL  COMPAR
* -TO CHECK QIO RESPONSES              : CALL  CHKRSP
* -TO COPY FROM ONE BUFFER TO ANOTHER  : CALL  COPY
* -TO ENTER APPLICATION MODE           : CALL  MODEO
* -TO LOAD A BUFFER WITH INCREMENTAL PATTERNS : CALL  BUFLD
* -TO INIT QIO                         : CALL  INIQIO
* -TO PROCESS QIO                      : CALL  QIOP
* -TO CHECK KMV PROM NUMBER            : CALL  REVCHK
* -TO LOAD AND CHECK APPLICATION CODE   : CALL  LDAPPL
* -TO START APPLICATION                 : CALL  RUNAPP
*
* -TO SERVE IN INTERRUPT               : ITIN
* -TO SERVE OUT INTERRUPT              : ITOUT
*****

```

2343  
2344  
2345  
2346  
2347  
2348  
2349  
2350  
2351  
2352  
2353  
2354  
2355  
2356  
2357  
2358  
2359  
2360  
2361  
2362  
2363  
2364  
2365  
2366

..++  
: MACRO TO SAVE GENERAL REGISTERS  
: DESCRIPTION: PERMITS TO SAVE GENERAL REGITERS R0 TO R7  
: CALLING SEQUENCE: SAVE       123...  
: INPUTS: REGISTER NUMEROS LIST  
: OUTPUTS: REG(N)=R(N)  
: CAUTIONS: NONE  
:--

.MACRO   SAVE     ARGLST  
          .IRPC   N,<ARGLST>  
          .MCV    R'N,REG'N  
          .ENDR  
.ENDM



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2388  
2389

..++  
: MACRO TO RESTORE GENERAL REGISTERS  
: DESCRIPTION: PERMITS TO RESTORE GENERAL REGISTERS R0 TO R7  
: CALLING SEQUENCE: GET 123....  
: INPUTS: REGISTER NUMEROUS LIST  
: OUTPUTS: NONE  
: CAUTIONS: NONE  
:--

```
.MACRO GET ARGLST  
      .IRPC N,<ARGLST>  
      MOV REG'N,R'N  
      .ENDR  
.ENDM
```

CVKMCA0 KMV11-A FCTNL DIAG  
GLOBAL SUBROUTINES

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2391  
2392  
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:++  
: MACRO TO SHiFT N BITS ON THE LEFT

: CALLING SEQUENCE: ASHL A,N

: INPUT PARAMETERS:  
: N: COUNT OF BITS TO BE SHIFTEd  
: A: ARGUMENT TO BE SHIFTEd

:--

.MACRO ASHL A,N,?B  
MOV #N,RO  
B: ASL A  
SOB RO,B  
.ENDM

2412  
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```
:++  
: MACRO TO SHIFT N BITS ON THE RIGHT  
:  
: CALLING SEQUENCE: ASHR  A,N  
:  
: INPUT PARAMETERS:  
: N: COUNT OF BITS TO BE SHIFTED  
: A: ARGUMENT TO BE SHIFTED  
:--
```

```
.MACRO ASHR  A,N,?B  
      MOV   #N,RO  
B:    ASR   A  
      SOB   RO,B  
.ENDM
```



CVKMCA0 KMV11-A FCTNL DIAG  
GLOBAL SUBROUTINES

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2433  
2434  
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```
:++  
: MACRO TO FILL SPACE WITH NOP  
:  
: CALL ING SEQUENCE : CHECK  
:--
```

```
      .MACRO CHECK  
      .REPT 30000  
$$$ADD = .-0  
      .IF GT <30000-$$$ADD>  
      NOP  
      .IFF  
      .MEXIT  
      .ENDC  
      .ENDR  
      .ENDM
```

2452  
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007336  
007346 011601  
007350 012102  
007352 010116  
007354  
007354  
007356 012701 000074  
007362 077101  
007364 077205  
007366  
007376 000207

```

:++
: MACRO FOR SIMPLE WAIT
: CALLING SEQUENCE : WAIT N.
: WHERE N INDICATES THE TIME LENGTH
: (TIME UNIT IS 100 MICROS)
:
: INPUTS: NONE
:
: OUTPUTS: R0 DESTROYED
:--

```

```

.MACRO WAIT N
CALL .WAIT N
.WORD N
.ENDM

.WAIT: SAVE 12
MOV (SP),R1 :GET LENGTH
MOV (R1)+,R2 :UP DATE RETURN PC
MOV R1,(SP)

1$: BREAK
MOV #60.,R1 :WAIT 100 MICROS
SOB R1,2$

2$: SOB R2,1$ :WAIT FOR N*100

GET 12
RETURN

```

2488  
2489  
2490  
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```

:++
ROUTINE TO READ A DATA FROM KMV RAM
:
INPUTS: R3 = RAM ADDRESS
        R5 = CSR BASE ADDRESS
:
OUTPUTS: SEL6 = DATA
        CARRY SET IF ANY ERROR
:
REPORT: ERROR 10003           KMV FAILS TO READ
:--

```

```

RDATA:
SAVE      1
MOV       R3,SEL4(R5)           ;LOAD RAM ADDRESS
BIS       #READ,SELO(R5)       ;READ WORD
MOV       #10.,R1              ;INIT TIME-OUT
11$:
WAIT      10.                  ;WAIT FOR 1 MS
BIT       #READ!ERR,SELO(R5)   ;READ CORRECTLY DONE?
BEQ       12$                  ;YES, COMPARE
SOB       R1,11$               ;NOT, LOOP TILL TIME-OUT
2513:
CLR       GOOD0                 ;SET REPORT
MOV       SELO(R5),BADO
ERRHRD   10003,E10003,PRSELO   ;IF TIME-OUT
WAIT     10000.
SEC
BR        13$
12$:
CLC
13$:
GET      1
RETURN

```

```

007400
007400
007404 010365 000004
007410 052765 002000 000000
007416 012701 000012
007422
007422 032765 002400 000000
007430 001417
007440 077110
007442 005037 002276
007446 016537 000000 002320
007454
007464
007472 000261
007474 000401
007476 000241
007500
007504 000207

```



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007506  
007506  
007512 010365 000004  
007516 011465 000006  
007522 052765 020000 000000  
007530 012701 000012  
007534  
007534  
007542 032765 020400 000000  
007550 001417  
007552 077110  
007554 005037 002276  
007560 016537 000000 002320  
007566  
007576  
007604 000261  
007606 000401  
007610 000241  
007612  
007616 000207

```

:++
ROUTINE TO WRITE DATA IN KMV RAM
:
: INPUTS: R3 = RAM ADDRESS
:         R4 POINTS TO THE DATA
:         R5 = CSR BASE ADDRESS
:
: OUTPUTS: CARRY SET IF ANY ERROR
:
: REPORT: ERROR 10002          KMV FAILS TO WRITE
:--
    
```

```

WDATA:
SAVE      1
MOV       R3,SEL4(R5)          ;LOAD RAM ADDRESS
MOV       (R4),SEL6(R5)       ;LOAD WORD
BIS       #WRITE,SELO(R5)     ;WRITE IT
MOV       #10.,R1             ;INIT TIME-OUT
3$:
WAIT      10.                 ;WAIT FOR 1 MS
BIT       #WRITE!ERR,SELO(R5) ;IS IT CORRECTLY WRITE?
BEQ       20$                 ;YES,NEXT WORD
SOB       R1,3$               ;NOT, LOOP TILL TIME-OUT
20$:
CLR       GOOD0                ;SET REPORT
MOV       SELO(R5),BADO
ERRHRD   10002,E10002,PRSELO ;IF TIME-OUT
WAIT     10000.
SEC
BR        21$
21$:
CLC
GET      1
RETURN
    
```

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..++  
ROUTINE TO SIZE MEMORY

NOTE: THIS ROUTINE MUST RESIDE WITHIN THE  
FIRST 24K OF MEMORY.

OUTPUTS:

LSTAD WILL CONTAIN THE LAST AVAILABLE MEMORY LOCATION (BITS 15-0)  
LSTBK WILL CONTAIN THE LAST AVAILABLE MEMORY LOCATION (BITS 21-16)

--

```

..SIZE: SAVE      0123
MOV          SP,REG6      ;SAVE CURRENT SP
MOV          #6$,4        ;SET TIME-OUT TRAP
MFPS         6           ;SAVE THE CURRENT PSW
MOV          #3776,R1     ;INIT MEMORY ADDRESS POINTER

; CHECK IF M.M.U. INSTALLED
TST          SRC         ;IS IT?

; YES, SIZE THE MEMORY BY USING THE M.M.

CLR          -(SP)       ;INITIALIZE FOR "PAR" LOADING
MOV          #PAR0,R2    ;ADDRESS OF FIRST "PAR"
MOV          #^D8,R3     ;LOAD EIGHT "PAR."S" AND EIGHT "PDR."S"
1$: MOV      #PDDEF,-40(R2) ;SET PDR'S
MOV          (SP),(R2)+  ;SET PAR'S
ADD         #200,(SP)    ;UPDATE FOR NEXT "PAR"
SOB         R3,1$       ;LOOP UNTIL ALL EIGHT ARE LOADED
MOV         #177600,-(R2) ;SETUP PAR7 FOR I/O
CLR         -(R2)       ;SETUP PAR6 FOR TESTING
MOV         #2$,4       ;CATCH TIMEOUT IF NO SR3
MOV         #20,SR3     ;ENABLE 22 BIT MODE
BR          3$         ;THIS PDP-11 HAS A SR3 REGISTER

2$: CMP     (SP)+,(SP)+ ;CLEAN OFF THE STACK--NO SR3

3$: INC     SR0         ;TURN ON MEMORY MANAGEMENT
MOV         #5$,4       ;SET FOR TIME OUT
4$: TST     143776     ;TRAP ON NON-EX-MEM
ADD         #40,(R2)    ;MAKE A 1K STEP
CMP         PAR7,(R2)  ;LAST ONE?
BHI         4$         ;NO--TRY AGAIN

5$: MOV     (R2),R2     ;GET LAST BANK+1
CLR         SR0         ;TURN OFF MEMORY MANAGEMENT
BR          9$

; SIZE MEMORY WITHOUT M.M.
    
```

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GLOBAL SUBROUTINES

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```

2621
2622 010004 012737 010034 000004 6$:      MOV      #8$,4           ;SET FOR TIMEOUT
2623 010012 005002                CLR      R2           ;SET UP BANK
2624 010014 062701 004000          7$:      ADD      #4000,R1      ;INCREMENT BY 1K
2625 010020 062702 000040                ADD      #40,R2       ;1K STEP
2626 010024 005711                TST      (R1)         ;TRAP ON TIME OUT
2627 010026 022701 177776          CMP      #177776,R1   ;LAST ONE
2628 010032 001370                BNE      7$          ;NO--TRY AGAIN
2629
2630                ; TERMINATE SIZING
2631
2632 010034 162701 004000          8$:      SUB      #4000,R1
2633
2634 010040 162702 000040          9$:      SUB      #40,R2           ;DROP BACK
2635 010044 013706 002364                MOV      REG6,SP      ;RESTORE SP
2636 010050 013737 002252 000004      MOV      SAVE4,4      ;RESTORE ERROR VECTOR
2637 010056 013737 002254 000006      MOV      SAVE6,6
2638 010064 010137 002500                MOV      R1,LSTAD    ;LAST ADDRESS (BITS 10-0)
2639 010070 000241                CLC
2640 010072 006002                ROR      R2           ;ROTATE BANK
2641 010074 006002                ROR      R2
2642 010076 150237 002501          BISB    R2,LSTAD+1    ;LAST ADDRESS (BITS 15-11)
2643 010102 105002                CLR      R2           ;CLEAR BITS 15-11
2644 010104 000302                SWAB    R2           ;SWAP R2
2645 010106 010237 002502          MOV      R2,LSTBK    ;LAST ADDRESS (BITS 21-16)
2646 010112                GET      0123        ;RESTORE REGISTERS
2647 010132 000207                RETURN
2648
2649

```



CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL SUBROUTINES

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2672
2673
2674 010134
2675 010134 012137 002400
2676 010140
2677 010144 012703 006620
2678 010150 005037 002476
2679 010154 005002
2680
2681 010156 023737 002402 002400
2682 010164 001407
2683
2684 010166 013737 002400 002476
2685 010174
2686
2687 010204 011304
2688 010206 116300 000005
2689
2690 010212 012337 002322
2691 010216 012337 002324
2692 010222 012337 002326
2693 010226
2694
2695 010232 042704 177760
2696 010236 000241
2697 010240 006304
2698 010242 016404 010554
2699
2700 010246 122700 000001
2701 010252 001444
2702 010254 122700 000374
2703 010260 001440
2704 010262 122700 000373
2705 010266 001434
2706 010270 122700 000372
2707 010274 001430

```

```

:++
: ROUTINE TO CHECK QIO RESPONSES
:
: DESCRIPTION: SUBSEQUENT RESPONSES(SEL2,SEL4,SEL6) ARE
:              COMPARED TO THE EXPECTED ONES
:
: INPUTS: R1 EXPECTED OUT LIST LENGTH
:         R1+2 EXPECTED OUT LIST BASE ADDRESS
:         OUTBUF RECEIVED OUT LIST ADDRESS
:         RSPCNT FOR THE NUMBER OF RESPONSES
:
: OUTPUTS: R0 TO R4 ARE DESTROYED
:         CARRY BIT CLEARED IF TEST OKE
:         CARRY SET IF NOT, IN THIS CASE,
:         BAD2,4,6 GIVES UN-EXPECTED RESPONSES
:         OUTNUM = THE SEQUENTIAL NUMBER OF UN-EXPECTED RESPONSE
:
: REPORTS: ERROR 10009          NOT EXPECTED RESPONSE RECEIVED
:         ERROR 10010          NOT EXPECTED NUMBER OF RESPONSES RECEIVED
:--

```

```

CHKRSP:
MOV      (R1)+,LSTLGH          ;GET OUT LIST LENGTH
SAVE    1                      ;SAVE LIST POINTER
MOV     #OUTBUF,R3            ;POINT TO OUTLIST
CLR     OUTNUM                 ;CLEAR BAD RESPONSE NUMBER POINTER
CLR     R2                     ;INIT RESPONSE COUNTER

CMP     RSPCNT,LSTLGH          ;EXPECTED NUMBER OF RESPONSES?
BEQ    1$                     ;IF YES

MOV     LSTLGH,OUTNUM          ;IF NOT, SET REPORT
ERRHRD 10010,E10010,PRBNUM

1$:
MOV     (R3),R4                ;GET RCV RESPONSE ID
MOVB   5(R3),R0                ;GET RCV STATUS

MOV     (R3)+,BAD2             ;GET COMPLETE RESPONSE BEFORE
MOV     (R3)+,BAD2+2           ;ANY REPORT
MOV     (R3)+,BAD2+4
SAVE    3                      ;SAVE POINTER

BIC    #177760,R4              ;KEEP FXX ONLY
CLC
ASL    R4                      ;ADJUST FOR WORD BOUNDARY
MOV     RSPLST(R4),R4          ;POINT TO THE RIGHT FUNCTION TEST

CMPB   #SUCCES,R0              ;THEN LOOK FOR THE RIGHT TEST
BEQ    10$                     ;ACCORDING TO THE EXPECTED STATUS
CMPB   #NXMEM,R0
BEQ    9$
CMPB   #BUFOVF,R0
BEQ    8$
CMPB   #FRMLER,R0
BEQ    7$

```

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GLOBAL SUBROUTINES

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```

2708 010276 122700 000371      CMPB  #OUTSEQ,RO
2709 010302 001424          BEQ   6$
2710 010304 122700 000364      CMPB  #RXABO,RO
2711 010310 001420          BEQ   5$
2712 010312 122700 000363      CMPB  #DBLCMD,RO
2713 010316 001414          BEQ   4$
2714 010320 122700 000360      CMPB  #TOOBUF,RO
2715 010324 001410          BEQ   3$
2716 010326 122700 000357      CMPB  #KMVER,RO
2717 010332 001404          BEQ   2$
2718 010334 122700 000356      CMPB  #DCONFP,RO
2719 010340 001055          BNE   21$      ;IF NOT EXPECTED RESPONSE
2720
2721 010342 005724          TST   (R4)+
2722 010344 005724          2$:  TST   (R4)+
2723 010346 005724          3$:  TST   (R4)+
2724 010350 005724          4$:  TST   (R4)+
2725 010352 005724          5$:  TST   (R4)+
2726 010354 005724          6$:  TST   (R4)+
2727 010356 005724          7$:  TST   (R4)+
2728 010360 005724          8$:  TST   (R4)+
2729 010362 005724          9$:  TST   (R4)+
2730 010364 005714          10$: TST   (R4)+
2731 010366 001442          BEQ   21$      ;CHECK FOR ANY TEST TYPE?
2732                                     ;IF NOT, REPORT ERROR
2733 010370 011404          MOV   (R4),R4      ;GET TEST TYPE ADDRESS IN R4
2734 010372                                     SAVE  4            ;SAVE IT
2735 010376                                     GET   1            ;RESTORE EXPECTED LIST POINTER
2736 010402 005003          CLR  R3
2737 010404 005000          CLR  R0
2738
2739 010406 012137 002300      11$: MOV   (R1)+,GOOD2      ;GET EXPECTED RESPONSE PARAMETERS
2740 010412 012137 002302      MOV   (R1)+,GOOD2+2
2741 010416 012137 002304      MOV   (R1)+,GOOD2+4
2742 010422 122760 000077 006574  CMPB  #77,RSPOKE(RO)  ;SEE IF THIS RESPONSE
2743                                     ;NOT RECEIVED YET, IS IT?
2744 010430 001413          BEQ   14$          ;IF NOT, GET IT
2745
2746 010432 105714          12$: TSTB  (R4)      ;IF YES, LOOK FOR BYTE TEST TERMINATOR?
2747 010434 100004          BPL  13$          ;BRANCH IF IT IS NOT
2748 010436 112760 000077 006574  MOVB  #77,RSPOKE(RO) ;RESPONSE CORRECT, SET FLAG
2749 010444 000423          BR   22$          ;THEN SELECT NEXT RESPONSE
2750
2751 010446 112403          13$: MOVB  (R4)+,R3      ;SET INDEX FOR BYTE TEST
2752 010450 126363 002300 002322  CMPB  GOOD2(R3),BAD2(R3) ;IF YES, TEST IF THE SAME ?
2753 010456 001765          BEQ   12$          ;IF YES, LOOP
2754
2755 010460          14$: GET   4            ;IF NOT, RESTORE TEST ADDRESS TYPE
2756 010464 005200          INC  RO           ;UP-DATE CORRECT RESPONSE POINTER
2757 010466 020037 002400      CMP  RO,LSTLGH     ;ANY-MORE EXPECTED RESPONSES?
2758 010472 001345          BNE  11$          ;IF YES
2759
2760                                     ; UNEXPECTED RESPONSES, REPORT
2761
2762 010474          21$:
2763 010474 010237 002476      MOV   R2,OUTNUM    ;GET RESPONSE NUMBER
2764 010500 005237 002476      INC  OUTNUM

```

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GLOBAL SUBROUTINES

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2765	010504		ERRHRD	10009,E10009,PBRSP	:REPORT
2766					
2767	010514		22\$: GET	3	:RESTORE RCV RESPONSE POINTER
2768	010520	005202	INC	R2	:INC RESPONSE COUNTER
2769	010522	005337	DEC	RSPCNT	:ANY MORE RESPONSE?
2770	010526	001226	BNE	1\$	:IF YES, LOOP
2771					
2772	010530	005737	TST	OUTNUM	:TEST COMPLETELY OKE?
2773	010534	001002	BNE	40\$	:NOT, SET CARRY
2774	010536	000241	CLC		:YES, CLEAR CARRY
2775	010540	000207	RETURN		
2776					
2777	010542		40\$: WAIT	10000.	
2778	010550	000261	SEC		
2779	010552	000207	RETURN		
2780					
2781					



2783  
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 2788 010554 010614  
 2789 010556 010640  
 2790 010560 010664  
 2791 010562 010710  
 2792 010564 010734  
 2793 010566 010760  
 2794 010570 011004  
 2795 010572 011030  
 2796 010574 011124  
 2797 010576 011150  
 2798 010600 011174  
 2799 010602 011220  
 2800 010604 011244  
 2801 010606 011270  
 2802 010610 011314  
 2803 010612 011340

: POSSIBLE RESPONSE POINTER LIST

RSPLST: TSTF0 :DUMMY RESPONSE  
 TSTF1 :CONFIGURATE RESPONSE  
 TSTF2 :DECONFIGURATE RESPONSE  
 TSTF3 :DUMMY RESPONSE  
 TSTF4 :MODEM CHANGE  
 TSTF5 :XMIT BUFFER  
 TSTF6 :RCV BUFFER  
 TSTF7 :XMIT KILL  
 TSTF10 :RCV KILL  
 TSTF11 :DUMMY RESPONSE  
 TSTF12 :DUMMY RESPONSE  
 TSTF13 :DUMMY RESPONSE  
 TSTF14 :READ MODEM RESPONSE  
 TSTF15 :DUMMY RESPONSE  
 TSTF16 :ENABLE  
 TSTF17 :DISABLE " "

```

2805
2806      .NLIST BEX
2807
2808      ; RESPONSE TEST TABLE IN FUNCTION OF STATUS RECEIVED
2809      ;
2810      ;STAT.      1   374   373   372   371   364   363   360   357   356
2811
2812 010614 000000 000000 000000 TSTF0: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2813 010640 011364 000000 000000 TSTF1: TYP00,00000,00000,00000,TYP00,00000,TYP00,00000,TYP00,TYP00
2814 010664 011364 000000 000000 TSTF2: TYP00,00000,00000,00000,TYP00,00000,TYP00,00000,TYP00,00000
2815 010710 000000 000000 000000 TSTF3: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2816 010734 011367 000000 000000 TSTF4: TYP01,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2817 010760 011364 011364 011364 TSTF5: TYP00,TYP00,TYP00,TYP00,TYP00,00000,00000,TYP00,TYP00,00000
2818 011004 011367 011364 011367 TSTF6: TYP01,TYP00,TYP01,00000,TYP00,TYP00,00000,TYP00,TYP00,00000
2819 011030 011364 000000 000000 TSTF7: TYP00,00000,00000,00000,TYP00,00000,00000,00000,TYP00,00000
2820 011054 000000 000000 000000 TSTF8: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2821 011100 000000 000000 000000 TSTF9: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2822 011124 011364 000000 000000 TSTF10: TYP00,00000,00000,00000,TYP00,00000,00000,00000,TYP00,00000
2823 011150 000000 000000 000000 TSTF11: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2824 011174 000000 000000 000000 TSTF12: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2825 011220 000000 000000 000000 TSTF13: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2826 011244 011367 000000 000000 TSTF14: TYP01,00000,00000,00000,TYP00,00000,00000,00000,TYP00,00000
2827 011270 000000 000000 000000 TSTF15: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2828 011314 011367 000000 000000 TSTF16: TYP01,00000,00000,00000,00000,00000,00000,TYP00,00000,TYP00,00000
2829 011340 011364 000000 000000 TSTF17: TYP00,00000,00000,00000,00000,00000,00000,TYP00,00000,TYP00,00000
2830
2831      ; POSSIBLE TYPE OF TESTS
2832
2833 011364      000      005      TYP00:  .BYTE  0,5      ;TEST OF BSEL2 AND BSEL7
2834 011366      200
2835
2836 011367      000      002      003  TYP01:  .BYTE  0,2,3,5    ;TEST OF BSEL2,SEL4 AND BSEL7
2837 011373      200
2838
2839      .EVEN

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011404 005037 002430  
011410 010137 002424  
011414 010237 002426  
011420 012704 002432  
011424 013703 002346  
  
121112  
011432 001010  
  
011434 005201  
011436 005202  
011440 077305  
  
011442 005737 002430  
011446 001013  
011450 000241  
011452 000421  
  
011454 005237 002430  
011460 022737 000010 002430  
011466 103762  
  
011470 010124  
011472 010224  
011474 000757  
  
011476  
011506  
011514 000261  
011516

```

:++
: ROUTINE TO COMPARE BLOCKS OF DATA
: DESCRIPTION: TWO BUFFERS ARE COMPARED BYTE BY BYTE
: INPUTS: R1 SOURCE BUFFER 1 ADDRESS
:         R2 SOURCE BUFFER 2 ADDRESS
:         LENGTH = BYTE COUNT
:
: OUTPUTS: R1,R2 POINT TO CURRENT LOCATIONS
:          XMTBUF = XMIT BUFFER ADDRESS
:          RCVBUF = RECV BUFFER ADDRESS
:          ERRCNT = TOTAL ERROR COUNT
:          BADLOC = ERROR TABLE BASE ADDRESS
:          CARRY SET IF A MISMATCH OCCURS
:          LENGTH = INITIAL BYTE COUNT
:
: REPORT:  ERROR 10011          NOT EXPECTED DATA RECEIVED
:--
    
```

```

COMPAR:  SAVE      34
          CLR      ERRCNT          ;INIT ERROR COUNTER
          MOV      R1,XMTBUF       ;SAVE ADDRESSES
          MOV      R2,RCVBUF
          MOV      #BADLOC,R4     ;POINT TO ERROR TABLE
          MOV      LENGTH,R3      ;GET NUMBER OF BYTE
1$:      CMPB     (R1),(R2)        ;THE SAME DATA?
          BNE      3$              ;IF NOT
2$:      INC      R1                ;NEXT LOCATION
          INC      R2
          SOB      R3,1$           ;DEC R3 AND CONTINUE IF NOT NULL
          TST      ERRCNT          ;ANY ERROR?
          BNE      4$              ;YES, SET CARRY
          CLC
          BR       5$              ;NO, CLEAR CARRY
          ;TERMINATE
3$:      INC      ERRCNT          ;INC ERROR COUNT
          CMP      #8.,ERRCNT     ;8 ERRORS ?
          BLO      2$              ;YES, JUST LOOP
          MOV      R1,(R4)+        ;IF NOT, SAVE BAD ADDRESS
          MOV      R2,(R4)+
          BR       2$              ;THEN LOOP BACK
4$:      ERRHRD   10011,E10011,PRBCOM ;REPORT
          WAIT    10000.
          SEC
5$:      GET      34
    
```



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GLOBAL SUBROUTINES

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2898 011526 000207

RETURN

CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL SUBROUTINES

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011530  
011534 013703 002346  
011540 005021  
011542 077302  
011544  
011550 000207

..++  
: ROUTINE TO CLEAR A SPECIFIED BUFFER  
:  
: INPUTS: R1 BUFFER ADDRESS  
: LENGTH = NUMBER OF WORDS  
:  
: OUTPUTS: R1 DESTROYED  
:--

BUFCLR: SAVE 3  
MOV LENGTH,R3  
1\$: CLR (R1)+  
SOB R3,1\$  
GET 3  
RETURN

:GET NUMBER OF WORDS  
:CLEAR BUFFER  
:DEC COUNTER AND CONTINUE IF NOT NULL

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011552  
011556 013703 002346  
011562 112122  
011564 077302  
011566  
011572 000207

..\*\*  
: ROUTINE TO COPY ONE BUFFER IN A SECOND ONE  
: INPUTS: R1 SOURCE BUFFER ADDRESS  
: R2 DESTINATION BUFFER ADDRESS  
: LENGTH = BYTE COUNT  
: OUTPUTS: R1,R2 DESTROYED  
:--

COPY: SAVE 3  
MOV LENGTH,R3  
1\$: MOVB (R1)+,(R2)+  
SOB R3,1\$  
GET 3  
RETURN

:GET NUMBER OF BYTE  
:COPY FROM SOURCE TO DESTINATION BUFFER  
:DEC COUNTER AND CONTINUE IF NOT NULL



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:++
: ROUTINE TO ENTER THE APPLICATION MODE
:
: DESCRIPTION: RESET ON Q-BUS THEN WAIT FOR 5 MS
:              SET APPLICATION MODE AND MCLR BITS. THEN, CHECK
:              IF MCLR CLEARED BY THE KMV. IF NOT, REPORT ERROR 2
:
: INPUTS: NONE
:
: OUTPUTS: R5 = CSR BASE ADDRESS
:          CARRY BIT SET IN CASE OF ERROR
:
: ERROR REPORT: ERROR 10000          KMV11 FAILS TO RESET MCLR
:--
    
```

```

MODE0:  SAVE    1
        MOV     KMVCSR,R5          ;GET CSR ADDRESS IN R5
2962 011600 013705 002504
        CLR     SELO(R5)          ;RESET SELO
        MOV     #MCLR,SELO(R5)    ;SET MODE 0 AND MCLR
        MOV     #10.,R1          ;SET WAIT OF 10 MS
2964 011604 005065 000000
        WAIT    10.              ;WAIT 1 MS
2965 011610 012765 040000 000000
        BIT     #MCLR,SELO(R5)   ;MCLR CLEARED?
2966 011616 012701 000012
        BEQ     2$               ;IF YES
2967 011622
        SOB     R1,1$           ;IF NOT, LOOP TILL TIME-OUT
2968 011622
2969 011630 032765 040000 000000
        CLR     GOOD0            ;SET REPORT FOR TIME OUT
2970 011636 001417
        MOV     SELO(R5),BADO
2971 011640 077110
        ERRHRD 10000,E10000,PRSELO ;REPORT
2972
        WAIT    10000.
2973 011642 005037 002276 002320
        SEC
2974 011646 016537 000000
        BR     3$
2975 011654
2976 011664
2977 011672 000261
        CLC
2978 011674 000401
        GET     1
2979
        RETURN
2980 011676 000241
2981 011700
2982
2983 011704 000207
2984
    
```

CVKMAO KMV11-A FCTNL DIAG  
GLOBAL SUBROUTINES

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 3000 011706 000241  
 3001 011710 005737 002344  
 3002 011714 001010  
 3003  
 3004 011716  
 3005 011726  
 3006 011734 000261  
 3007 011736  
 3008 011736 000207  
 3009

```

:++
: ROUTINE TO TEST IF LOOP BACK CONNECTOR PLUGGED
: INPUT: LCLOOP = LOOP FLAG, LOADED FROM P.TABLE
: OUTPUT: CARRY SET IF NOT INSERTED
:         CARRY CLEARED IF YES
: REPORT: ERROR 10012          LOOP CONNECTOR NOT INSTALLED
:--

```

```

LPBACK: CLC
        TST      LCLOOP      ;TEST IF PLUGGED?
        BNE     1$          ;YES
        ERRHRD  10012,E10012 ;NO, REPORT
        WAIT   10000.
        SEC
1$:     ;SET CARRY IF NOT
        RETURN

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011740  
011750 013702 002346  
011754 005003  
011756 110321  
011760 005203  
011762 077203  
011764  
011774 000207

++  
: ROUTINE TO LOAD BUFFER WITH AND INCREMENTAL PATTERN  
: INPUTS: R1 = BUFFER ADDRESS  
: LENGTH = BYTE COUNT  
: OUTPUT: R1 DESTROYED  
--

BUFLD: SAVE 23  
MOV LENGTH,R2 ;READ LENGTH  
CLR R3 ;INIT PATTERN  
1\$: MOVB R3,(R1)+ ;LOAD BYTE  
INC R3 ;NEXT  
SOB R2,1\$ ;FOR ALL  
GET 23  
RETURN



CVKMCAD KMV11-A FCTNL DIAG  
GLOBAL SUBROUTINES

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3053 011776 005037 002372
3054 012002 005037 002402
3055 012006 005037 002370
3056 012012 012737 006620 002410
3057
3058 012020 012700 000010
3059 012024 013702 002504
3060 012030 005022
3061 012032 077002
3062
3063 012034 012737 002106 002346
3064 012042 012701 002574
3065 012046 004737 011530
3066
3067 012052 012701 004574
3068 012056 012737 002000 002346
3069 012064 004737 011740
3070
3071 012070
3072 012074 013701 002506
3073 012100 012721 012710
3074 012104 012721 000340
3075 012110 012721 013044
3076 012114 012711 000340
3077
3078 012120 013701 002512
3079 012124
3080 012134 162701 000040
3081 012140 106401
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3083 012142
3084 012146 000207
3085

```

```

:++
ROUTINE TO INIT IN/OUT HANDSHAKING
:
INPUTS: INTIN = POINTS TO THE FIRST VECTOR ADDRESS
        PRILEV = POINT TO THE KMV DEVICE PRIORITY LEVEL
:
OUTPUTS: RSPCNT,REQCNT AND ERRFLG ARE RESET
        XX0 AND XX4 VECTORS ARE SET
        HOST PRIORITY LEVEL = (PRILEV)-1
        OUTLST POINTS TO TOP OF OUT BUFFER
        IN/OUT INTERRUPT ENABLE BITS SET
        ALL SAVE BUFFERS ARE CLEARED
        XMIT BUFFERS ARE FELT WITH INCREMENTAL BYTES
:--

```

```

INIQIO: CLR      REQCNT      ;CLEAR INPUT COUNT
        CLR      RSPCNT      ;CLEAR OUTPUT COUNT
        CLR      ERRFLG      ;CLEAR ERROR FLAG REG
        MOV      #OUTBUF,OUTLST ;POINT TO TOP OF OUT BUFFER
:
        MOV      #CSRLEN,R0   ;CLEAR ALL CSR'S
1$:     MOV      KMVCSR,R2
        CLR      (R2)+
        SOB     R0,1$
:
        MOV      #3*20.+10.+1024.,LENGTH ;CLEAR BUFFERS
        MOV      #RXBUFO,R1
        CALL     BUFCLR
:
        MOV      #TXBUFO,R1   ;POINT TO XMIT BUFFERS
        MOV      #1024.,LENGTH ;SET BUFFER LENGTH
        CALL     BUFLD       ;LOAD INCREMENTAL BYTES
:
        SAVE     1
        MOV      INTIN,R1     ;POINT TO XX0
        MOV      #ITIN,(R1)+  ;LOAD IN SERVICE ROUTINE
        MOV      #PRI07,(R1)+ ;THEN HIGHEST PRIORITY
        MOV      #ITOUT,(R1)+ ;LOAD OUT SERVICE ROUTINE IN XX4
        MOV      #PRI07,(R1)  ;THEN HIGHEST PRIORITY
:
        MOV      PRILEV,R1    ;GET DEVICE PRIORITY
        ASHR     R1,4         ;ADJUST
        SUB     #40,R1        ;ONE LESS
        MTPS    R1           ;MODIFY HOST PRIORITY LEVEL
:
        GET      1
        RETURN

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012150

012170 005037 002412  
012174  
012174 012704 030354  
012200 013702 043726  
012204 012703 030354  
012210  
012210 005737 002412  
012214 001004  
012216 004737 007506  
012222 103436  
012224 000422  
012226  
012226 004737 007400  
012232 103432  
012234 021465 000006

```

:++
ROUTINE TO LOAD APPLICATION FIRMWARE
DESCRIPTION: LOAD ALL THE FIRMWARE
              TEST IF CORRECTLY LOADED
              THEN SET FLAG

INPUTS: $BUFF = APPLICATION CODE FILE
        BUFLGH = APPLICATION FIRMWARE LENGTH
        $RAM = KMV RAM LOAD ADDRESS
        APPFLG = SET WHEN CODE IS CORRECTLY LOADED
        S_LOAD = FLAG TO INDICATE LOAD(0) OR COMPARE(1)
        R5 = CSR BASE ADDRESS

        USING OF R1 TO R4,
            R1 = TIME-OUT COUNTER
            R2 = WORD LOADING COUNTER
            R3 = RAM LOAD ADDRESS
            R4 = BUFFER ADDRESS

OUTPUTS: APPFLG = 1 IF CORRECTLY LOADED
        CARRY SET IF ANY ERROR

REPORT: ERROR 10002          WRITE FAILURE
        ERROR 10003          READ FAILURE
        ERROR 10004          DATA COMPARE ERROR
:--

LDAPPL: SAVE      1234
; WRITE PHASE
1$: CLR          S_LOAD          ;0 FOR LOAD
   MOV          #$BUFF,R4        ;POINT TO SOURCE BUFFER
   MOV          BUFLGH,R2        ;SET LENGTH
   MOV          #$RAM,R3        ;POINT TO DESTINATION
2$: TST          S_LOAD          ;IS IT A LOAD?
   BNE          10$             ;BR IF COMPARE
   CALL         WDATA           ;WRITE DATA
   BCS          30$             ;IF ERROR
   BR           20$             ;IF OKE, WRITE NEXT DATA
; TO COMPARE
10$: CALL        RDATA          ;READ DATA
   BCS          30$
12$: CMP         (R4),SEL6(R5)  ;THE SAME?

```

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GLOBAL SUBROUTINES

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```

3144 012240 001414          BEQ      20$          ;YES, NEXT WORD
3145
3146 012242 011437 002304          MOV      (R4),GOOD6          ;SET REPORT
3147 012246 016537 000006 002326  MOV      SEL6(R5),BAD6
3148 012254 010337 002432          MOV      R3,BADLOC
3149 012260          ERRHRD  10004,E10004,PRDAT          ;IF NOT, REPORT
3150 012270 000413          BR       30$
3151
3152 012272 062703 000002          20$:    ADD      #2,R3          ;NEXT RAM ADDRESS
3153 012276 005724          TST      (R4)+              ;NEXT SOURCE ADDRESS
3154 012300 005302          DEC      R2                  ;NEXT
3155 012302 001342          BNE      2$                  ;LOOP TILL BUFFER END
3156
3157          ; BUFFER END - TEST IF COMPARE DONE
3158
3159 012304 005737 002412          TST      S.LOAD              ;IS IT?
3160 012310 001010          BNE      40$                  ;YES, LOAD COMPLETED
3161 012312 005237 002412          INC      S.LOAD              ;NOT, COMPARE RAM AND SOURCE BUFFER
3162 012316 000726          BR       1$
3163
3164 012320          30$:    WAIT      10000.
3165 012326 000261          SEC
3166 012330 000403          BR       50$                  ;SET CARRY IF ERROR
3167          ;THEN EXIT
3168 012332 000241          40$:    CLC
3169 012334 005237 002414          INC      APPFLG              ;IF OKE, SET FLAG FOR LOADED
3170 012340          50$:
3171 012340          GET      1234
3172 012360 000207          RETURN
3173

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012402 012703 160002  
012406 004737 007400  
012412 103441  
012414 016537 000006 002326  
012422 023737 002326 007126  
012430 001437  
012432  
012442 012703 160004  
012446 012704 002556  
012452  
012452 004737 007400  
012456 103417  
012460 016524 000006  
012464 062703 000002  
012470 020427 002572

```

:++
ROUTINE TO CHECK KMV PROM ECO LEVEL AND PRINT PART NUMBER
DESCRIPTION: BEGIN
              READ ACTUAL ECO LEVEL AT ADDRESS=ECONB
              COMPARE TO GDLVL
              IF NOT EQUAL THEN REPORT ERROR
              FOR KMV ADDRESS=PARTNB TO LAST CHR DO
                READ ASCII CHR
              NEXT
              PRINT PART NUMBER
              END

INPUTS: R5 = CSR BASE ADDRESS
        PARTNB IS THE KMV PROM PART NUMBER ADDRESS
        PROMNB IS THE ADDRESS OF GOOD ONE
        ECONB IS THE ADDRESS OF ACTUAL PROM ECO LEVEL
        GDLVL IS THE LEVEL EXPECTED BY THE DIAG.

        USING OF R1 TO R4
        R1=TIME-OUT COUNTER
        R3=ROM LOAD ADDRESS
        R4=GOOD CHR ADDRESS

OUTPUTS: CARRY SET IF ANY ERROR

REPORTS: ERROR 10003          READ FAILURE
         ERROR 10008          BAD EPROM ECO LEVEL

--

REVCHK: SAVE    1234

MOV    #ECONB,R3          ;INIT R3
CALL   RDATA          ;READ DATA
BCS   30$

MOV    SEL6(R5),BAD6      ;GET SEL6
CMP    BAD6,GDREV        ;THE SAME LEVEL?
BEQ    40$              ;IF YES

ERRHRD 10008,E10008,PRBECO ;IF NOT, REPORT

; PRINT PART NUMBER

1$:   MOV    #PARTNB,R3   ;INIT R3
      MOV    #PROMNB,R4   ;INIT R4

2$:   CALL   RDATA          ;READ CHR
      BCS   30$

MOV    SEL6(R5),(R4)+     ;SAVE IT
ADD    #2,R3              ;NEXT ADDRESS
CMP    R4,#PROMNB+12.    ;READ COMPLETE?

```

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GLOBAL SUBROUTINES

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3232	012474	001366	BNE	2\$	;LOOP IF NOT
3233					
3234	012476		PRINTF	#MPROM	;PRINT PART NUMBER
3235					
3236	012516		30\$: WAIT	10000.	
3237	012524	000261	SEC		;SET CARRY IF ERROR
3238	012526	000401	BR	50\$	;THEN EXIT
3239					
3240	012530	000241	40\$: CLC		;IF TEST OKE
3241					
3242	012532		50\$: GET	1234	
3243	012552	000207	RETURN		
3244					

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```

:++
: ROUTINE TO START APPLICATION FIRMWARE
:
: DESCRIPTION: FIRST, TEST IS DONE TO SEE IF APPLICATION CODE
:              CAN BE LOADED. IF YES, THE CODE IS LOADED.
:              THEN, THE PROGRAM IS STARTED.
:
: INPUTS: APPFLG INDICATES IF APPLICATION CODE LOADED(1) OR NOT(0)
:         $START POINT TO THE FIRMWARE START ADDRESS
:         R5 = KMV CSR ADDRESS
:
: OUTPUTS: APPFLG CLEARED IF ANY ERROR DURING LOAD OR START
:         CARRY SET IF ANY ERROR
:
: REPORTS: ERROR 10001          RUN FAILURE
:          ERROR 10002          WRITE FAILURE
:          ERROR 10003          READ FAILURE
:          ERROR 10004          COMPARE FAILURE
:          ERROR 10008          BAD PROM NUMBER
:--
    
```

```

RUNAPP: TST      APPFLG          ;CODE ALREADY LOADED?
        BNE      1$              ;YES, START IT
        CALL     REVCHK          ;CHECK KMV PROM NUMBER
        BCS      20$            ;EXIT IF ERROR
        CALL     LDAPPL          ;NOT, LOAD IT
        BCS      20$            ;EXIT IF LOAD ERROR
1$:     MOV      # $START,SEL4(R5) ;OKE, LOAD START ADDRESS
        MOV      # RUN,SELO(R5)  ;START
        MOV      #10.,R1        ;SET TIME-OUT
2$:     WAIT     10.             ;WAIT FOR 1 MS
        BIT      #RUN!ERR,SELO(R5) ;IS CORRECTLY STARTED?
        BEQ     30$             ;YES, EXIT
        SOB     R1,2$           ;NOT, LOOP TILL TIME-OUT
        CLR     GOOD0           ;SET REPORT
        MOV     SELO(R5),BADO    ;IF TIME-OUT
        ERRHRD 10001,E10001,PRSELO
30$:    CLR     APPFLG          ;CLEAR FLAG
        WAIT   10000.
        SEC
        RETURN
30$:    WAIT     100.           ;WAIT FOR FIRWARE INIT.
        CLC
        RETURN
    
```



CVKMAO KMV11-A FCTNL DIAG  
GLOBAL SUBROUTINES

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:++
INPUT INTERRUPT SERVICE ROUTINE

DESCRIPTION: BEGIN
              IF RQI NOT SET
                THEN REPORT ERROR
              IF RDYI NOT SET
                THEN REPORT ERROR
              IF NO QIO
                THEN INPUT DUMMY COMMAND
              POINT TO CURRENT COMMAND IN LIST
              INPUT PARAMETERS
              IF NO MORE COMMAND IN LIST
                THEN CLEAR RQI
              INPUT COMMAND NUMBER
              CLEAR RDYI
              END

INPUTS: R5 = KMV CSR ADDRESS
        INLIST POINT TO THE CURRENT COMMAND TO INPUT
        REQCNT INDICATES THE NUMBER OF INPUT STILL TO DO
        TMOU  INDICATES INTERRUPT TIME-OUT LENGTH

OUTPUTS: ERRFLG SET SUCH AS,
         BIT2 SET IF NO RQI OR RDYI

--
ITIN:  MOV    R1,-(SP)           ;SAVE R1,R2
        MOV    R2,-(SP)
        BIT    #IEI,SEL0(R5)    ;INT. ENABLE?
        BEQ    1$              ;NOT, SET ERROR
        BIT    #RQI,SEL0(R5)    ;IS RQI SET?
        BEQ    1$              ;NOT, SET ERROR
        BIT    #RDYI,SEL2(R5)   ;IS RDYI SET?
        BNE    2$              ;YES, SERVE INT.
1$:     BIS    #BIT2,ERRFLG     ;SET ERROR FLAG
        BR     30$             ;THEN EXIT
2$:     TST    REQCNT           ;ANY-MORE COMMAND?
        BNE    3$              ;YES, PROCESS
        MOV    #F0,R2          ;NOT, SET DUMMY COMMAND
        BR     20$             ;THEN CLEAR RDYI AND EXIT
3$:     MOV    INLST,R1         ;POINT TO COMMAND PARAMETERS
        MOV    (R1)+,R2        ;READ COMMAND NUMBER
        MOV    (R1)+,SEL4(R5)   ;SET SEL4
        MOV    (R1)+,SEL6(R5)   ;SET SEL6
        MOV    R1,INLST        ;SAVE NEW POINTER
        DEC    REQCNT          ;NEXT COMMAND?

```



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:++
: OUTPUT INTERRUPT SERVICE ROUTINE
:
: DESCRIPTION: BEGIN
:               IF RDYO NOT SET
:                 THEN REPORT ERROR
:               IF NO RESPONSE AWAITED
:                 THEN REPORT ERROR
:               SAVE RESPONSE IN BUFFER
:               UP-DATE RESPONSE COUNT
:               CLEAR RDYO
:               END
:
: INPUTS: R5 = KMV CSR ADDRESS
:         TMOUT INDICATES THE TIME-OUT VALUE FOR INT.
:         OUTLST POINTS TO THE CURRENT FREE BUFFER
:         RSPCNT CURRENT RESPONSE COUNT
:
: OUTPUTS: R4 = TMOUT
:          ERRFLG SET WITH BIT0 IF ANY ERROR
:--
    
```

```

ITOUT: MOV      R1,-(SP)          ;SAVE R1
        BIT      #IEO,SEL0(R5)   ;INT. ENABLE?
        BEQ      1$              ;NOT, SET ERROR
        BIT      #RDYO,SEL2(R5)  ;IS RDYO SET?
        BNE      2$              ;YES, SAVE
        BIS      #BIT0,ERRFLG    ;NOT, SET ERROR
        BR       30$             ;THEN EXIT

        CMP      #20.,RSPCNT     ;OUTBUF FULL?
        BEQ      30$             ;YES,TERMINATE
        MOV      OUTLST,R1       ;POINT TO FREE BUFFER
        MOV      SEL2(R5),(R1)+  ;SAVE SEL2 TILL SEL6
        MOV      SEL4(R5),(R1)+
        MOV      SEL6(R5),(R1)+

        MOV      R1,OUTLST       ;POINT TO NEXT FREE BUFFER
        INC      RSPCNT          ;ONE RESPONSE MORE
        BIC      #RDYO,SEL2(R5)  ;CLEAR RDYO

30$:   MOV      TMOUT,R4         ;INIT AGAIN TIME-OUT
        MOV      (SP)+,R1       ;RESTORE R1
        RTI
    
```



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```

:++
ROUTINE TO PROCESS QIO WITH INTERRUPTS

DESCRIPTION: BEGIN
              SET POINTERS
              SET RQI
              INIT INTERRUPT WATCH DOG
              REPEAT
                  WAIT FOR 500MICROS
                  IF ERRFLG SET
                      THEN REPORT ERROR
                  IF REQ CNT & RSP CNT = 0
                      THEN END
              UNTIL WATCH DOG DONE
              IF WATCH DOG DONE
                  THEN REPORT ERROR
              END

INPUTS: R5 = KMV CSR ADDRESS
        ERRFLG INDICATES IN IT ERROR(BIT2) OR/AND OUT IT ERROR(BIT0)
        R1 POINTS TO A TABLE WHICH CONTENTS:
        REQ CNT COMMAND BASE ADDRESS
        TIME-OUT LENGTH

OUTPUTS: CARRY SET IF ANY ERROR

REPORTS: ERROR 10005          UN-EXPECTED IN IT
        ERROR 10006          UN-EXPECTED OUT IT
        ERROR 10007          NO MORE IN/OUT IT WHILE QIO ARE PENDING
--
    
```

```

QIOP:  MOV      (R1)+,R2          ;GET BASE ADDRESS
        MOV      (R1),TMOUT      ;GET TIME-OUT LENGTH
        MOV      (R2)+,REQCNT    ;GET IN LIST LENGTH
        MOV      R2,INLST       ;POINT TO IN LIST

        MOV      TMOUT,R4        ;SET TIME OUT
        BIS      #RQI!IEI!IEO,SEL0(R5) ;SET REQUEST AND ENABLE INT.

1$:    WAIT      10.             ;WAIT FOR 1 MS
        TST      ERRFLG         ;ANY ERROR?
        BNE      10$            ;YES, REPORT

        SOB      R4,1$          ;NOT, LOOP TILL TIME-OUT

        TST      REQ CNT        ;NO-MORE REQUEST?
        BEQ      30$            ;YES, END OF QIO
        ERRHRD   10007,E10007,PRQION ;REPORT
        BR       20$           ;SET CARRY AND EXIT

10$:   MOV      SEL0(R5),BAD0     ;SET BAD0
        MOV      SEL2(R5),BAD2   ;SET BAD2
        MOV      SEL4(R5),BAD4   ;SET BAD4
        MOV      SEL6(R5),BAD6   ;SET BAD6
    
```

```

013154 012102
013156 011137 002404
013162 012237 002372
013166 010237 002406
013172 013704 002404
013176 052765 000221 000000
013204
013212 005737 002370
013216 001011
013220 077407
013222 005737 002372
013226 001451
013230
013240 000437
013242 016537 000000 002320
013250 016537 000002 002322
013256 016537 000004 002324
013264 016537 000006 002326
    
```

CVKMCAD KMV11-A FCTNL DIAG  
GLOBAL SUBROUTINES

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3479	013272	042765	000221	000000		BIC	#RQI!!IEI!!IEO,SELO(R5)	;CLEAR RQI
3480	013300	032737	000001	002370		BIT	#BIT0,ERRFLG	;OUT IT ERROR?
3481	013306	001404				BEQ	11\$	;NOT
3482	013310					ERRHRD	10006,E10006,PRSTAT	;YES, REPORT
3483								
3484	013320	032737	000004	002370	11\$:	BIT	#BIT2,ERRFLG	;IN IT ERROR?
3485	013326	001404				BEQ	20\$	;NOT, EXIT
3486	013330					ERRHRD	10005,E10005,PRSTAT	;YES, REPORT
3487	013340				20\$:	WAIT	10000.	
3488	013346	000261				SEC		
3489	013350	000207				RETURN		
3490								
3491	013352				30\$:			
3492	013352	000241				CLC		
3493	013354	000207				RETURN		
3494								

CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL SUBROUTINES

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3511 013356
3512 013360
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3514 013362 012700 100000
3515 013366 077001
3516
3517 013370
3518 013372 032700 000040
3519 013376 001026
3520
3521 013400 005237 002264
3522 013404 023737 002262 002264
3523 013412 003020
3524
3525 013414
3526 013444
3527
3528 013452
3529
3530 013454 000207
3531
3532
3533 013456 045 116 045 MERR: .ASCIZ /%N% MORE THAN %D3% ERRORS ON UNIT %D2%/
3534 .EVEN
3535

```

```

:++
: ROUTINE TO DROP UNIT AFTER 5 ERRORS
: BEFORE DROPPING, FLAGS ARE TESTED TO SEE IF 'LOOP ON ERROR' OR
: 'DROPPING INHIBITTED' ARE SET.
: INPUT: ERCNTR = NUMBER OF ERRORS
:         MAXERR = MAXIMUM NUMBER OF ERROR
: OUTPUT: NONE
:--

```

```

CHKMAX: INLOOP
BCOMPLETE 2$ :LOOP ON ERROR?
:IF YES, EXIT
1$: MOV #100000,R0 :TAKE A BREAK
SOB R0,1$
RFLAGS R0 :READ OPERATOR FLAG
BIT #IDU,R0 :DROPPING INHIBITTED?
BNE 2$ :IF YES, EXIT
INC ERCNTR :UPDATE ERROR COUNTER
CMP MAXERR,ERCNTR :TOO MANY ERRORS?
BGT 2$ :IF NOT, EXIT
PRINTF #MERR,MAXERR,LOGDEV :IF YES, REPORT
DODU LOGDEV :THEN DROP UNIT
DOCLN :END THE SUBPASS
2$: RETURN

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```
:**  
: ROUTINE TO PRINT TEST NUMBER  
: DESCRIPTION: NONE  
: CALLING SEQUENCE: BADHEAD  
: INPUTS: L$TEST=TEST NUMBER  
: OUTPUTS: NONE  
: CAUTION: NONE  
:--
```

```
:  
: .MACRO ED$CALL XY  
: .LIST ** TEST'XY' **  
: .NLIST  
: .ENDM
```

```
.MACRO BADHEAD  
.RADIX 10  
ED$CALL \T$TESTNUM+1  
.RADIX 8  
.ENDM
```

```

3572          .SBTTL GLOBAL ERROR REPORT SECTION
3573
3574          :////////////////////////////////////////////////////////////////////
3575          :/      ERROR MESSAGE SECTION
3576          :////////////////////////////////////////////////////////////////////
3577          .NLIST BEX
3578
3579 013532      045      116      045 MRDEXP: .ASCIZ  /%N%A      READ      EXPECTED/
3580 013572      045      116      045 MSEL0: .ASCIZ  /%N%A      SEL0      %06%A    %06%N/
3581 013626      045      116      045 MSEL2: .ASCIZ  /%N%A      SEL2      %06%A    %06/
3582 013660      045      116      045 MSEL4: .ASCIZ  /%N%A      SEL4      %06%A    %06/
3583 013712      045      116      045 MSEL6: .ASCIZ  /%N%A      SEL6      %06%A    %06%N/
3584 013746      045      116      045 MSEL10: .ASCIZ /%N%A      SEL10     %06%A    %06%N/
3585 014002      045      116      045 MSEL12: .ASCIZ /%N%A      SEL12     %06%A    %06%N/
3586 014036      045      116      045 MSEL14: .ASCIZ /%N%A      SEL14     %06%A    %06%N/
3587 014072      045      116      045 MSEL16: .ASCIZ /%N%A      SEL16     %06%A    %06%N/
3588
3589 014126      045      116      045 MECO:  .ASCII  /%N%A      OBTAINED ECO LEVEL = %06/
3590 014165      045      116      045      .ASCIZ  /%N%A      EXPECTED ONE      = %06%N/
3591
3592 014227      045      116      045 MSEL:  .ASCIZ  /%N%A      SEL%02%A = %06%A      EXPECTED VALUE = %06%N/
3593
3594 014315      045      116      045 MQIO:  .ASCII  /%N%A      NUMBER OF PENDING INPUTS = %D2/
3595 014362      045      116      045      .ASCIZ  /%N%A      NUMBER OF RESPONSES = %D2%N/
3596
3597 014425      045      116      045 MBNUM: .ASCII  /%N%A      EXPECTED NUMBER OF RESPONSES = %D2/
3598 014474      045      116      045      .ASCIZ  /%N%A      NUMBER OF RESPONSES RECEIVED = %D2%N/
3599
3600 014546      045      116      045 MCSRO: .ASCII  /%N%A      SEL0 READ = %06/
3601 014575      045      116      045 MCSR2: .ASCIZ  /%N%A      SEL2 READ = %06/
3602 014625      045      116      045 MCSR1: .ASCII  /%N%A      SEL4 READ = %06/
3603 014654      045      116      045      .ASCIZ  /%N%A      SEL6 READ = %06%N/
3604
3605 014706      045      116      045 MQION: .ASCIZ  /%N%A      UNEXPECTED QIO RESPONSE NUMBER = %D2%N/
3606
3607 014764      045      116      045 MDAT0: .ASCIZ  /%N%A      ADDRESS      READ      EXPECTED/
3608 015044      045      116      045 MDAT1: .ASCIZ  /%N%A      %06%A      %06%A      %06%N/
3609
3610 015117      045      116      045 MBBUF0: .ASCII  /%N%A      TRANSMIT BUFFER ADDRESS : %06/
3611 015161      045      116      045      .ASCIZ  /%N%A      RECEIVE BUFFER ADDRESS : %06/
3612 015224      045      116      045 MBBUF1: .ASCII  /%N%A      RECORD SIZE      : %D3/
3613 015266      045      116      045      .ASCIZ  /%N%A      BYTES IN ERROR      : %D3%N/
3614 015333      045      116      045 CDBFER: .ASCIZ  /%N%A      ADDRESS      DATA%N/
3615
3616 015411      045      116      045 MXMTER: .ASCIZ  /%N%A      TRANSMIT BUF:  %06%A      %03/
3617 015463      045      116      045 MRCVER: .ASCIZ  /%N%A      RECEIVE BUF:  %06%A      %03%N/
3618
3619 015537      045      116      045 TFM36: .ASCIZ  /%N%A      ADDRESS = %06%A      UNIT = %02%N/
3620
3621 015610      113      115      126 E10000: .ASCIZ  /KMV11 FAILS TO RESET MASTER CLEAR/
3622 015652      122      125      116 E10001: .ASCIZ  /RUN FUNCTION NOT CORRECTLY PERFORMED IN APPL. MODE/
3623 015735      127      122      111 E10002: .ASCIZ  /WRITE FUNCTION NOT CORRECTLY PERFORMED IN APPL. MODE/
3624 016022      122      105      101 E10003: .ASCIZ  /READ FUNCTION NOT CORRECTLY PERFORMED IN APPIC.MODE/
3625 016106      104      101      124 E10004: .ASCIZ  /DATA COMPARE ERROR DURING APPLICATION CODE LOADING/
3626 016171      125      116      105 E10005: .ASCIZ  /UNEXPECTED INTERRUPT IN/
3627 016221      125      116      105 E10006: .ASCIZ  /UNEXPECTED INTERRUPT OUT/
3628 016252      116      117      040 E10007: .ASCIZ  /NO MORE INPUT INTERRUPTS WHILE INPUTS ARE PENDING/

```

CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL ERROR REPORT SECTION

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3629	016334	125	116	105	E10008: .ASCIZ	/UNEXPECTED EPROM'S ECO LEVEL/
3630	016371	125	116	105	E10009: .ASCIZ	/UNEXPECTED QIO RESPONSE/
3631	016421	125	116	105	E10010: .ASCIZ	/UNEXPECTED NUMBER OF RESPONSES RECEIVED/
3632	016471	125	116	105	E10011: .ASCIZ	/UNEXPECTED DATA RECEIVED/
3633	016522	124	110	111	E10012: .ASCIZ	/THIS TEST IS SKIPPED BECAUSE THERE IS NO EXTERNAL LOOP/
3634						
3635	016611	124	111	115	E00000: .ASCIZ	/TIME-OUT TRAP ON REFERENCING Q-BUS DEVICE REGISTER/
3636	016674	124	110	105	E00001: .ASCIZ	/THE KMV11-A FAILS TO RUN THE SELF TEST/
3637	016743	122	104	131	E00002: .ASCIZ	/RDYI NOT ASSERTED BY THE KMV AFTER AN INPUT REQUEST/
3638	017027	122	104	131	E00003: .ASCIZ	/RDYO NOT ASSERTED BY THE KMV IN RESPONSE TO A VALID COMMAND/
3639	017123	125	116	105	E00004: .ASCIZ	/UNEXPECTED INTERRUPT WHEN IEI AND IEO CLEARED/
3640					.EVEN	



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017260 004737 013356  
017310 017314  
  
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017316 004737 013356  
017346 017352  
  
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017374 004737 013356  
017430 017434  
  
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017516 004737 013356  
017546 017552  
  
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017554 004737 013356  
017610 017614  
  
017616  
017616 004737 013356  
017646 017652  
  
017654  
017654  
017700  
017720  
017750  
020000 004737 013356  
020030 020034

```

:////////////////////
:  ERROR REPORT SECTION
:////////////////////
    
```

```

:++
:  ERROR REPORT FOR KMV11 CSR TEST
:--
    
```

```

BGNMSG  BADAD
PRINTB  #TFM36,BADLOC,UNIT
CALL    CHKMAX
ENDMSG

BGNMSG  PRSELO
PRINTB  #MRDEXP
PRINTB  #MSELO,BADO,GOODO
CALL    CHKMAX
ENDMSG

BGNMSG  PRBECO
PRINTB  #MECO,BAD6,GDREV
CALL    CHKMAX
ENDMSG

BGNMSG  PRDAT
PRINTB  #MDATO
PRINTB  #MDAT1,BADLOC,BAD6,GOOD6
CALL    CHKMAX
ENDMSG

BGNMSG  PRSTAT
PRINTB  #MCSRO,BADC,BAD2
PRINTB  #MCSR1,BAD4,BAD6
PRINTB  #MQIO,REQCNT,RSPCNT
CALL    CHKMAX
ENDMSG

BGNMSG  PRSEL
PRINTB  #MSEL,SELNUM,BAD,GOOD
CALL    CHKMAX
ENDMSG

BGNMSG  PRQION
PRINTB  #MQIO,REQCNT,RSPCNT
CALL    CHKMAX
ENDMSG

BGNMSG  PRBQIO
PRINTB  #MQION,OUTNUM
PRINTB  #MRDEXP
PRINTB  #MSEL2,BAD2,GOOD2
PRINTB  #MSEL4,BAD4,GOOD4
PRINTB  #MSEL6,BAD6,GOOD6
CALL    CHKMAX
ENDMSG
    
```

CVKMCAO KMV11-A FCTNL DIAG  
GLOBAL ERROR REPORT SECTION

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3699	020036			BGNMSG	PBRSP	
3700	020036				PRINTB	#MQION,OUTNUM
3701	020062				PRINTB	#MCSR2,BAD2
3702	020106				PRINTB	#MCSR1,BAD4,BAD6
3703	020136	004737	013356		CALL	CHKMAX
3704	020142			ENDMSG		
3705						
3706	020144			BGNMSG	PRBCOM	
3707	020144	005037	002274		CLR	GOOD
3708	020150	005037	002316		CLR	BAD
3709	020154	013704	002430		MOV	ERRCNT,R4
3710	020160	012703	002432		MOV	#BADLOC,R3
3711	020164				PRINTB	#MBBUF0,XMTBUF,RCVBUF
3712	020214				PRINTB	#MBBUF1,LENGTH,ERRCNT
3713	020244				PRINTB	#CDBFER
3714						
3715	020264	012702	000010		MOV	#8.,R2
3716	020270			1\$:		
3717	020270	012337	002420		MOV	(R3)+,XMTADD
3718	020274	012337	002422		MOV	(R3)+,RCVADD
3719	020300	117737	162114	002274	MOVB	@XMTADD,GOOD
3720	020306	117737	162110	002316	MOVB	@RCVADD,BAD
3721	020314				PRINTB	#MXMTER,XMTADD,GOOD
3722	020344				PRINTB	#MRCVER,RCVADD,BAD
3723	020374	005304			DEC	R4
3724	020376	001401			BEQ	2\$
3725	020400	077245			SOB	R2,1\$
3726	020402	004737	013356	2\$:	CALL	CHKMAX
3727	020406			ENDMSG		
3728						
3729	020410			BGNMSG	PRBNUM	
3730	020410				PRINTB	#MBNUM,OUTNUM,RSPCNT
3731	020440	004737	013356		CALL	CHKMAX
3732	020444			ENDMSG		

CVKMCAO KMV11-A FCTNL DIAG  
REPORT CODING SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 52

3734  
3735  
3736  
3737  
3738  
3739  
3740  
3741 020446  
3742  
3743 020446  
3744  
3745 020452  
3746

.SBTTL REPORT CODING SECTION

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

BGNRPT  
EXIT RPT  
ENDRPT



CVKMCA0 KMV11-A FCTNL DIAG  
INITIALIZE SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 53

```

3748          .SBTTL  INITIALIZE SECTION
3749
3750          :++
3751          : THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
3752          : AT THE BEGINNING OF EACH PASS.
3753          :--
3754
3755 020454          BGNINIT
3756
3757
3792          .EVEN
3793
3794
3795
3796
3797 020454 012705 007330          MOV    #SSTACK,R5          ;INITIALIZE STACK
3798 020460 010637 002250          MOV    SP,PSTACK          ;STORE STACK POINTER
3799
3800 020464 005037 002414          CLR    APPFLG          ;CLEAR FLAG TO REQUEST LOAD OF THE
3801                                     ;APPLICATION FIRMWARE
3802
3803 020470 005737 002256          TST    FTIME          ;IS THE FIRST PASS?
3804 020474 001011                                     BNE    1$          ;IF NOT
3805 020476 013737 000004 002252          MOV    @#4,SAVE4          ;SAVE TIME-OUT TRAP VECTOR IF YES
3806 020504 013737 000006 002254          MOV    @#6,SAVE6
3807 020512 012737 000001 002256          MOV    #1,FTIME          ;THEN SET FIRST PASS FLAG
3808
3809 020520 013737 002252 000004 1$: MOV    SAVE4,@#4          ;RESTORE TRAP VECTOR
3810 020526 013737 002254 000006          MOV    SAVE6,@#6
3811
3812          ;SEE IF PROGRAM JUST STARTED, BR IF YES
3813 020534          READEF #EF.START
3814 020542          BCOMPLETE      SETUP
3815
3816          ;SEE IF PROGRAM WAS JUST CONTINUED
3817 020544          READEF #EF.CONTINUE
3818 020552          BCOMPLETE      END
3819
3820          ;SEE IF THIS IS A NEW PASS, BR IF NOT
3821 020554          READEF #EF.NEW
3822 020562          BNCOMPLETE     NEXT
3823
3824 020564          SETUP:
3825 020564 012737 177777 002522          MOV    #-1,UUT          ;SET LOGICAL DEVICE TO -1

```

CVKMAO KMV11-A FCTNL DIAG  
INITIALIZE SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 54

```

3827
3828
3829 020572          NEXT:
3830
3831          ;TEST IF ALL UNITS TESTED
3832
3833 020572 005237 002522          INC      UUT
3834 020576 023737 002522 002270  CMP      UUT,LSUIT
3835 020604 001463          BEQ      ABORT          ;YES ABORT THE PASS
3836
3837 020606 013701 002522          MOV      UUT,R1
3838 020612          PRINTF  #RUNNING,R1
3839          .EVEN
3840 020634          PRINTF  #RMARK0
3841          .EVEN
3842 020654          PRINTF  #RMARK1
3843          .EVEN
3844
3845          ;GET P-TABLE IF AVAILABLE FOR THIS UNIT
3846 020674          GPHARD  UUT,R1
3847 020704          BNCOMPLETE NEXT          ;IF NOT, TRY THE NEXT ONE
3848
3849          ;GET KMV11-C CSR ADDRESS
3850 020706 012137 002504          MOV      (R1)+,KMVCSR          ;LOAD CSR ADDRESS
3851
3852          ;GET KMV11 INTERRUPT VECTORS
3853 020712 011137 002506          MOV      (R1),INTIN
3854 020716 012137 002510          MOV      (R1)+,INTOUT
3855 020722 062737 000004 002510  ADD      #4,INTOUT
3856
3857          ;GET KMV11 PRIORITY
3858 020730 012137 002512          MOV      (R1)+,PRILEV
3859
3860          ;GET LOOP INDICATOR
3861 020734 012137 002344          MOV      (R1)+,LCLOOP
3862
3863          ;GET PDP11/23 TYPE
3864 020740 012137 002514          MOV      (R1)+,PDPTYP
3865
3866          ;RESET ERROR COUNTER
3867 020744 005037 002264          CLR      ERCNTR
3868
3869 020750          EXIT      INIT
3870
3871 020754          ABORT:   DOCLN          ;CLEAN UP THEN ABORT PASS
3872 020756          EXIT      INIT
3873
3874 020762 000503          END:    BR      END1
3875 020764          045      116      045  RUNNING:  .ASCIZ  /%N% RUNNING ON UNIT %D2% (FOR < 3 MINUTES)/
3876 021042          045      116      045  RMARK0:   .ASCIZ  /%N% SUBTEST 3 OF TEST 8 AND 9 ARE SKIPPED IF/
3877 021120          045      116      045  RMARK1:   .ASCIZ  /%N% THE SYSTEM IS A PDP11-23 WITH 128K%N/
3878          .EVEN
3879
3880
3881 021172          END1:   ENDINIT
3882
3883

```

CVKMCAO KMV11-A FCTNL DIAG  
INITIALIZE SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 54-1

3884  
3885  
3886



CVKMAO KMV11-A FCTNL DIAG  
AUTODROP SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 55

3888  
3889  
3890  
3891  
3892  
3893  
3894  
3895  
3896  
3897 021174  
3898  
3905  
3906  
3907  
3908  
3909  
3910 021174 013701 002504  
3911 021200 012705 000010  
3912 021204 012737 021234 000004  
3913 021212 012737 000340 000006  
3914 021220 005711  
3915 021222 000240  
3916 021224 062701 000002  
3917 021230 077505  
3918 021232 000405  
3919  
3920 021234 062706 000004  
3921 021240  
3922  
3923 021246 013737 002252 000004  
3924 021254 013737 002254 000006  
3925 021262  
3926  
3927  
3928  
3929

.SBTTL AUTODROP SECTION

```

:++
: THIS CODE IS EXECUTED IMMEDIATELY AFTER THE INITIALIZE CODE IF
: THE "ADR" FLAG WAS SET. THE UNIT(S) UNDER TEST ARE CHECKED TO
: SEE IF THEY WILL RESPOND. THOSE THAT DON'T ARE IMMEDIATELY
: DROPPED FROM TESTING.
:--

```

```

.EVEN
      BGNAUTO

```

:DEVICE DOES NOT HAVE A "READY"

```

      MOV      KMVCSR,R1      ;R1 CONTAINS BASE KMV11 ADDRESS
      MOV      #CSRLN,R5     ;NUMBER OF REGISTERS TO BE TESTED
      MOV      #2$,4         ;SET OUT TIMEOUT TRAP
      MOV      #340,6        ;LEVEL 7
1$:   TST      (R1)          ;REFERENCE DEVICE REGISTERS
      NOP
      ADD      #2,R1         ;NEXT REGISTER
      SOB     R5,1$         ;LOOP TILL ALL ADDRESSED
      BR      3$
2$:   ADD      #4,SP
      DODU    LOGDEV
3$:   MOV      SAVE4,4
      MOV      SAVE6,6
      ENDAUTO

```

CVKMCAD KVV11-A FCTNL DIAG  
CLEANUP CODING SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 56

3931  
3932  
3933  
3934  
3935  
3936  
3937  
3938  
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3960  
3961  
3962  
3963  
3964  
3965  
3966  
3967  
3968  
3969  
3970

.SBTTL CLEANUP CODING SECTION

:/ THE CLEANUP CODING SECTION CONTAINS THE CODING THAT IS PERFORMED  
:/ AT THE END OF EACH PASS.

021264

BGNCLN

021264

BRESET

021266

ENDCLN

CVKMAO KMV11-A FCTNL DIAG  
DROP UNIT SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 57

3972  
3973  
3974  
3975  
3976  
3977  
3978  
3979  
3980  
3981  
3982  
3991  
3992  
3993  
4005  
4006  
4007  
4008  
4009  
4010  
4011  
4012  
4013  
4014

.SBTTL DROP UNIT SECTION

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

BGNDU

PRINTF #MDROP,RO ;UNIT DROPPED  
EXIT DU

045 116 045 MDROP: .ASCIZ /%N% UNIT %D2% DROPPED%N/  
.EVEN

ENDDU



CVKMCAO KMV11-A FCTNL DIAG  
ADD UNIT SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 58

4016  
4017  
4018  
4019  
4020  
4021  
4022  
4023  
4024  
4025  
4034  
4035 021352  
4036 021352  
4037  
4038

.SBTTL ADD UNIT SECTION

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

BGNAU  
ENDAU

CVKMCA0 KMV11-A FCTNL DIAG  
ADD UNIT SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 59

4040  
4041  
4045  
4054  
4088  
4089  
4090 021354

4091  
4092  
4093  
4094  
4095  
4096  
4097  
4098  
4099  
4100 021354

4101  
4102 021354  
4103 021354  
4104 021360  
4105 021366  
4106 021374  
4107 021376  
4108 021400  
4109  
4110 021402  
4111 021406  
4112 021412  
4113 021420  
4114 021430  
4115 021436  
4116 021444  
4117  
4118 021450  
4119 021456  
4120  
4121  
4122 021464  
4123  
4124  
4125 021470  
4126 021476

BADHEAD

\*\* TEST1 \*\*

VERIFY THAT THE KMV11-A CAN BE RESTARTED

FIRST, VERIFY THAT REFERENCING Q-BUS DEVICE DOESN'T  
CAUSE A TIME OUT TRAP  
THEN, SELO IS LOADED FOR APPLICATION MODE

MODE: APPLICATION MODE

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR

BADHEAD

\*\* TEST1 \*\*

BGNTST

MOV KMVCSR,R1 ;R1 CONTAINS BASE KMV11 ADDRESS  
MOV #2\$,4 ;SET OUT TIMEOUT TRAP  
MOV #340,6 ;LEVEL 7  
1\$: TST (R1) ;REFERENCE DEVICE REGISTERS  
NOP  
BR 3\$ ;IF ADDRESS EXISTS  
2\$: ADD #4,SP ;ELSE, REPORT  
MOV R1,BADLOC ;ADDRESS LOCATION  
MOV UUT,UNIT ;UNIT NUMBER  
ERRHRD 0,E00000,BADAD ;BUS TIMEOUT,ADDRESS PROBLEM  
MOV SAVE4,4 ;THEN RESTORE VECTOR AND EXIT  
MOV SAVE6,6  
EXIT TST

3\$: MOV SAVE4,4  
MOV SAVE6,6

CALL MODE0 ;SET MASTER CLEAR AND APPLICATION MODE  
;AND WAIT FOR SELO CLEARED BY THE KMV

WAIT 10000.

ENDTST

CVKMCAD KMV11-A FCTNL DIAG  
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 60

4128 021500

BADHEAD

\*\* TEST2 \*\*

4129

: SELF-TEST RUNNING TEST

4130

4131

4132

4133

4134

4135

4136

4137

4138

4139

4140

4141

021500

BADHEAD

\*\* TEST2 \*\*

BGNTST

4142

4143

021500

4144

021500

004737

011574

4145

021504

103002

4146

4147

021506

4148

4149

4150

4151

021512

005065

000000

4152

021516

052765

140000

000000

4153

021524

012701

000014

4154

021530

4155

021530

4156

021536

032765

140000

000000

4157

021544

001412

4158

021546

077110

4159

4160

021550

005037

002276

4161

021554

016537

000000

002320

4162

021562

4163

4164

021572

4165

021572

4166

021600

: RUN SELF TEST

1\$:

CLR

SELO(R5)

:RESET SELO

BIS

#MCLR!RUN,SELO(R5)

:RUN IT

MOV

#12.,R1

:INIT TIME OUT(20 S)

2\$:

WAIT

10000.

:WAIT FOR 1S

BIT

#MCLR!RUN,SELO(R5)

:TEST FOR SELO CLEARED?

BEQ

3\$

:IF YES

SOB

R1,2\$

:IF NOT, LOOP TILL TIME-OUT

CLR

GOOD0

MOV

SELO(R5),BADO

ERRHRD

1,E00001,PRSELO

:IF TIME OUT

3\$:

WAIT

10000.

ENDTST



CVKMA0 KMV11-A FCTNL DIAG  
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 61

4168 021602

BADHEAD

\*\* TEST3 \*\*

4169

: TEST IF APPLICATION PROGRAM CAN BE LOADED AND STARTED

4170

4171

: MODE: APPLICATION MODE

4172

4173

: REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR  
ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10004 DATA COMPARE ERROR  
ERROR 10008 UNEXPECTED EPROM'S ON KMV11-A(ECO LEVEL  
OF EPROM'S IS BAD)

4174

4175

4176

4177

4178

4179

4180 021602

BADHEAD

\*\* TEST3 \*\*

4181

4182

4183 021602

BGNTST

4184 021602 004737 011574

CALL MODE0 ;SET APPLICATION MODE  
BCC 1\$ ;IF CORRECTLY DONE

4185 021606 103002

4186

4187 021610

EXIT TST ;IF NOT, REPORT

4188

4189 021614 004737 012554

1\$: CALL RUNAPP ;LOAD AND RUN APPLICATION

4190

4191 021620

ENDTST

CVKMCAD KMV11-A FCTNL DIAG  
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 62

4193 021622

4194  
4195  
4196  
4197  
4198  
4199  
4200  
4201  
4202  
4203  
4204  
4205  
4206  
4207  
4208  
4209  
4210  
4211  
4212  
4213  
4214  
4215

BADHEAD

\*\* TEST4 \*\*

TEST THE CSR HANDSHAKING WITHOUT INTERRUPT

COMMAND LOADED: READ MODEM (F14)

RESPONSE EXPECTED: READ MODEM RESPONSE WITH :  
STATUS = 371  
MODEM = ALL OFF

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR  
ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10004 DATA COMPARE ERROR  
ERROR 10005 UNEXPECTED INTERRUPT IN  
ERROR 10006 UNEXPECTED INTERRUPT OUT  
ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING  
ERROR 10008 UNEXPECTED EPROM'S ECO LEVEL ON KMV11-A  
ERROR 10009 UNEXPECTED QIO RESPONSE  
ERROR 00002 RDYI NOT ASSERTED BY THE KMV AFTER AN INPUT REQ  
ERROR 00003 RDYO NOT ASSERTED BY THE KMV IN RESPONSE  
ERROR 00004 UNEXPECTED INTERRUPT RECEIVED WHEN IEI&IEO  
ARE DISABLED

4216 021622

BADHEAD

\*\* TEST4 \*\*

4217

4218

4219 021622

4220 021622

4221 021626

4222

4223 021630

4224

4225 021634

4226 021640

4227

4228 021642

4229

4230 021646

4231 021652

4232 021656

4233 021664

4234 021664

4235 021672

4236 021700

4237 021702

4238

4239 021704

4240 021712

4241 021720

4242 021726

4243

4244 021736

4245

4246 021742

4247 021746

004737 011574

103002

004737 012554

103002

004737 011776

012704 000005

012765 000200 000000

032765 000020 000002

001020

077410

012737 000002 002416

016537 000002 002316

012737 000020 002274

BGNTST

CALL

MODEO

;SET APPLICATION MODE

BCC

1\$

;IF CORRECTLY DONE

EXIT

TST

1\$:

CALL

RUNAPP

;LOAD AND RUN APPLICATION

BCC

2\$

;IF CORRECTLY DONE

EXIT

TST

2\$:

CALL

INIPIO

;INIT QIO PROCESSING

MOV

#5,R4

;SET WATCH DOG

MOV

#RQI,SELO(R5)

;REQUEST CSR TRANSACTION

3\$:

WAIT

100.

;WAIT FOR 1MS

BIT

#RDYI,SEL2(R5)

;IS RDYI SET BY KMV?

BNE

4\$

;IF YES

SOB

R4,3\$

;NOT, LOOP TILL TIME-OUT

MOV

#2,SELNUM

;RDYI NEVER SET, REPORT

MOV

SEL2(R5),BAD

MOV

#RDYI,GOOD

ERRHRD

2,E00002,PRSEL

EXIT

TST

4\$:

MOV

#7\$+2,R1

;RDYI SET, POINT TO COMMAND

MOV

(R1)+,R2

;SAVE COMMAND NUMBER

CVKMCAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 62-1

```

4248 021750 012165 000004      MOV      (R1)+,SEL4(R5)      ;SET SEL4
4249 021754 012165 000006      MOV      (R1)+,SEL6(R5)      ;SET SEL6
4250 021760 042765 000200 000000  BIC      #RQI,SELO(R5)      ;THEN CLEAR RQI
4251 021766 010265 000002      MOV      R2,SEL2(R5)        ;AND SET SEL2
4252
4253 021772 012704 000005      MOV      #5,R4              ;SET WATCH DOG
4254 021776      5$:
4255 021776      WAIT     100.              ;WAIT 1MS
4256 022004 032765 000200 000002  BIT      #RDYO,SEL2(R5)     ;IS RDYO SET BY KMV?
4257 022012 001020      BNE      6$                ;IF YES
4258 022014 077410      SOB      R4,5$             ;NOT, LOOP TILL TIME-OUT
4259
4260 022016 012737 000002 002416  MOV      #2,SELNUM          ;RDYO NEVER SET, REPORT
4261 022024 016537 000002 002316  MOV      SEL2(R5),BAD
4262 022032 012737 000200 002274  MOV      #RDYO,GOOD
4263 022040      ERRHRD 3,E00003,PRSEL
4264 022050      EXIT     TST
4265
4266 022054 016537 000002 006620 6$:  MOV      SEL2(R5),OUTBUF     ;RDYO SET, SAVE RESPONSE
4267 022062 016537 000004 006622  MOV      SEL4(R5),OUTBUF+2
4268 022070 016537 000006 006624  MOV      SEL6(R5),OUTBUF+4
4269 022076 005237 002402      INC      RSPCNT
4270
4271 022102 012701 022130      MOV      #8$,R1            ;LOAD CORRECT RESPONSE FOR TEST
4272 022106 004737 010134      CALL     CHKRSP           ;THEN CHECK RESPONSE
4273 022112 103012      BCC      9$                ;IF RESPONSE CORRECT
4274
4275 022114      EXIT     TST
4276
4277      ; COMMAND LIST
4278
4279 022120      7$:
4280 022120 000001      1
4281 022122 000014 000000 000000      14,0,0          ;READ MODEM
4282
4283      ; RESPONSE LIST
4284
4285 022130      8$:
4286 022130 000001      1
4287 022132 000214 000000 174400      14+RDYO,0,371+400 ;READ MODEM RESPONSE
4288
4289 022140      9$:
4290 022140      ENDTST

```



4292 022142

4293  
4294  
4295  
4296  
4297  
4298  
4299  
4300  
4301  
4302  
4303  
4304  
4305  
4306  
4307  
4308  
4309  
4310

BADHEAD

\*\* TEST5 \*\*

: TEST THE CSR HANDSHAKING WITH INTERRUPTS

: COMMAND LOADED: READ MODEM (F14)

: RESPONSE EXPECTED: READ MODEM RESPONSE WITH :  
STATUS = 371  
MODEM = ALL OFF

: REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR  
ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10004 DATA COMPARE ERROR  
ERROR 10005 UNEXPECTED INTERRUPT IN  
ERROR 10006 UNEXPECTED INTERRUPT OUT  
ERROR 10007 NO MORE INTERRUPT WHEN QIO IS PENDING  
ERROR 10008 UNEXPECTED EPROM'S ON KMV11-A  
ERROR 10009 UNEXPECTED QIO RESPONSE

4311 022142

BADHEAD

\*\* TEST5 \*\*

4312  
4313

4314 022142  
4315 022142 004737 011574  
4316 022146 103002

BGNTST

CALL MODEO :SET APPLICATION MODE  
BCC 1\$ :IF CORRECTLY DONE

4317  
4318 022150  
4319

EXIT TST

4320 022154 004737 012554  
4321 022160 103002

1\$: CALL RUNAPP :LOAD AND RUN APPLICATION  
BCC 2\$ :IF CORRECTLY DONE

4322  
4323 022162  
4324

EXIT TST

4325 022166 004737 011776  
4326

2\$: CALL INIQIO :INIT QIO PROCESSING

4327 022172 012701 022210  
4328 022176 004737 013154

MOV #60\$,R1 :TABLE ADDRESS IN R1  
CALL QIOP :PROCESS QIO

4329 022202 103014  
4330

BCC 5\$ :IF CORRECTLY DONE

4331 022204  
4332

EXIT TST

4333  
4334

: PARAMETERS FOR QIO PROCESSING

4335 022210 022214  
4336 022212 000062

60\$: 3\$ :IN LIST TABLE BASE ADDRESS  
50. :TIME-OUT LENGTH(N\*10 MS)

4337  
4338

: COMMAND LIST

4339  
4340 022214

3\$:

4341 022214 000001  
4342 022216 000014 000000 000000

1 14,0,0 ;READ MODEM

4343  
4344

: RESPONSE LIST

4345  
4346 022224

4\$:



CVKMCAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

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```

4347 022224 000001          1
4348 022226 000214 000000 174400      14+RDY0,0,371+400      ;READ MODEM RESPONSE
4349
4350 022234          5$:
4351 022234 012701 022224      MOV      #4$,R1      ;SAVE RESPONSE LIST ADDRESS
4352 022240 004737 010134      CALL     CHKRSP      ;THEN CHECK RESPONSES
4353
4354 022244          6$:
4355 022244      ENDTST

```

CVKMAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

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4357 022246

4358  
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4373  
4374  
4375  
4376  
4377  
4378  
4379

```

BADHEAD
:
:           ** TEST6 **
: TEST OF QIO PROCESSING IN CASE OF KMV RESOURCE ERROR
:
: TO DO THIS TEST, THE KMV POOL IS EMPTIED BY MAKING ITS LENGTH=0
: THEN THE APPLICATION CODE IS LOADED IN THE KMV11-A
:
: COMMAND LOADED:      ALL COMMANDS
:
: RESPONSE EXPECTED:  FOR EACH COMMAND,
:                       STATUS = 357
:                       STATE = S1      (READ COMMAND ONLY)
:                       MODEM = ALL OFF (MODEM SURVEY & READ CMD ONLY)
:
: REPORTS:             ERROR 10000    KMV11 FAILS TO RESET MASTER CLEAR
:                       ERROR 10001    RUN FUNCTION NOT CORRECTLY PERFORMED
:                       ERROR 10002    WRITE FUNCTION NOT CORRECTLY PERFORMED
:                       ERROR 10003    READ FUNCTION NOT CORRECTLY PERFORMED
:                       ERROR 10004    DATA COMPARE ERROR
:                       ERROR 10005    UNEXPECTED INTERRUPT IN
:                       ERROR 10006    UNEXPECTED INTERRUPT OUT
:                       ERROR 10007    NO MORE INTERRUPT WHILE QIO PENDING
:                       ERROR 10008    UNEXPECTED EPROM'S ON KMV11-A
:                       ERROR 10009    UNEXPECTED QIO RESPONSE

```

4380 022246

4381  
4382  
4383 022246  
4384 022246 004737 011574  
4385 022252 103430  
4386  
4387  
4388  
4389 022254 013737 031010 002374  
4390 022262 013737 030752 002376  
4391 022270 012737 000207 031010  
4392 022276 012737 000207 030752  
4393  
4394 022304 005037 002414  
4395 022310 004737 012554  
4396 022314 103407  
4397  
4398 022316 004737 011776  
4399  
4400 022322 012701 022336  
4401 022326 004737 013154  
4402 022332 103153  
4403  
4404 022334 000556  
4405  
4406  
4407  
4408 022336 022342  
4409 022340 001274  
4410  
4411

```

BADHEAD
:
:           ** TEST6 **
:
: BGNTST
:           CALL      MODEO      :SET APPLICATION MODE
:           BCS      4$          :IF NOT CORRECTLY DONE
:
: ; EMPTIED KMV POOL
:
:           MOV      $RDBIN,TEMP  :SAVE THIS LOCATION
:           MOV      $CCBIN,TEMP+2 :SAVE IT TOO
:           MOV      #207,$RDBIN   :SET RETURN INSTEAD OF IT
:           MOV      #207,$CCBIN
:
:           CLR      APPFLG       :CLEAR FLAG
:           CALL     RUNAPP       :LOAD APPLI. CODE
:           BCS      4$          :EXIT IF ANY ERROR
:
: 3$:      CALL     INIQIO        :INIT QIO PROCESSING
:
:           MOV      #60$,R1      :TABLE ADDRESS IN R1
:           CALL     QIOP         :PROCESS QIO
:           BCC      7$          :IF CORRECTLY DONE
:
: 4$:      BR      8$            :EXIT
:
: ; PARAMETERS FOR QIO PROCESSING
:
: 60$:     5$
:           700.
:
: ; COMMAND LIST

```

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```

4412
4413 022342
4414 022342 000020
4415 022344 000000 000000 000000
4416 022352 000001 000000 000000
4417 022360 000002 000000 000000
4418 022366 000003 000000 000000
4419 022374 000004 000000 000000
4420 022402 000005 000000 000000
4421 022410 000006 000000 000000
4422 022416 000007 000000 000000
4423 022424 000010 000000 000000
4424 022432 000011 000000 000000
4425 022440 000012 000000 000000
4426 022446 000013 000000 000000
4427 022454 000014 000000 000000
4428 022462 000015 000000 000000
4429 022470 000016 000000 000000
4430 022476 000017 000000 000000

```

5\$:

```

16.
0,0,0
1,0,0
2,0,0
3,0,0
4,0,0
5,0,0
6,0,0
7,0,0
10,0,0
11,0,0
12,0,0
13,0,0
14,0,0
15,0,0
16,0,0
17,0,0

```

```

:DUMMY
:CONFIGURATE
:DECONFIGURATE
:DUMMY
:DUMMY
:XMIT BUFFER
:RECEIVE BUFFER
:XMIT KILL
:RECEIVE KILL
:DUMMY
:DUMMY
:DUMMY
:READ MODEM
:DUMMY
:ENABLE MODEM SURVEY
:DISABLE MODEM SURVEY

```

; RESPONSE LIST

```

4431
4432
4433
4434 022504
4435 022504 000020
4436 022506 000200 000000 167400
4437 022514 000201 000000 167400
4438 022522 000202 000000 167400
4439 022530 000203 000000 167400
4440 022536 000204 000000 167400
4441 022544 000205 000000 167400
4442 022552 000206 000000 167400
4443 022560 000207 000000 167400
4444 022566 000210 000000 167400
4445 022574 000211 000000 167400
4446 022602 000212 000000 167400
4447 022610 000213 000000 167400
4448 022616 000214 000000 167400
4449 022624 000215 000000 167400
4450 022632 000216 000000 167400
4451 022640 000217 000000 167400
4452 022646 000000 000000 000000

```

6\$:

```

16.
0+RDY0,0,357*400
1+RDY0,0,357*400
2+RDY0,0,357*400
3+RDY0,0,357*400
4+RDY0,0,357*400
5+RDY0,0,357*400
6+RDY0,0,357*400
7+RDY0,0,357*400
10+RDY0,0,357*400
11+RDY0,0,357*400
12+RDY0,0,357*400
13+RDY0,0,357*400
14+RDY0,0,357*400
15+RDY0,0,357*400
16+RDY0,0,357*400
17+RDY0,0,357*400
.WORD 0,0,0,0,0,0

```

```

:DUMMY
:KMV RESOURCE ERROR FOR F1
:KMV RESOURCE ERROR FOR F2
:DUMMY
:DUMMY
:KMV RESOURCE ERROR FOR F5
:KMV RESOURCE ERROR FOR F6
:KMV RESOURCE ERROR FOR F7
:KMV RESOURCE ERROR FOR F10
:DUMMY
:DUMMY
:DUMMY
:KMV RESOURCE ERROR FOR F14
:DUMMY
:KMV RESOURCE ERROR FOR F16
:KMV RESOURCE ERROR FOR F17

```

```

4453
4454 022662
4455 022662 012701 022504
4456 022666 004737 010134
4457
4458
4459 022672 005037 002414
4460 022676 013737 002374 031010
4461 022704 013737 002376 030752
4462
4463 022712

```

7\$:

```

MOV #6$,R1
CALL CHKRSP

```

```

:SAVE RESPONSE LIST ADDRESS
:THEN CHECK RESPONSES

```

8\$:

```

CLR APPFLG
MOV TEMP,$RDBIN
MOV TEMP+2,$CCBIN

```

```

:TO LOAD AGAIN CODE
:RESTORE INITIAL CONTENTS

```

ENDTST



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HARDWARE TESTS

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4465 022714

BADHEAD

\*\* TEST7 \*\*

: TEST OF QIO PROCESSING AS BELOW:

SUBTEST1 - STATE = S1

ALL THE COMMANDS EXCEPT F1 ARE PASSED  
WHILE THE LINE IS NOT CONFIGURED.

EXPECTED STATUS ARE:

STATUS = 371 FOR F2,F5,F6,F7,F10,F14

= 1 FOR F16,F17

= NONE FOR DUMMY COMMANDS

SUBTEST2 - ENTER COMMAND F16 TWICE  
ENTER COMMAND F1 TWICE FOR:  
SDLC PROTOCOL  
FULL MODEM CONTROL  
CLOCK SOURCE INTERNAL  
RATE = 2.4K

EXPECTED RESPONSES ARE:

STATUS = 363 FOR SECOND F16

= 363 FOR SECOND F1

= 1 FOR F16 WITH MODEM OFF

= 1 FOR F4 WITH S109 CHANGE

= 1 FOR F4 WITH S106 CHANGE

= 1 FOR F4 WITH S107 CHANGE

= 1 FOR F1

CURRENT STATE = S6

MODEM = ALL ON (EXCEPT S125 WHICH IS LOOPED ON  
THE TERMINAL IN SERVICE SIGNAL =OFF)

SUBTEST3 - DECONFIGURATE THE LINE  
ENTER COMMAND F17 TWICE  
ENTER COMMAND F14 TWICE  
ENTER COMMAND F16 TWICE  
ENTER COMMAND F1  
.. .. F2 TWICE  
.. .. F1

EXPECTED RESPONSES ARE:

STATUS = 363 FOR F17

= 363 FOR F16

= 371 FOR F1

= 1 FOR F17

= 363 FOR F2

= 356 FOR F1

= 1 FOR F14 WITH STATE=S6 AND S142+S112+S109+S106  
+S107 ON

= 1 FOR F16 WITH THE SAME PARAMETERS

= 1 FOR F4 WITH S106 & S109 CHANGE

= 1 FOR F4 WITH S107 CHANGE

= 1 FOR F2 COMPLETED

THEN CURRENT STATE = S1

MODEM = ALL OFF

: SUBTEST4 - TEST THAT WE ARE OFF LINE AGAIN

4466  
4467  
4468  
4469  
4470  
4471  
4472  
4473  
4474  
4475  
4476  
4477  
4478  
4479  
4480  
4481  
4482  
4483  
4484  
4485  
4486  
4487  
4488  
4489  
4490  
4491  
4492  
4493  
4494  
4495  
4496  
4497  
4498  
4499  
4500  
4501  
4502  
4503  
4504  
4505  
4506  
4507  
4508  
4509  
4510  
4511  
4512  
4513  
4514  
4515  
4516  
4517  
4518  
4519  
4520

4521  
4522  
4523  
4524  
4525  
4526  
4527  
4528  
4529  
4530  
4531  
4532  
4533  
4534  
4535 022714

ENTER COMMAND F17 FOR STATUS = 1  
F14 FOR STATUS = 371

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR  
ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10004 DATA COMPARE ERROR  
ERROR 10005 UNEXPECTED INTERRUPT IN  
ERROR 10006 UNEXPECTED INTERRUPT OUT  
ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING  
ERROR 10008 UNEXPECTED EPROM'S ON KMV11-A  
ERROR 10009 UNEXPECTED QIO RESPONSE  
ERROR 10010 UNEXPECTED NUMBER OF RESPONSES

BADHEAD  
: \*\* TEST7 \*\*

4536  
4537  
4538 022714  
4539 022714 004737 011574  
4540 022720 103406  
4541  
4542 022722 004737 011706  
4543 022726 103403  
4544  
4545 022730 004737 012554  
4546 022734 103002  
4547

BGNTST CALL MODEO ;SET APPLICATION MODE  
BCS 1\$ ;IF NOT CORRECTLY DONE  
CALL LPBACK ;CHECK LOOP BACK  
BCS 1\$ ;IF NOT  
CALL RUNAPP ;LOAD AND RUN APPLICATION  
BCC 2\$ ;IF CORRECTLY DONE

4548 022736  
4549  
4550 022742  
4551 022742  
4552 022744 004737 011776  
4553  
4554 022750 012701 022766  
4555 022754 004737 013154  
4556 022760 103116  
4557  
4558 022762  
4559

1\$: EXIT TST  
2\$:  
BGNSUB CALL INIQIO ;INIT QIO PROCESSING  
MOV #60\$,R1 ;TABLE ADDRESS IN R1  
CALL QIOP ;PROCESS QIO  
BCC 5\$ ;IF CORRECTLY DONE  
EXIT SUB

4560  
4561  
4562 022766 022772  
4563 022770 000764  
4564  
4565

; PARAMETERS FOR QIO PROCESSING  
60\$: 3\$ ;IN LIST TABLE BASE ADDRESS  
500. ;TIME-OUT LENGTH(N\*10 MS)

4566  
4567 022772  
4568 022772 000016  
4569 022774 000014 000000 000000  
4570 023002 000016 000000 000000  
4571 023010 000017 000000 000000  
4572 023016 000002 000000 000000  
4573 023024 000005 004574 000400  
4574 023032 000006 002574 000400  
4575 023040 000007 000000 000000  
4576 023046 000010 000000 000000

; COMMAND LIST  
3\$:  
14.  
14,0,0 ;READ MODEM  
16,0,0 ;ENABLE MODEM SURVEY  
17,0,0 ;DISABLE MODEM SURVEY  
2,0,0 ;DECONFIGURATE  
5,TXBUFO,\$RDBS ;TRANSMIT BUFFER  
6,RXBUFO,\$RDBS ;RECEIVE BUFFER  
7,0,0 ;TRANSMIT ABORT  
10,0,0 ;RECEIVE ABORT

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HARDWARE TESTS

```

4577 023054 000000 000000 000000      0,0,0      ;DUMMY COMMANDS
4578 023062 000003 000000 000000      3,0,0
4579 023070 000004 000000 000000      4,0,0
4580 023076 000011 000000 000000     11,0,0
4581 023104 000012 000000 000000     12,0,0
4582 023112 000015 000000 000000     15,0,0
4583
4584      ; RESPONSE LIST
4585
4586 023120      4$:
4587 023120 000010      8.
4588 023122 000214 000000 174400    14+RDY0,0,371*400      ;F14 OUT OF SEQUENCE
4589 023130 000202 000000 174400    2+RDY0,0,371*400      ;F2 OUT OF SEQUENCE
4590 023136 000205 000000 174400    5+RDY0,0,371*400      ;F5 OUT OF SEQUENCE
4591 023144 000206 000000 174400    6+RDY0,0,371*400      ;F6 OUT OF SEQUENCE
4592 023152 000207 000000 174400    7+RDY0,0,371*400      ;F7 OUT OF SEQUENCE
4593 023160 000210 000000 174400   10+RDY0,0,371*400     ;F10 OUT OF SEQUENCE
4594 023166 000216 000000 000400   16+RDY0,0,1*400      ;CORRECT RESPONSE FOR F16
4595 023174 000217 000000 000400   17+RDY0,0,1*400      ;CORRECT RESPONSE FOR F17
4596 023202 000000 000000 000000    .WORD 0,0,0,0,0,0
4597
4598 023216      5$:
4599 023216 012701 023120      MOV #4$,R1      ;SAVE RESPONSE LIST ADDRESS
4600 023222 004737 010134      CALL CHKRSP     ;THEN CHECK RESPONSES
4601
4602 023226      ENDSUB
4603
4604 023230      BGNSUB
4605 023232 004737 011776      CALL INIQIO     ;INIT QIO PROCESSING
4606
4607 023236 012701 023254      MOV #60$,R1     ;TABLE ADDRESS IN R1
4608 023242 004737 013154      CALL QIOP       ;PROCESS QIO
4609 023246 103055      BCC 5$         ;IF CORRECTLY DONE
4610
4611 023250      EXIT SUB
4612
4613      ; PARAMETERS FOR QIO PROCESSING
4614
4615 023254 023260      60$: 3$      ;IN LIST TABLE BASE ADDRESS
4616 023256 001274      700.        ;TIME-OUT LENGTH(N*10 MS)
4617
4618      ; COMMAND LIST
4619
4620 023260      3$:
4621 023260 000004      4
4622 023262 007416 000000 000000    16+<<S106+S109+S125+S107>*400>,0,0      ;ENABLE MODEM SURVEY
4623 023270 007416 000000 000000    16+<<S106+S109+S125+S107>*400>,0,C     ;ENABLE MODEM SURVEY
4624 023276 000001 100425 000000    1,SDLC+S111+S141+CLKDTE+C2400,0      ;CONFIGURATE
4625 023304 000001 100401 000000    1,SDLC+CLKDTE+C240C 0                 ;CONFIGURATE
4626
4627      ; RESPONSE LIST
4628
4629 023312      4$:
4630 023312 000007      7
4631 023314 000216 000000 171400    16+RDY0,0,363*400     ;DOUBLE COMMAND FOR F16
4632 023322 000201 000000 171400    1+RDY0,0,363*400     ;DOUBLE COMMAND F1
4633 023330 000216 000000 000400    16+RDY0,0,1*400      ;CORRECT RESPONSE FOR F16

```



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HARDWARE TESTS

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```

4634 023336 000204 000401 000400      4+RDYD,S109*400+S109,1*400      ;S109 MODEM CHANGE
4635 023344 000204 004011 000400      4+RDYD,S106*400+S109+S106,1*400  ;S106 MODEM CHANGE
4636 023352 000204 002015 000400      4+RDYD,S107*400+S109+S107+S106,1*400 ;S107 MODEM CHANGE
4637 023360 000201 000000 000400      1+RDYD,0,1*400                  ;CORRECT RESPONSE FOR F1
4638
4639 023366 000000 000000 000000      .WORD 0,0,0,0,0,0
4640
4641 023402 5$:
4642 023402 012701 023312      MOV #4$,R1                       ;SAVE RESPONSE LIST ADDRESS
4643 023406 004737 010134      CALL CHKRSP                       ;THEN CHECK RESPONSES
4644
4645 023412      ENDSUB
4646
4647 023414      BGNSUB
4648 023416 004737 011776      CALL INIQIO                       ;INIT QIO PROCESSING
4649
4650 023422 012701 023440      MOV #60$,R1                      ;TABLE ADDRESS IN R1
4651 023426 004737 013154      CALL QIOP                         ;PROCESS QIO
4652 023432 103110      BCC 5$                            ;IF OKE
4653
4654 023434      EXIT SUB
4655
4656      ; PARAMETERS FOR QIO PROCESSING
4657
4658 023440 023444      60$: 3$                          ;IN LIST TABLE BASE ADDRESS
4659 023442 000764      500.                             ;TIME-OUT LENGTH(N*10 MS)
4660
4661      ; COMMAND LIST
4662
4663 023444      3$:
4664 023444 000011      9.
4665 023446 000017 000000 000000      17,0,0                          ;DISABLE MODEM SURVEY
4666 023454 000017 000000 000000      17,0,0                          ;DISABLE MODEM SURVEY
4667 023462 000014 000000 000000      14,0,0                          ;READ MODEM
4668 023470 006016 000000 000000      16+<<S107+S106>*400>,0,0        ;ENABLE MODEM SURVEY
4669 023476 006016 000000 000000      16+<<S107+S106>*400>,0,0        ;ENABLE MODEM SURVEY
4670 023504 000001 101440 000377      1,CLKDTE+C9600+DLO,377         ;CONFIGURATE
4671 023512 000002 000000 000000      2,0,0                            ;DECONFIGURATE
4672 023520 000002 000000 000000      2,0,0                            ;DECONFIGURATE
4673 023526 000001 101400 000000      1,CLKDTE+C9600,0              ;CONFIGURATE
4674
4675      ; RESPONSE LIST
4676
4677 023534      4$:
4678 023534 000013      11.
4679 023536 000217 000000 171400      17+RDYD,0,363*400             ;DOUBLE COMMAND FOR F17
4680 023544 000216 000000 171400      16+RDYD,0,363*400             ;DOUBLE COMMAND FOR F16
4681 023552 000201 000000 174400      1+RDYD,0,371*400             ;F1 OUT OF SEQ
4682 023560 000217 000000 000400      17+RDYD,0,1*400              ;OKE FOR F17
4683 023566 000202 000000 171400      2+RDYD,0,363*400             ;DOUBLE COMMAND FOR F2
4684 023574 000201 000000 167000      1+RDYD,0,356*400             ;CONFIGURATE PENDING
4685 023602 000214 001475 000400      14+RDYD,S6*400+S142+S112+S106+S107+S109,1*400 ;READ MODEM RESPONSE
4686 023610 000216 001475 000400      16+RDYD,S6*400+S142+S112+S106+S107+S109,1*400 ;F16 CORRECT RESPONSE
4687 023616 000204 004004 000400      4+RDYD,S106*400-S107,1*400    ;S106 MODEM CHANGE
4688 023624 000204 002000 000400      4+RDYD,S107*400,1*400        ;S107
4689 023632 000202 000000 000400      2+RDYD,0,1*400              ;CORRECT RESPONSE FOR F2
4690

```

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 HARDWARE TESTS

```

4691 023640 000000 000000 000000      .WORD  0,0,0,0,0,0
4692
4693 023654      5$:
4694 023654 012701 023534      MOV    #4$,R1      ;SAVE RESPONSE LIST ADDRESS
4695 023660 004737 010134      CALL   CHKRSP      ;CHECK QIO
4696
4697 023664      ENDSUB
4698
4699 023666      BGNSUB
4700 023670 004737 011776      CALL   INIQIO      ;INIT QIO PROCESSING
4701
4702 023674 012701 023712      MOV    #60$,R1     ;TABLE ADDRESS IN R1
4703 023700 004737 013154      CALL   QIOP        ;PROCESS QIO
4704 023704 103030      BCC    5$          ;IF OKE
4705
4706 023706      EXIT   SUB
4707
4708      ; PARAMETERS FOR QIO PROCESSING
4709
4710 023712 023716      60$:  3$          ;IN LIST TABLE BASE ADDRESS
4711 023714 000310      200.      ;TIME-OUT LENGTH(N*10 MS)
4712
4713      ; COMMAND LIST
4714
4715 023716      3$:
4716 023716 000002      2
4717 023720 000014 000000 000000      14,0,0      ;READ MODEM
4718 023726 000017 000000 000000      17,0,0      ;DISABLE MODEM SURVEY
4719
4720      ; RESPONSE LIST
4721
4722 023734      4$:
4723 023734 000002      2
4724 023736 000214 000000 174400      14+RDY0,0,371*400      ;OUT OF SEQ. FOR F14
4725 023744 000217 000000 171400      17+RDY0,0,363*400      ;DOUBLE COMMAND FOR F17
4726
4727 023752 000000 000000 000000      .WORD  0,0,0,0,0,0
4728
4729 023766      5$:
4730 023766 012701 023734      MOV    #4$,R1      ;SAVE RESPONSE LIST ADDRESS
4731 023772 004737 010134      CALL   CHKRSP      ;THEN CHECK RESPONSES
4732
4733 023776      ENDSUB
4734
4735 024000      ENDTST
    
```

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HARDWARE TESTS

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4737 024002

BADHEAD

\*\* TEST8 \*\*

: TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 2.4K  
: WITH FULL MODEM CONTROL

: CONFIGURATE: SDLC PROTOCOL  
: FULL MODEM CONTROL  
: WITHOUT ADDRESS SEARCH  
: CLOCK SOURCE INTERNAL  
: RATE = 2.4K

FOR EACH SUBTEST, A COMMAND F14 IS GIVEN FIRST TO CONTROL  
MODEMS AND THE LINE STATE, SUCH AS:

STATE = S6  
MODEM = S142+S112+S109+S106+S107 ON

SUBTEST1

- TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE  
OF 2 BUFFERS.

THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR  
XMIT BUFFERS ARE GIVEN ONE OF WHICH IS 1 BYTE LONG  
EXPECTED RESPONSES ARE:

STATUS = 360 FOR F6 THIRD BUFFER PASSED  
= 372 FOR F5 1 BYTE LONG BUFFER  
= 360 FOR F5 THIRD BUFFER PASSED  
= 1 FOR F5 FIRST BUFFER XMITTED  
= 1 FOR F6 FIRST BUFFER FELT  
= 1 FOR F5 SECOND BUFFER XMITTED  
= 1 FOR F6 SECOND BUFFER FELT

SUBTEST2

- TEST OF BUFFER OVERFLOW STATUS 373 FOR RECEPTION  
A 32 BYTE LONG BUFFER IS AFFECTED FOR RECEIVE WHILE  
A 100 BYTE LONG BUFFER IS PASSED TO XMIT.

EXPECTED RESPONSES ARE:

STATUS = 1 FOR F5 BUFFER XMITTED  
= 373 FOR F6 BUFFER OVERFLOW

SUBTEST3

- TEST OF NON EXISTENT MEMORY STATUS 374  
TWO RECEIVE BUFFER ARE AFFECTED ONE OF WHICH CONTAINS  
A NON EXISTENT ADDRESS  
TWO XMIT BUFFERS ARE PASSED ONE OF WHICH CONTAINS A NON  
EXISTENT ADDRESS

EXPECTED RESPONSES ARE:

STATUS = 374 FOR F6 NON EXISTENT MEMORY BUFFER  
= 1 FOR F5 COORRECT BUFFER  
= 374 FOR F5 NON EXISTENT MEMORY BUFFER  
= 364 FOR F6 RECEIVE ABORT

SUBTEST4

- TEST OF ABORT RECEIVED STATUS 364 AND ACTION OF XMIT  
ABORT COMMAND.

ONE RECEIVE BUFFER IS USED THEN, TWO XMIT BUFFERS  
ARE PASSED. AFTER A SHORT WAIT, XMIT ABORT IS GIVEN

EXPECTED STATUS ARE:

STATUS = 1 FOR F7 XMIT ABORTED  
= 364 FOR F6 ABORT RECEIVED

SUBTEST5

- TEST THE ACTION OF RECEIVE ABORT COMMAND.  
TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS

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4829  
4830  
4831 024002

ARE USED. AFTER A SHORT WAIT, RECEIVE ABORT IS GIVEN  
EXPECTED STATUS ARE:  
STATUS = 1 FOR F10 RECEIVE ABORTED  
= 1 FOR F5 FIRST BUFFER SENT  
= 1 FOR F5 SECOND BUFFER SENT

SUBTEST6 - TEST OF KMV OVERFLOW DURING XMIT/RECEIVE BUFFER  
ONE RECEIVE BUFFER IS USED,  
THEN TWO XMIT BUFFER ARE SENT, THE FIRST ONE TOO  
LONG.  
EXPECTED STATUS ARE:  
STATUS = 373 FOR FIRST F5  
= 1 FOR SECOND F5  
= 1 FOR F6

SUBTEST7 - TEST OF A DECONFIGURATE DURING XMIT/RECEIVE BUFFER,  
TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS  
ARE PASSED. AFTER A SHORT WAIT, DECONFIGURATE COMMAND  
IS ISSUED. EXPECTED STATUS IS:  
STATUS = 1 FOR F2 DECONFIGURATE DONE  
AND ALL BUFFERS ARE KILLED

PATTERN: INCREMENTAL  
FOR EACH TEST WHERE A CORRECT BUFFER IS OBTAINED, THIS BUFFER  
IS COMPARED TO THE CORRESPONDING XMIT BUFFER

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR  
ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED  
ERROR 10004 DATA COMPARE ERROR  
ERROR 10005 UNEXPECTED INTERRUPT IN  
ERROR 10006 UNEXPECTED INTERRUPT OUT  
ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING  
ERROR 10008 UNEXPECTED EPROM'S ON KMV11-A  
ERROR 10009 UNEXPECTED QIO RESPONSE  
ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED  
ERROR 10011 UNEXPECTED DATA RECEIVED

BADHEAD

\*\* TEST8 \*\*

4832  
4833  
4834 024002  
4835 024002 004737 011574  
4836 024006 103406  
4837  
4838 024010 004737 011706  
4839 024014 103403  
4840  
4841 024016 004737 012554  
4842 024022 103002  
4843  
4844 024024  
4845  
4846 024030 004737 011776  
4847  
4848 024034 012701 024052

BGNTST  
CALL MODEO :SET APPLICATION MODE  
BCS 1\$ :IF NOT CORRECTLY DONE

CALL LPBACK :TEST OF LOOP  
BCS 1\$ :IF NOT

CALL RUNAPP :LOAD AND RUN APPLICATION  
BCC 2\$ :IF CORRECTLY DONE

1\$: EXIT TST

2\$: CALL INIQIO :INIT QIO PROCESSING

MOV #60\$,R1 :TABLE ADDRESS IN R1

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```

4849 024040 004737 013154          CALL   QIOP          ;PROCESS QIO
4850 024044 103022                   BCC    5$           ;IF CORRECTLY DONE
4851                                     EXIT   TST
4852 024046                                     ; PARAMETERS FOR QIO PROCESSING
4853                                     60$:   3$           ;IN LIST TABLE BASE ADDRESS
4854                                     500.     ;TIME-OUT LENGTH(N*10 MS)
4855                                     ; COMMAND LIST
4856 024052 024056                   3$:     1           ;CONFIGURATE
4857 024054 000764                   1,SDLC+C2400+CLKDTE+S141,0
4858                                     ; RESPONSE LIST
4859                                     4$:     1           ;CONFIGURATE DONE
4860                                     1+RDYO,0,1*400
4861 024056 000001                   .WORD  0,0,0,0,0,0
4862 024056 000001 100421 000000
4863 024060 000001 100421 000000
4864                                     5$:     MOV    #4$,R1   ;SAVE RESPONSE LIST ADDRESS
4865                                     CALL   CHKRSP      ;THEN CHECK RESPONSES
4866 024066 000001                   BCC    6$           ;IF TEST IS CORRECT
4867 024066 000201 000000 000400
4868 024070 000000 000000 000000
4869 024076 000000 000000 000000
4870 024076 000000 000000 000000
4871                                     EXIT   TST
4872 024112                                     6$:     CALL   INIQIO ;INIT QIO PROCESSING
4873 024112 012701 024066
4874 024116 004737 010134
4875 024122 103002
4876                                     MOV    #61$,R1    ;TABLE ADDRESS IN R1
4877 024124                                     CALL   QIOP       ;PROCESS QIO
4878                                     BCC    9$         ;IF CORRECTLY DONE
4879 024130 004737 011776
4880                                     EXIT   TST
4881 024134 012701 024152
4882 024140 004737 013154
4883 024144 103022
4884                                     ; PARAMETERS FOR QIO PROCESSING
4885 024146                                     61$:   7$           ;IN LIST TABLE BASE ADDRESS
4886                                     100.     ;TIME-OUT LENGTH(N*10 MS)
4887                                     ; COMMAND LIST
4888                                     7$:     1           ;READ MODEM
4889 024152 024156
4890 024154 000144 000000 000000
4891                                     14,0,0
4892                                     ; RESPONSE LIST
4893                                     8$:     1           ;RESPONSE FOR F14
4894 024156 000001
4895 024156 000014 000000 000000
4896 024160 000014 000000 000000
4897                                     14+RDYO,S6*400+S142+S106+S107+S109,1*400
4898                                     .WORD  0,0,0,0,0,0
4899                                     9$:
4900 024166 000001
4901 024166 000214 001455 000400
4902 024170 000000 000000 000000
4903 024176 000000 000000 000000
4904
4905 024212

```

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4906	024212	012701	024166	MOV	#8\$,R1				
4907	024216	004737	010134	CALL	CHKRSP				:SAVE RESPONSE LIST ADDRESS
4908	024222	103002		BCC	10\$				:THEN CHECK RESPONSES
4909									:IF TEST CORRECTLY DONE
4910	024224			EXIT	TST				
4911									
4912	024230					10\$:			
4913	024230			BGNSUB					
4914	024232	004737	024642	CALL	SUB1				:SUBTEST1
4915	024236			ENDSUB					
4916									
4917	024240			BGNSUB					
4918	024242	004737	025120	CALL	SUB2				:SUBTEST2
4919	024246			ENDSUB					
4920									
4921	024250			BGNSUB					
4922	024252	004737	025254	CALL	SUB3				:SUBTEST3
4923	024256			ENDSUB					
4924									
4925	024260			BGNSUB					
4926	024262	004737	025550	CALL	SUB4				:SUBTEST4
4927	024266			ENDSUB					
4928									
4929	024270			BGNSUB					
4930	024272	004737	025710	CALL	SUB5				:SUBTEST5
4931	024276			ENDSUB					
4932									
4933	024300			BGNSUB					
4934	024302	004737	026064	CALL	SUB6				:SUBTEST6
4935	024306			ENDSUB					
4936									
4937	024310			BGNSUB					
4938	024312	004737	026222	CALL	SUB7				:SUBTEST7
4939	024316			ENDSUB					
4940									
4941	024320			ENDTST					



4943 024322

BADHEAD

\*\* TEST9 \*\*

: TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 2.4K  
: WITH DATA LEADS ONLY: CONFIGURATE: SDLC PROTOCOL  
: DATA LEADS ONLY  
: WITHOUT ADDRESS SEARCH  
: CLOCK SOURCE INTERNAL  
: RATE = 2.4K: FOR EACH SUBTEST A COMMAND F14 IS GIVEN FIRST TO CONTROL  
: THE LINE STATE AND MODEM SUCH AS:: STATE = S6  
: MODEM = S142 ONLY

SUBTEST1

- TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE  
OF 2 BUFFERS.  
THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR  
XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG  
EXPECTED RESPONSES ARE:: STATUS = 360 FOR F6 THIRD BUFFER PASSED  
: = 372 FOR F5 1 BYTE LONG BUFFER  
: = 360 FOR F5 THIRD BUFFER PASSED  
: = 1 FOR F5 FIRST BUFFER XMITTED  
: = 1 FOR F6 FIRST BUFFER RECEIVED  
: = 1 FOR F5 SECOND BUFFER XMITTED  
: = 1 FOR F6 SECOND BUFFER RECEIVED

SUBTEST2

- TEST OF BUFFER OVERFLOW STATUS 373 FOR RECEPTION  
A 32 BYTE LONG BUFFER IS AFFECTED FOR RECEIVE WHILE  
A 100 BYTE LONG BUFFER IS PASSED TO XMIT.  
EXPECTED RESPONSES ARE:: STATUS = 1 FOR F5 BUFFER XMITTED  
: STATUS = 373 FOR F6 BUFFER OVERFLOW

SUBTEST3

- TEST OF NON EXISTENT MEMORY STATUS 374  
TWO RECEIVE BUFFER ARE AFFECTED ONE OF WHICH CONTAINS  
A NON EXISTENT ADDRESS  
TWO XMIT BUFFERS ARE PASSED ONE OF WHICH CONTAINS A NON  
EXISTENT ADDRESS  
EXPECTED RESPONSES ARE:: STATUS = 374 FOR F6 NON EXISTENT MEMORY BUFFER  
: = 1 FOR F5 CORRECT BUFFER  
: = 374 FOR F5 NON EXISTENT MEMORY BUFFER  
: = 364 FOR F6 RECEIVE ABORT.

SUBTEST4

- TEST OF ABORT RECEIVED STATUS 364 AND ACTION OF XMIT  
ABORT COMMAND.  
ONE RECEIVE BUFFER IS USED THEN, TWO XMIT BUFFERS  
ARE PASSED. AFTER A SHORT WAIT, XMIT ABORT IS GIVEN  
TWICE.: EXPECTED STATUS ARE:  
: STATUS = 1 FOR F7 XMIT ABORTED  
: = 364 FOR F6 ABORT RECEIVED

SUBTEST5

- TEST OF ACTION OF RECEIVE ABORT COMMAND.

4944  
4945  
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4951  
4952  
4953  
4954  
4955  
4956  
4957  
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4985  
4986  
4987  
4988  
4989  
4990  
4991  
4992  
4993  
4994  
4995  
4996  
4997  
4998

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4999
5000
5001
5002
5003
5004
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5029
5030
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5032
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5034
5035 024322

```

```

:
:
: TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS
: ARE PASSED. AFTER A SHORT WAIT, RECEIVE ABORT IS GIVEN
: EXPECTED STATUS ARE:

```

```

: STATUS = 1 FOR F10 RECEIVE ABORTED
: = 1 FOR F5 FIRST BUFFER SENT
: = 1 FOR F5 SECOND BUFFER SENT

```

SUBTEST6

```

: - TEST OF KMV RDB OVERFLOW DURING XMIT/RECEIVE BUFFER
: ONE RECEIVE BUFFER IS USED
: THEN TWO XMIT BUFFER ARE PASSED THE FIRST ONE TOO LONG
: EXPECTED STATUS ARE:

```

```

: STATUS = 373 FOR FIRST F5
: = 1 FOR SECOND F5
: = 1 FOR F6

```

SUBTEST7

```

: - TEST OF A DECONFIGURATE DURING XMIT/RECEIVE BUFFER,
: TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS
: ARE PASSED. AFTER A SHORT WAIT, DECONFIGURATE COMMAND
: IS USED. EXPECTED STATUS IS:

```

```

: STATUS = 1 FOR F2 DECONFIGURATE DONE
: AND ALL BUFFERS ARE KILLED

```

PATTERN:

INCREMENTAL

REPORTS:

```

: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
: ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
: ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
: ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
: ERROR 10004 DATA COMPARE ERROR
: ERROR 10005 UNEXPECTED INTERRUPT IN
: ERROR 10006 UNEXPECTED INTERRUPT OUT
: ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING
: ERROR 10008 UNEXPECTED EPROM'S ON KMV11-A
: ERROR 10009 UNEXPECTED QIO RESPONSE
: ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
: ERROR 10011 UNEXPECTED DATA RECEIVED

```

BADHEAD

\*\* TEST9 \*\*

```

5036
5037
5038 024322
5039 024322 004737 011574
5040 024326 103406
5041
5042 024330 004737 011706
5043 024334 103403
5044
5045 024336 004737 012554
5046 024342 103002
5047
5048 024344
5049
5050 024350 004737 011776
5051
5052 024354 012701 024372
5053 024360 004737 013154
5054 024364 103022

```

BGNTST

```

: CALL MODEO ;SET APPLICATION MODE
: BCS 1$ ;IF NOT CORRECTLY DONE
: CALL LPBACK ;TEST OF LOOP
: BCS 1$ ;IF NOT
: CALL RUNAPP ;LOAD AND RUN APPLICATION
: BCC 2$ ;IF CORRECTLY DONE
1$: EXIT TST
2$: CALL INIQIO ;INIT QIO PROCESSING
: MOV #60$,R1 ;TABLE ADDRESS IN R1
: CALL QIOP ;PROCESS QIO
: BCC 5$ ;IF CORRECTLY DONE

```

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```

5055
5056 024366          EXIT   TST
5057
5058                ; PARAMETERS FOR QIO PROCESSING
5059
5060 024372 024376   60$:   3$           ; IN LIST TABLE BASE ADDRESS
5061 024374 000764   500.           ; TIME-OUT LENGTH(N*10 MS)
5062
5063                ; COMMAND LIST
5064
5065 024376   3$:
5066 024376 000001          1
5067 024400 000001 100461 000000      1,DLO+SDLC+C2400+CLKDTE+S141,0      ; CONFIGURATE
5068
5069                ; RESPONSE LIST
5070
5071 024406   4$:
5072 024406 000001          1
5073 024410 000201 000000 000400      1+RDYO,0,1*400           ; CONFIGURATE DONE
5074 024416 000000 000000 000000      .WORD 0,0,0,0,0,0
5075
5076 024432   5$:
5077 024432 012701 024406      MOV    #4$,R1           ; SAVE RESPONSE LIST ADDRESS
5078 024436 004737 010134      CALL   CHKRSP         ; THEN CHECK RESPONSES
5079 024442 103002              BCC    6$            ; IF TEST IS CORRECT
5080
5081 024444          EXIT   TST
5082
5083 024450 004737 011776   6$:   CALL   INIQIO         ; INIT QIO PROCESSING
5084
5085 024454 012701 024472      MOV    #61$,R1        ; TABLE ADDRESS IN R1
5086 024460 004737 013154      CALL   QIOP           ; PROCESS QIO
5087 024464 103022              BCC    9$            ; IF CORRECTLY DONE
5088
5089 024466          EXIT   TST
5090
5091                ; PARAMETERS FOR QIO PROCESSING
5092
5093 024472 024476   61$:   7$           ; IN LIST TABLE BASE ADDRESS
5094 024474 000144   100.           ; TIME-OUT LENGTH(N*10 MS)
5095
5096                ; COMMAND LIST
5097
5098 024476   7$:
5099 024476 000001          1
5100 024500 000014 000000 000000      14,0,0           ; READ MODEM
5101
5102                ; RESPONSE LIST
5103
5104 024506   8$:
5105 024506 000001          1
5106 024510 000214 001440 000400      14+RDYO,S6*400+S142,1*400   ; RESPONSE FOR F14
5107 024516 000000 000000 000000      .WORD 0,C,0,0,0,0
5108
5109 024532   9$:
5110 024532 012701 024506      MOV    #8$,R1           ; SAVE RESPONSE LIST ADDRESS
5111 024536 004737 010134      CALL   CHKRSP         ; THEN CHECK RESPONSES

```



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```

5112 024542 103002          BCC      10$          ;IF TEST IS CORRECT
5113
5114 024544          EXIT      TST
5115
5116 024550          10$:
5117 024550          BGNSUB
5118 024552 004737 024642    CALL      SUB1          ;SUBTEST1
5119 024556          ENDSUB
5120
5121 024560          BGNSUB
5122 024562 004737 025120    CALL      SUB2          ;SUBTEST2
5123 024566          ENDSUB
5124
5125 024570          BGNSUB
5126 024572 004737 025254    CALL      SUB3          ;SUBTEST3
5127 024576          ENDSUB
5128
5129 024600          BGNSUB
5130 024602 004737 025550    CALL      SUB4          ;SUBTEST4
5131 024606          ENDSUB
5132
5133 024610          BGNSUB
5134 024612 004737 025710    CALL      SUB5          ;SUBTEST5
5135 024616          ENDSUB
5136
5137 024620          BGNSUB
5138 024622 004737 026064    CALL      SUB6          ;SUBTEST6
5139 024626          ENDSUB
5140
5141 024630          BGNSUB
5142 024632 004737 026222    CALL      SUB7          ;SUBTEST7
5143 024636          ENDSUB
5144
5145 024640          ENDTST

```

```

5147
5148
5149           ; COMPLETE XMIT/RECEIVE BUFFER TEST COMMON TO TEST08 AND TEST09
5150
5151
5152 024642
5153 024642 004737 011776      SUB1:      CALL      INIQIO           ;INIT QIO PROCESSING
5154
5155 024646 012701 024662      MOV        #60$,R1       ;TABLE ADDRESS IN R1
5156 024652 004737 013154      CALL      QIOP           ;PROCESS QIO
5157 024656 103065      BCC       5$            ;IF OKE
5158
5159 024660 000207      RETURN
5160
5161           ; PARAMETERS FOR QIO PROCESSING
5162
5163 024662 024666      60$:      3$            ;IN LIST TABLE BASE ADDRESS
5164 024664 007640      4000.     ;TIME-OUT LENGTH(N*10 MS)
5165
5166           ; COMMAND LIST
5167
5168 024666      3$:
5169 024666 000007      7.
5170 024670 000006 002574 000376      6,RXBUF0,$RDBS-2      ;FIRST RECEIVE BUFFER
5171 024676 000006 003174 000367      6,RXBUF1,$RDBS-9.    ;SECOND
5172 024704 000006 003574 000066      6,RXBUF2,54.         ;THIRD
5173 024712 000005 004574 000001      5,TXBUF0,1           ;FIRST XMIT BUFFER
5174 024720 000005 004574 000366      5,TXBUF0,$RDBS-10.  ;SECOND
5175 024726 000005 005174 000367      5,TXBUF1,$RDBS-9.   ;THIRD
5176 024734 000005 005574 000400      5,TXBUF2,$RDBS      ;FORTH
5177
5178           ; RESPONSE LIST
5179
5180 024742      4$:
5181 024742 000007      7.
5182 024744 000206 000000 170000      6+RDY0,0,360+400    ;TOO MANY BUFFERS FOR F6
5183 024752 000205 000000 175000      5+RDY0,0,372+400    ;BUFFER TOO SHORT FOR F5
5184 024760 000205 000000 170000      5+RDY0,0,360+400    ;TOO MANY BUFFERS FOR F5
5185 024766 000205 000000 000400      5+RDY0,0,1+400      ;FIRST BUFFER SENT
5186 024774 000206 000366 000400      6+RDY0,$RDBS-10.,1+400 ;FIRST RECEIVE BUFFER
5187 025002 000205 000000 000400      5+RDY0,0,1+400      ;SECOND BUFFER SENT
5188 025010 000206 000367 000400      6+RDY0,$RDBS-9.,1+400 ;SECOND BUFFER RECEIVED
5189 025016 000000 000000 000000      .WORD 0,0,0,0,0,0
5190
5191 025032      5$:
5192 025032 012701 024742      MOV        #4$,R1       ;SAVE RESPONSE LIST ADDRESS
5193 025036 004737 010134      CALL      CHKRSP        ;THEN CHECK RESPONSES
5194 025042 103001      BCC       6$            ;IF TEST IS CORRECT
5195
5196 025044 000207      RETURN
5197
5198 025046 012701 004574      6$:      MOV        #TXBUF0,R1    ;CHECK FIRST RECEIVE BUFFER
5199 025052 012702 002574      MOV        #RXBUF0,R2
5200 025056 012737 000366 002346      MOV        #RDBS-10.,LENGTH
5201 025064 004737 011374      CALL      COMPAR
5202 025070 103001      BCC       7$            ;IF CORRECT
5203

```

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```

5204 025072 000207          RETURN
5205
5206 025074 012701 005174      7$:  MOV    #TXBUF1,R1          ;CHECK SECOND RECEIVE BUFFER
5207 025100 012702 003174      MOV    #RXBUF1,R2
5208 025104 012737 000367      002346  MOV    #SRDBS-9.,LENGTH
5209 025112 004737 011374      CALL   COMPAR
5210
5211 025116 000207          RETURN
5212
5213 025120          SUB2:
5214 025120 004737 011776      CALL   INIQIO          ;INIT QIO PROCESSING
5215
5216 025124 012701 025140      MOV    #60$,R1        ;TABLE ADDRESS IN R1
5217 025130 004737 013154      CALL   QIOP           ;PROCESS QIO
5218 025134 103027          BCC    5$            ;IF CORRECT
5219
5220 025136 000207          RETURN
5221
5222          ; PARAMETERS FOR QIO PROCESSING
5223
5224 025140 025144      60$:  3$            ;IN LIST TABLE BASE ADDRESS
5225 025142 000620      400.          ;TIME-OUT LENGTH(N*10 MS)
5226
5227          ; COMMAND LIST
5228
5229 025144          3$:
5230 025144 000002          2
5231 025146 000006 002574 000040      6,RXBUF0,32.          ;SET RECEIVE BUFFER
5232 025154 000005 005574 000144      5,TXBUF2,100.        ;SET XMIT BUFFER
5233
5234          ; RESPONSE LIST
5235
5236 025162          4$:
5237 025162 000002          2
5238 025164 000205 000000 000400      5+RDY0,0,1*400        ;BUFFER SENT FOR F5
5239 025172 000206 000144 175400      6+RDY0,100.,373*400  ;OVERFLOW ERROR FOR F6
5240 025200 000000 000000 000000      .WORD 0,0,0,0,0,0
5241
5242 025214          5$:
5243 025214 012701 025162      MOV    #4$,R1        ;SAVE RESPONSE LIST ADDRESS
5244 025220 004737 010134      CALL   CHKRSP       ;THEN CHECK RESPONSES
5245 025224 103001          BCC    6$            ;IF TEST CORRECT
5246
5247 025226 000207          RETURN
5248
5249 025230 012701 005574      6$:  MOV    #TXBUF2,R1          ;CHECK RECEIVE BUFFER
5250 025234 012702 002574      MOV    #RXBUF0,R2
5251 025240 012737 000040      002346  MOV    #32.,LENGTH
5252 025246 004737 011374      CALL   COMPAR
5253
5254 025252 000207          RETURN
5255
5256 025254          SUB3:
5257 025254 004737 011776      CALL   INIQIO          ;INIT QIO PROCESSING
5258
5259 025260 004737 007620      CALL   ..SIZE        ;SIZE MEMORY
5260 025264 005737 002514      TST   PDPTYP         ;CHECK IF A PDP11/23+?

```



CVKMAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

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```

5261 025270 001024          BNE      1$          ;IF YES
5262
5263 025272 022737 157776 002500  CMP      #157776,LSTAD ;NO, CHECK LAST ADDRESS FOR IO PAGE
5264 025300 001020          BNE      1$          ;IF NOT
5265 025302 013701 002502  MOV      LSTBK,R1
5266 025306 042701 177774  BIC      #177774,R1
5267 025312 022701 000003  CMP      #3,R1
5268 025316 001011          BNE      1$          ;IF NOT
5269
5270 025320          PRINTF  #MNONEX      ;IF YES, REPORT THAT SUBTEST IS DROPPED
5271          .EVEN
5272 025340 000207          RETURN          ;THEN EXIT
5273
5274 025342 013701 002500  1$:      MOV      LSTAD,R1          ;GET LAST MEMORY ADDRESS
5275 025346 162701 000012  SUB      #10,,R1          ;POSITION 10 BYTES BEFORE
5276 025352 010137 025422  MOV      R1,3$+4          ;SET BAD ADDRESS IN TABLE FOR F6
5277 025356 010137 025436  MOV      R1,3$+20         ;F5
5278 025362 013701 002502  MOV      LSTBK,R1          ;GET LAST MEMORY ADDRESS(21-16)
5279 025366 110137 025421  MOVB     R1,3$+3          ;SET BAD ADDRESS IN TABLE FOR F6
5280 025372 110137 025435  MOVB     R1,3$+17         ;F5
5281
5282 025376 012701 025412  MOV      #60$,R1          ;TABLE ADDRESS IN R1
5283 025402 004737 013154  CALL     QIOP              ;PROCESS QIO
5284 025406 103035          BCC      5$              ;IF CORRECT
5285
5286 025410 000207          RETURN
5287
5288          ; PARAMETERS FOR QIO PROCESSING
5289
5290 025412 025416  60$:      3$              ;!N LIST TABLE BASE ADDRESS
5291 025414 001750          1000.          ;TIME-OUT LENGTH(N*10 MS)
5292
5293          ; COMMAND LIST
5294
5295 025416  3$:              3
5296 025416 000003          3
5297 025420 000006 000000 000400  6,0,$RDBS          ;FIRST RECEIVE BUFFER WITH BAD ADDRESS
5298 025426 000005 004574 000371  5, TXBUFO,$RDBS-7 ;FIRST XMIT BUFFER
5299 025434 000005 000000 000400  5,0,$RDBS          ;SECOND XMIT BUFFER WITH BAD ADDRESS
5300
5301          ; RESPONSE LIST
5302
5303 025442  4$:              3
5304 025442 000003          3
5305 025444 000205 000000 000400  5+RDY0,0,1*400          ;FIRST BUFFER SENT
5306 025452 000205 000000 176000  5+RDY0,0,374*400      ;NON EXISTENT ADDRESS FOR F5
5307 025460 000206 000000 176000  6+RDY0,0,374*400      ;NON EXISTENT ADDRESS FOR F6
5308 025466 000000 000000 000000  .WORD   0,0,0,0,0,0
5309
5310 025502  5$:              MOV      #4$,R1          ;SAVE RESPONSE LIST ADDRESS
5311 025502 012701 025442  CALL     CHKRSP          ;THEN CHECK RESPONSES
5312 025506 004737 010134
5313
5314 025512 000207          RETURN
5315
5316 025514 045 116 045 MNONEX: .ASCIZ /%N% SUBTEST 3 IS SKIPPED/
5317          .EVEN

```

CVKMAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 68-3

```

5318
5319 025550
5320 025550 004737 011776
5321
5322 025554 012701 025600
5323 025560 004737 013154
5324
5325 025564 012701 025604
5326 025570 004737 013154
5327 025574 103040
5328
5329 025576 000207
5330
5331
5332
5333 025600 025610
5334 025602 000150
5335
5336 025604 025634
5337 025606 000620
5338
5339
5340
5341 025610
5342 025610 000003
5343 025612 000006 003174 000144
5344 025620 000005 005174 000376
5345 025626 000005 005574 000144
5346
5347 025634 000001
5348 025636 000007 000000 000000
5349
5350
5351
5352 025644
5353 025644 000002
5354 025646 000207 000000 000400
5355 025654 000206 000030 172000
5356 025662 000000 000000 000000
5357
5358 025676
5359 025676 012701 025644
5360 025702 004737 010134
5361
5362 025706 000207
5363
5364 025710
5365 025710 004737 011776
5366
5367 025714 012701 025740
5368 025720 004737 013154
5369
5370 025724 012701 025744
5371 025730 004737 013154
5372 025734 103046
5373
5374 025736 000207

```

```

SUB4:
CALL INIQIO ;INIT QIO PROCESSING
MOV #60$,R1 ;TABLE ADDRESS IN R1
CALL QIOP ;PROCESS QIO
MOV #61$,R1 ;TABLE ADDRESS IN R1
CALL QIOP ;PROCESS QIO
BCC 5$ ;IF OKE
RETURN

; PARAMETERS FOR QIO PROCESSING
60$: 3$ ;IN LIST TABLE BASE ADDRESS
104. ;TIME-OUT LENGTH(N*10 MS)
61$: 33$ ;
400. ;
; COMMAND LIST
3$: 3
6,RXBUF1,100. ;SECOND RX BUFFER
5,TXBUF1,$RDBS-2 ;FIRST XMIT BUFFER
5,TXBUF2,100. ;SECOND XMIT BUFFER
33$: 1
7,0,0 ;XMIT ABORT
; RESPONSE LIST
4$: 2
7+RDY0,0,1*400 ;OKE FOR F7
6+RDY0,24.,364*400 ;ABORT RECEIVED FOR F6
.WORD 0,0,0,0,0,0
5$: MOV #4$,R1 ;SAVE RESPONSE LIST ADDRESS
CALL CHKRSP ;THEN CHECK RESPONSES
RETURN

SUB5:
CALL INIQIO ;INIT QIO PROCESSING
MOV #60$,R1 ;TABLE ADDRESS IN R1
CALL QIOP ;PROCESS QIO
MOV #61$,R1
CALL QIOP
BCC 5$ ;IF OKE
RETURN

```

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HARDWARE TESTS

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```

5375
5376 ; PARAMETERS FOR QIO PROCESSING
5377
5378 025740 025750 60$: 3$ ;IN LIST TABLE BASE ADDRESS
5379 025742 000170 120. ;TIME-OUT LENGTH(N*10 MS)
5380
5381 025744 026002 61$: 33$ ;
5382 025746 001130 600. ;
5383
5384 ; COMMAND LIST
5385
5386 025750 3$:
5387 025750 000004 4
5388 025752 000006 002574 000400 6,RXBUF0,$RDBS ;FIRST RX BUFFER
5389 025760 000006 003174 000144 6,RXBUF1,100. ;SECOND RX BUFFER
5390 025766 000005 005174 000400 5,TXBUF1,$RDBS ;FIRST XMIT BUFFER
5391 025774 000005 005574 000144 5,TXBUF2,100. ;SECOND XMIT BUFFER
5392
5393 026002 000001 33$: 1
5394 026004 000010 000000 000000 10,0,0 ;RECEIVE ABORT
5395
5396 ; RESPONSE LIST
5397
5398 026012 4$:
5399 026012 000003 3
5400 026014 000210 000000 000400 10+RDY0,0,1*400 ;OKE FOR F10
5401 026022 000205 000000 000400 5+RDY0,0,1*400 ;OKE FOR F5
5402 026030 000205 000000 000400 5+RDY0,0,1*400 ;OKE FOR F5
5403 026036 000000 000000 000000 .WORD 0,0,0,0,0,0
5404
5405 026052 5$:
5406 026052 012701 026012 MOV #4$,R1 ;SAVE RESPONSE LIST ADDRESS
5407 026056 004737 010134 CALL CHKRSP ;THEN CHECK RESPONSES
5408
5409 026062 000207 RETURN
5410
5411 026064 SUB6:
5412 026064 004737 011776 CALL INIQIO ;INIT QIO PROCESSING
5413
5414 026070 012737 000424 026132 MOV #$RDBS+20.,3$+6 ;OVERFLOW THE RDB BY 20.
5415 026076 012737 000424 026140 MOV #$RDBS+20.,3$+14
5416
5417 026104 012701 026120 MOV #60$,R1 ;TABLE ADDRESS IN R1
5418 026110 004737 013154 CALL QIOP ;PROCESS QIO
5419 026114 103035 BCC 5$ ;IF OKE
5420
5421 026116 000207 RETURN
5422
5423 ; PARAMETERS FOR QIO PROCESSING
5424
5425 026120 026124 60$: 3$ ;IN LIST TABLE BASE ADDRESS
5426 026122 001750 1000. ;TIME-OUT LENGTH(N*10 MS)
5427
5428 ; COMMAND LIST
5429
5430 026124 3$:
5431 026124 000003 3

```



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HARDWARE TESTS

```

5432 026126 000006 003174 000000      6,RXBUF1,0      ;SECOND RX BUFFER
5433 026134 000005 005174 000000      5,TXBUF1,0      ;FIRST XMIT BUFFER
5434 026142 000005 005574 000144      5,TXBUF2,100.   ;SECOND XMIT BUFFER
5435
5436      ; RESPONSE LIST
5437
5438 026150      4$:
5439 026150 000003      3
5440 026152 000205 000000 175400      5+RDY0,0,373*400
5441 026160 000205 000000 000400      5+RDY0,0,1*400
5442 026166 000206 000144 000400      6+RDY0,100.,1*400
5443 026174 000000 000000 000000      .WORD 0,0,0,0,0,0
5444
5445 026210      5$:
5446 026210 012701 026150      MOV #4$,R1      ;SAVE RESPONSE LIST ADDRESS
5447 026214 004737 010134      CALL CHKRSP     ;THEN CHECK RESPONSES
5448
5449 026220 000207      RETURN
5450
5451 026222      SUB7:
5452 026222 004737 011776      CALL INIQIO     ;INIT QIO PROCESSING
5453
5454 026226 012701 026252      MOV #60$,R1    ;TABLE ADDRESS IN R1
5455 026232 004737 013154      CALL QIOP      ;PROCESS QIO
5456
5457 026236 012701 026256      MOV #61$,R1
5458 026242 004737 013154      CALL QIOP
5459 026246 103040      BCC 5$        ;IF OKE
5460
5461 026250 000207      RETURN
5462
5463      ; PARAMETERS FOR QIO PROCESSING
5464
5465 026252 026262      60$: 3$      ;IN LIST TABLE BASE ADDRESS
5466 026254 000310      200.        ;TIME-OUT LENGTH(N*10 MS)
5467
5468 026256 026314      61$: 33$    ;
5469 026260 001274      700.        ;
5470
5471      ; COMMAND LIST
5472
5473 026262      3$:
5474 026262 000004      4
5475 026264 000006 002574 000400      6,RXBUF0,$RDBS ;FIRST RX BUFFER
5476 026272 000006 003174 000144      6,RXBUF1,100.  ;SECOND RX BUFFER
5477 026300 000005 005174 000400      5,TXBUF1,$RDBS ;FIRST XMIT BUFFER
5478 026306 000005 005574 000144      5,TXBUF2,100.  ;SECOND XMIT BUFFER
5479
5480 026314 000001      33$: 1
5481 026316 000002 000000 000000      2,0,0        ;DECONFIGURATE
5482
5483      ; RESPONSE LIST
5484
5485 026324      4$:
5486 026324 000001      1
5487 026326 000202 000000 000400      2+RDY0,0,1*400 ;DECONFIGURATE DONE
5488 026334 000000 000000 000000      .WORD 0,0,0,0,0,0

```

CVKMCAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

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5489  
5490 026350  
5491 026350 012701 026324  
5492 026354 004737 010134  
5493  
5494 026360 000207  
5495

SS:

MOV #4\$,R1  
CALL CHKRSP  
  
RETURN

:SAVE RESPONSE LIST ADDRESS  
:THEN CHECK RESPONSES

5497  
5498 026362

BADHEAD

\*\* TEST10 \*\*

5499  
5500  
5501  
5502  
5503  
5504  
5505  
5506  
5507

: TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 64K  
: WITH FULL MODEM CONTROL

: CONFIGURATE: SDLC PROTOCOL  
: FULL MODEM CONTROL  
: WITHOUT ADDRESS SEARCH  
: CLOCK SOURCE INTERNAL  
: RATE = 64K

5508  
5509  
5510  
5511  
5512  
5513  
5514  
5515  
5516  
5517  
5518  
5519

: TEST - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE  
: OF 2 BUFFERS.  
: THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR  
: XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG  
: EXPECTED RESPONSES ARE:  
: STATUS = 360 FOR F6 THIRD BUFFER PASSED  
: = 372 FOR F5 1 BYTE LONG BUFFER  
: = 360 FOR F5 THIRD BUFFER PASSED  
: = 1 FOR F5 FIRST BUFFER XMITTED  
: = 1 FOR F6 FIRST BUFFER RECEIVED  
: = 1 FOR F5 SECOND BUFFER XMITTED  
: = 1 FOR F6 SECOND BUFFER RECEIVED

5520  
5521  
5522  
5523  
5524  
5525  
5526  
5527  
5528  
5529  
5530  
5531  
5532  
5533  
5534  
5535

: PATTERN: INCREMENTAL

: REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR  
: ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED  
: ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED  
: ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED  
: ERROR 10004 DATA COMPARE ERROR  
: ERROR 10005 UNEXPECTED INTERRUPT IN  
: ERROR 10006 UNEXPECTED INTERRUPT OUT  
: ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING  
: ERROR 10008 UNEXPECTED EPROM'S ON KMV11-A  
: ERROR 10009 UNEXPECTED QIO RESPONSE  
: ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED  
: ERROR 10011 UNEXPECTED DATA RECEIVED  
: ERROR 10012 NO LOOP BACK

5536 026362

BADHEAD

\*\* TEST10 \*\*

5537  
5538  
5539 026362 004737 011574  
5540 026362 103406  
5541 026366 103406  
5542  
5543 026370 004737 011706  
5544 026374 103403  
5545  
5546 026376 004737 012554  
5547 026402 103002  
5548  
5549 026404  
5550  
5551 026410 004737 011776

BGNTST

: CALL MODEO ;SET APPLICATION MODE  
: BCS 1\$ ;IF NOT CORRECT  
: CALL LPBACK ;ANY LOOP?  
: BCS 1\$ ;IF NOT  
: CALL RUNAPP ;LOAD AND RUN APPLICATION  
: BCC 2\$ ;IF CORRECT  
1\$: EXIT TST  
2\$: CALL INIQIO ;INIT QIO PROCESSING



CVKMCAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

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```

5552
5553 026414 012701 026432          MOV    #60$,R1          ;TABLE ADDRESS IN R1
5554 026420 004737 013154          CALL   QIOP            ;PROCESS QIO
5555 026424 103022                   BCC    5$              ;IF CORRECT
5556
5557 026426                   EXIT   TST
5558
5559          ; PARAMETERS FOR QIO PROCESSING
5560
5561 026432 026436          60$:   3$              ;IN LIST TABLE BASE ADDRESS
5562 026434 000764          500.          ;TIME-OUT LENGTH(N*10 MS)
5563
5564          ; COMMAND LIST
5565
5566 026436          3$:
5567 026436 000001          1
5568 026440 000001 103421 000000          1,SDL C+C64K+CLKDTE+S141,0          ;CONFIGURATE
5569
5570          ; RESPONSE LIST
5571
5572 026446          4$:
5573 026446 000001          1
5574 026450 000201 000000 000400          1+RDY0,0,1*400          ;CONFIGURATE DONE
5575 026456 000000 000000 000000          .WORD 0,0,0,0,0,0
5576
5577 026472          5$:
5578 026472 012701 026446          MOV    #4$,R1          ;SAVE RESPONSE LIST ADDRESS
5579 026476 004737 010134          CALL   CHKRSP         ;THEN CHECK RESPONSES
5580 026502 103002                   BCC    6$              ;IF TEST CORRECT
5581
5582 026504                   EXIT   TST
5583
5584
5585 026510 004737 011776          6$:   CALL   INIQIO          ;INIT QIO PROCESSING
5586
5587 026514 012701 026532          MOV    #61$,R1        ;TABLE ADDRESS IN R1
5588 026520 004737 013154          CALL   QIOP            ;PROCESS QIO
5589 026524 103022                   BCC    9$              ;IF CORRECT
5590
5591 026526                   EXIT   TST
5592
5593          ; PARAMETERS FOR QIO PROCESSING
5594
5595 026532 026536          61$:   7$              ;IN LIST TABLE BASE ADDRESS
5596 026534 000144          100.          ;TIME-OUT LENGTH(N*10 MS)
5597
5598          ; COMMAND LIST
5599
5600 026536          7$:
5601 026536 000001          1
5602 026540 000014 000000 000000          14,0,0          ;READ MODEM
5603
5604          ; RESPONSE LIST
5605
5606 026546          8$:
5607 026546 000001          1
5608 026550 000214 001455 000400          14+RDY0,S6*400+S142+S106+S107+S109,1*400          ;RESPONSE FOR F14

```

CVKMCAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

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```
5609 026556 000000 000000 000000      .WORD  0,0,0,0,0,0
5610
5611 026572          9$:
5612 026572 012701 026546      MOV    #8$,R1      ;SAVE RESPONSE LIST ADDRESS
5613 026576 004737 010134      CALL   CHKRSP      ;THEN CHECK RESPONSES
5614 026602 103002          BCC    10$         ;IF TEST CORRECT
5615
5616 026604          EXIT   TST
5617
5618 026610          10$:
5619 026610 004737 027052      CALL   SHORTST     ;FOR SHORT XMIT/RECEIVE BUFFER TEST
5620
5621 026614          ENDTST
```

5623 026616

BADHEAD

\*\* TEST11 \*\*

5624  
5625  
5626  
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5631  
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5659  
5660

: TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 64K  
: WITH DATA LEADS ONLY

: CONFIGURATE: HDLC PROTOCOL  
: DATA LEADS ONLY  
: WITHOUT ADDRESS SEARCH  
: CLOCK SOURCE INTERNAL  
: RATE = 64K

: SUBTEST1 - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE  
: OF 2 BUFFERS.  
: THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR  
: XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG  
: EXPECTED RESPONSES ARE:  
: STATUS = 360 FOR F6 THIRD BUFFER PASSED  
: = 372 FOR F5 1 BYTE LONG BUFFER  
: = 360 FOR F5 THIRD BUFFER PASSED  
: = 1 FOR F5 FIRST BUFFER XMITTED  
: = 1 FOR F6 FIRST BUFFER RECEIVED  
: = 1 FOR F5 SECOND BUFFER XMITTED  
: = 1 FOR F6 SECOND BUFFER RECEIVED

: PATTERN: INCREMENTAL

: REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR  
: ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED  
: ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED  
: ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED  
: ERROR 10004 DATA COMPARE ERROR  
: ERROR 10005 UNEXPECTED INTERRUPT IN  
: ERROR 10006 UNEXPECTED INTERRUPT OUT  
: ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING  
: ERROR 10008 UNEXPECTED EPROM'S ON KMV11-A  
: ERROR 10009 UNEXPECTED QIO RESPONSE  
: ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED  
: ERROR 10011 UNEXPECTED DATA RECEIVED  
: ERROR 10012 NO LOOP BACK

5661 026616

BADHEAD

\*\* TEST11 \*\*

5662  
5663  
5664 026616  
5665 026616  
5666 026622  
5667  
5668 026624  
5669 026630  
5670  
5671 026632  
5672 026636  
5673  
5674 026640  
5675  
5676 026644  
5677

BGNTST

CALL MODE0 ;SET APPLICATION MODE  
BCS 1\$ ;IF NOT CORRECT  
  
CALL LPBACK ;ANY LOOP?  
BCS 1\$ ;IF NOT  
  
CALL RUNAPP ;LOAD AND RUN APPLICATION  
BCC 2\$ ;IF CORRECT  
  
1\$: EXIT TST  
2\$: CALL INIQIO ;INIT QIO PROCESSING



CVKMAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

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```

5678 026650 012701 026666          MOV    #60$,R1          ;TABLE ADDRESS IN R1
5679 026654 004737 013154          CALL   QIOP           ;PROCESS QIO
5680 026660 103022                   BCC    5$            ;IF CORRECT
5681
5682 026662                   EXIT   TST
5683
5684                   ; PARAMETERS FOR QIO PROCESSING
5685
5686 026666 026672          60$:   3$            ;IN LIST TABLE BASE ADDRESS
5687 026670 000764          500.          ;TIME-OUT LENGTH(N*10 MS)
5688
5689                   ; COMMAND LIST
5690
5691 026672          3$:
5692 026672 000001          1
5693 026674 000001 103460 000000          1,DLO+C64K+CLKDTE+S141,0 ;CONFIGURATE
5694
5695                   ; RESPONSE LIST
5696
5697 026702          4$:
5698 026702 000001          1
5699 026704 000201 000000 000400          1+RDY0,0,1*400           ;CONFIGURATE DONE
5700 026712 000000 000000 000000          .WORD 0,0,0,0,0,0
5701
5702 026726          5$:
5703 026726 012701 026702          MOV    #4$,R1          ;SAVE RESPONSE LIST ADDRESS
5704 026732 004737 010134          CALL   CHKRSP         ;THEN CHECK RESPONSES
5705 026736 103002                   BCC    6$            ;IF TEST CORRECT
5706
5707 026740                   EXIT   TST
5708
5709 026744 004737 011776          6$:   CALL   INIQIO        ;INIT QIO PROCESSING
5710
5711 026750 012701 026766          MOV    #61$,R1        ;TABLE ADDRESS IN R1
5712 026754 004737 013154          CALL   QIOP           ;PROCESS QIO
5713 026760 103022                   BCC    9$            ;IF CORRECT
5714
5715 026762                   EXIT   TST
5716
5717                   ; PARAMETERS FOR QIO PROCESSING
5718
5719 026766 026772          61$:   7$            ;IN LIST TABLE BASE ADDRESS
5720 026770 000144          100.          ;TIME-OUT LENGTH(N*10 MS)
5721
5722                   ; COMMAND LIST
5723
5724 026772          7$:
5725 026772 000001          1
5726 026774 000014 000000 000000          14,0,0           ;READ MODEM
5727
5728                   ; RESPONSE LIST
5729
5730 027002          8$:
5731 027002 000001          1
5732 027004 000214 001440 000400          14+RDY0,S6*400+S142,1*400 ;RESPONSE FOR F14
5733 027012 000000 000000 000000          .WORD 0,0,0,0,0,0
5734

```

CVKMAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 70-2

5735	027026		
5736	027026	012701	027002
5737	027032	004737	010134
5738	027036	103002	
5739			
5740	027040		
5741			
5742	027044		
5743	027044	004737	027052
5744			
5745	027050		

9\$:

MOV	#8\$,R1
CALL	CHKRSP
BCC	10\$

;SAVE RESPONSE LIST ADDRESS  
;THEN CHECK RESPONSES  
;IF TEST CORRECT

EXIT	TST
------	-----

10\$:

CALL	SHORTST
------	---------

;FOR SHORT XMIT/RECEIVE BUFFER TEST

ENDTST

CVKMCAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

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```

5747
5748
5749
5750
5751 027052
5752
5753 027052 004737 011776
5754
5755 027056 012701 027072
5756 027062 004737 013154
5757 027066 103065
5758
5759 027070 000207
5760
5761
5762
5763 027072 027076
5764 027074 000620
5765
5766
5767
5768 027076
5769 027076 000007
5770 027100 000006 002574 000376
5771 027106 000006 003174 000367
5772 027114 000006 003574 000066
5773 027122 000005 004574 000001
5774 027130 000005 004574 000366
5775 027136 000005 005174 000367
5776 027144 000005 005574 000400
5777
5778
5779
5780 027152
5781 027152 000007
5782 027154 000206 000000 170000
5783 027162 000205 000000 175000
5784 027170 000205 000000 170000
5785 027176 000206 000366 000400
5786 027204 000205 000000 000400
5787 027212 000206 000367 000400
5788 027220 000205 000000 000400
5789 027226 000000 000000 000000
5790
5791 027242
5792 027242 012701 027152
5793 027246 004737 010134
5794 027252 103001
5795
5796 027254 000207
5797
5798 027256 012701 004574
5799 027262 012702 002574
5800 027266 012737 000366 002346
5801 027274 004737 011374
5802 027300 103001
5803

; SHORT XMIT/RECEIVE BUFFER TEST COMMON TO TEST10 AND TEST11
SHORTST:
CALL INIQIO ;INIT QIO PROCESSING
MOV #60$,R1 ;TABLE ADDRESS IN R1
CALL QIOP ;PROCESS QIO
BCC 5$ ;IF CORRECT

RETURN

; PARAMETERS FOR QIO PROCESSING
60$: 3$ ;IN LIST TABLE BASE ADDRESS
400. ;TIME-OUT LENGTH(N*10 MS)

; COMMAND LIST
3$:
7.
6,RXBUF0,$RDBS-2 ;FIRST RECEIVE BUFFER
6,RXBUF1,$RDBS-9. ;SECOND
6,RXBUF2,54. ;THIRD
5,TXBUF0,1 ;FIRST XMIT BUFFER
5,TXBUF0,$RDBS-10. ;SECOND
5,TXBUF1,$RDBS-9. ;THIRD
5,TXBUF2,$RDBS ;FORTH

; RESPONSE LIST
4$:
7.
6+RDY0,0,360*400 ;TOO MANY BUFFERS FOR F6
5+RDY0,0,372*400 ;TOO SHORT BUFFER FOR F5
5+RDY0,0,360*400 ;TOO MANY BUFFERS FOR F5
6+RDY0,$RDBS-10.,1*400 ;FIRST RECEIVE BUFFER
5+RDY0,0,1*400 ;FIRST BUFFER SENT
6+RDY0,$RDBS-9.,1*400 ;SECOND BUFFER RECEIVED
5+RDY0,0,1*400 ;SECOND BUFFER SENT
.WORD 0,0,0,0,0,0

5$:
MOV #4$,R1 ;SAVE RESPONSE LIST ADDRESS
CALL CHKRSF ;THEN CHECK RESPONSES
BCC 6$ ;IF TEST CORRECT

RETURN

6$:
MOV #TXBUF0,R1 ;CHECK FIRST RECEIVE BUFFER
MOV #RXBUF0,R2
MOV #RDBS-10.,LENGTH
CALL COMPAR
BCC 7$ ;IF CORRECT

```



CVKMCAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 71-1

```
5804 027302 000207          RETURN
5805
5806 027304 012701 005174      7$:  MOV    #TXBUF1,R1          ;CHECK SECOND RECEIVE BUFFER
5807 027310 012702 003174      MOV    #RXBUF1,R2
5808 027314 012737 000367 002346  MOV    #SRDBS-9.,LENGTH
5809 027322 004737 011374      CALL   COMPAR
5810
5811 027326 000207          RETURN
```

5813 027330

BADHEAD

\*\* TEST12 \*\*

5814  
5815  
5816  
5817  
5818  
5819  
5820  
5821  
5822  
5823  
5824  
5825  
5826  
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5849  
5850

: TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 48K  
: WITH FULL MODEM CONTROL AND ADDRESS SEARCH

: CONFIGURATE: SDLC PROTOCOL  
: FULL MODEM CONTROL  
: WITH ADDRESS SEARCH(252)  
: CLOCK SOURCE INTERNAL  
: RATE = 48K

: TEST: - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE  
: OF 1 OF 2 BUFFERS.  
: THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR  
: XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG  
: AND ONE OF WHICH WITH BAD STATION ADDRESS  
: EXPECTED RESPONSES ARE:  
: STATUS = 360 FOR F6 THIRD BUFFER PASSED  
: = 372 FOR F5 1 BYTE LONG BUFFER  
: = 360 FOR F5 THIRD BUFFER PASSED  
: = 1 FOR F5 FIRST BUFFER XMITTED  
: = 1 FOR F5 SECOND BUFFER XMITTED  
: = 1 FOR F6 SECOND BUFFER RECEIVED

: PATTERN: INCREMENTAL

: REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR  
: ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED  
: ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED  
: ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED  
: ERROR 10004 DATA COMPARE ERROR  
: ERROR 10005 UNEXPECTED INTERRUPT IN  
: ERROR 10006 UNEXPECTED INTERRUPT OUT  
: ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING  
: ERROR 10008 UNEXPECTED EPROM'S ON KMV11-A  
: ERROR 10009 UNEXPECTED QIO RESPONSE  
: ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED  
: ERROR 10011 UNEXPECTED DATA RECEIVED  
: ERROR 10012 NO LOOP BACK

5851 027330

BADHEAD

\*\* TEST12 \*\*

5852  
5853  
5854  
5855  
5856  
5857  
5858  
5859  
5860  
5861  
5862  
5863  
5864  
5865  
5866  
5867

BGNTST

: CALL MODE0 :SET APPLICATION MODE  
: BCS 1\$ :IF NOT CORRECT  
: CALL LPBACK :ANY LOOP?  
: BCS 1\$ :IF NOT  
: CALL RUNAPP :LOAD AND RUN APPLICATION  
: BCC 2\$ :IF CORRECT  
1\$: EXIT TST  
2\$: CALL INIQIO :INIT QIO PROCESSING

CVKMAO KMV11-A FCTNL DIAG MACRO M1200 06-JAN-83 10:39 PAGE 72-1  
 HARDWARE TESTS

```

5868 027362 012701 027400          MOV    #60$,R1          ;TABLE ADDRESS IN R1
5869 027366 004737 013154          CALL   QIOP            ;PROCESS QIO
5870 027372 103022                   BCC    5$              ;IF CORRECT
5871
5872 027374                   EXIT   TST
5873
5874                   ; PARAMETERS FOR QIO PROCESSING
5875
5876 027400 027404          60$:   3$              ;IN LIST TABLE BASE ADDRESS
5877 027402 000764          500.           ;TIME-OUT LENGTH(N*10 MS)
5878
5879                   ; COMMAND LIST
5880
5881 027404          3$:
5882 027404 000001          1
5883 027406 000001 102621 000252      1,SDLC+C48K+ADSRCH+CLKDTE+S141,252 ;CONFIGURATE
5884
5885                   ; RESPONSE LIST
5886
5887 027414          4$:
5888 027414 000001          1
5889 027416 000201 000000 000400      1+RDY0,0,1*400           ;CONFIGURATE DONE
5890 027424 000000 000000 000000      .WORD 0,0,0,0,0,0
5891
5892 027440          5$:
5893 027440 012701 027414          MOV    #4$,R1          ;SAVE RESPONSE LIST ADDRESS
5894 027444 004737 010134          CALL   CHKRSP         ;THEN CHECK RESPONSES
5895 027450 103002                   BCC    6$              ;IF TEST CORRECT
5896
5897 027452                   EXIT   TST
5898
5899 027456 004737 011776          6$:   CALL   INIQIO        ;INIT QIO PROCESSING
5900
5901 027462 012701 027500          MOV    #61$,R1        ;TABLE ADDRESS IN R1
5902 027466 004737 013154          CALL   QIOP            ;PROCESS QIO
5903 027472 103022                   BCC    9$              ;IF CORRECT
5904
5905 027474                   EXIT   TST
5906
5907                   ; PARAMETERS FOR QIO PROCESSING
5908
5909 027500 027504          61$:   7$              ;IN LIST TABLE BASE ADDRESS
5910 027502 000144          100.           ;TIME-OUT LENGTH(N*10 MS)
5911
5912                   ; COMMAND LIST
5913
5914 027504          7$:
5915 027504 000001          1
5916 027506 000014 000000 000000      14,0,0           ;READ MODEM
5917
5918                   ; RESPONSE LIST
5919
5920 027514          8$:
5921 027514 000001          1
5922 027516 000214 001455 000400      14+RDY0,S6*400+S142+S106+S107+S109,1*400 ;RESPONSE FOR F14
5923 027524 000000 000000 000000      .WORD 0,0,0,0,0,0
5924

```



CVKMCAO KMV11-A FCTNL DIAG  
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 72-2

```

5925 027540          9$:
5926 027540 012701 027514      MOV    #8$,R1          ;SAVE RESPONSE LIST ADDRESS
5927 027544 004737 010134      CALL   CHKRSP         ;THEN CHECK RESPONSES
5928 027550 103002              BCC    10$           ;IF TEST CORRECT
5929
5930 027552          EXIT   TST
5931 027556          10$:
5932 027556 004737 011776      CALL   INIQIO         ;INIT QIO PROCESSING
5933
5934 027562 112737 000252 005174  MOVB   #252, TXBUF1   ;SET GOOD STATION ADDRESS IN BUFFER 1
5935
5936 027570 012701 027606      MOV    #62$,R1
5937 027574 004737 013154      CALL   QIOP           ;PROCESS QIO
5938 027600 103063              BCC    13$           ;IF CORRECT
5939
5940 027602          EXIT   TST
5941
5942          ; PARAMETERS FOR QIO PROCESSING
5943
5944 027606 027612          62$:  11$          ;IN LIST TABLE BASE ADDRESS
5945 027610 001750          1000.      ;TIME-OUT LENGTH(N*10 MS)
5946
5947          ; COMMAND LIST
5948
5949 027612          11$:
5950 027612 000007              7.
5951 027614 000006 002574 000376      6,RXBUF0,$RDBS-2      ;FIRST RECEIVE BUFFER
5952 027622 000006 003174 000367      6,RXBUF1,$RDBS-9.    ;SECOND  ""
5953 027630 000006 003574 000066      6,RXBUF2,54.         ;THIRD  ""
5954 027636 000005 004574 000001      5, TXBUF0,1          ;FIRST XMIT BUFFER
5955 027644 000005 004574 000366      5, TXBUF0,$RDBS-10. ;SECOND  ""
5956 027652 000005 005174 000367      5, TXBUF1,$RDBS-9.  ;THIRD  ""
5957 027660 000005 005574 000400      5, TXBUF2,$RDBS     ;FORTH  ""
5958
5959          ; RESPONSE LIST
5960
5961 027666          12$:
5962 027666 000006              6
5963 027670 000206 000000 170000      6+RDY0,0,360*400    ;TOO MANY BUFFERS FOR F6
5964 027676 000205 000000 175000      5+RDY0,0,372*400    ;TOO SHORT BUFFER FOR F5
5965 027704 000205 000000 170000      5+RDY0,0,360*400    ;TOO MANY BUFFERS FOR F5
5966 027712 000205 000000 000400      5+RDY0,0,1*400      ;FIRST BUFFER SENT
5967 027720 000206 000367 000400      6+RDY0,$RDBS-9.,1*400 ;SECOND BUFFER RECEIVED
5968 027726 000205 000000 000400      5+RDY0,0,1*400      ;SECOND BUFFER SENT
5969 027734 000000 000000 000000      .WORD 0,0,0,0,0,0
5970
5971 027750          13$:
5972 027750 012701 027666      MOV    #12$,R1        ;SAVE RESPONSE LIST ADDRESS
5973 027754 004737 010134      CALL   CHKRSP         ;THEN CHECK RESPONSES
5974 027760 103002              BCC    14$           ;IF TEST CORRECT
5975
5976 027762          EXIT   TST
5977
5978 027766 012701 005174          14$:  MOV    #TXBUF1,R1      ;CHECK RECEIVE BUFFER
5979 027772 012702 002574      MOV    #RXBUF0,R2
5980 027776 012737 000367 002346      MOV    #SRDBS-9.,LENGTH
5981 030004 004737 011374      CALL   COMPAR

```

CVKMCA0 KMV11-A FCTNL DIAG  
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 72-3

5982  
5983 030010

ENDTST

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5987  
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6010  
6011  
6012  
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6051  
6052  
6053

030012  
030014  
030024  
030034  
030046  
030060  
030072

104  
104  
104  
111  
111

105  
105  
105  
123  
123

126  
126  
126  
040  
040

.SBTTL HARDWARE PARAMETER CODING SECTION

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

BGNHRD

GPRMA ADDRES,0,0,160000,177776,YES  
GPRMA VECTOR,2,0,0,774,YES  
GPRMD PRIRTY,4,0,7000,4,7,YES  
GPRMD LOOPBK,6,0,1,0,1,YES  
GPRMD PDPTST,10,0,1,0,1,YES

ENDHRD  
.EVEN

ADDRESS: .ASCIZ /DEVICE CSR ADDRESS: /  
VECTOR: .ASCIZ /DEVICE FIRST VECTOR ADDRESS: /  
PRIRTY: .ASCIZ /DEVICE PRIORITY LEVEL: /  
LOOPBK: .ASCIZ /IS EXTERNAL LOOP BACK CONNECTOR INSERTED? 0=NO,1=YES: /  
PDPTST: .ASCIZ \IS THE HOST COMPUTER A PDP11/23+? 0=NO,1=YES: \  
.EVEN



CVKMCAO KMV11-A FCTNL DIAG      MACRO M1200 06-JAN-83 10:39 PAGE 74  
HARDWARE PARAMETER CODING SECTION

6055  
6056  
6057  
6058  
6059  
6060  
6061  
6062  
6063 030354  
6064 030354

.SBTTL  
.SBTTL KMV11-A APPLICATION FIRMWARE SOURCE

:///  
:// THIS SECTION CONTAINS THE KMV11-A APPLICATION FIRMWARE  
:///

          CHECK  
\$BUFF::

KIMP MACRO M1200 06-JAN-83 10:39 PAGE 174  
\*\* - IMPURE DATA AREA

2		
3		043726
4	043726	013352
5	043730	000000
6	043732	000000
7	043734	000000
8		
9	043736	
10	043736	
11		
12	044056	
	044062	
13		
14	044062	
15		

```

BUFLGH:  .= $FWEND
          .WORD 0-$BUFF
          .WORD 0
          .WORD 0
          .WORD 0

```

;FIRMWARE CODE LENGTH

```
$PATCH:: .BLKW 50
```

```
LSLAST:: LASTAD
```

```
ENDMOD
```

KIMP MACRO M1200 06-JAN-83 10:39 PAGE 175  
\*\* - IMPURE DATA AREA

17			
18			
19	044062		BGNSETUP 1
20	044062		BGNPTAB
21	044066	177000	.WORD 177000
22	044070	000300	.WORD 300
23	044072	004000	.WORD 4000
24	044074	000000	.WORD 0
25	044076		ENDPTAB
26	044076		ENDSETUP
27			
28		000001	.END



KIMP MACRO M1200 06-JAN-83 10:39 PAGE 175-1  
SYMBOL TABLE

ABORT	020754	BSEL7 =	000007	CG.STR=	000002	CSRPDV	031166	G	C\$GPLO=	000030	
ABOTX =	000010	BUFCLR	011530	CHARES=	000030	CS RTE	032110		C\$GPRI=	000040	
ADDRS	030072	BUFLD	011740	CHG	043222	CSTART	035650		C\$INIT=	000011	
ADR =	000020	BUFLGH	043726	CHGMDM	033614	CSTOP	035720		C\$INLP=	000020	
ADSRCH=	000200	BUFOVF=	000373	CHKCO.=	000020	CS.ABO=	000100		C\$MANI=	000050	
APPFLG	002414	BW105 =	000002	CHKCP.=	000040	CS.BUF=	000200		C\$MEM =	000031	
ASSEMB=	000010	BW108 =	000001	CHKDBL	032366	CS.DCR=	000400		C\$MSG =	000023	
AUXPDV	031136	BW111 =	000040	CHKDCP	032462	CS.DEV=	000002		C\$OPEN=	000034	
BAD	002316	BW140 =	000100	CHKDP.=	000100	CS.DIS=	000040		C\$PNTB=	000014	
BADAD	017202	BW141 =	000200	CHKEM.=	000200	CS.ENB=	000020		C\$PNTF=	000017	
BADLOC	002432	CB.CCB=	000002	CHKINV	032314	CS.EOF=	000001		C\$PNTS=	000016	
BAD0	002320	CB.RDB=	000004	CHKKMV	032400	CS.ERR=	100000		C\$PNTX=	000015	
BAD10	002330	CCONDP	035620	CHKLGT	032436	CS.HFE=	002000		C\$QIO =	000377	
BAD12	002332	CCONF	033502	CHKMAX	013356	CS.LST=	040000		C\$QUE =	000002	G
BAD14	002334	CCON1	033432	CHKNEX	032354	CS.MTL=	004000		C\$RDBU=	000007	
BAD16	002336	CCON2	035574	CHKOVR	032412	CS.RNG=	000010		C\$REFG=	000047	
BAD2	002322	CDBFER	015333	CHKPDV	031150	CS.ROV=	000004		C\$RESE=	000033	
BAD4	002324	CDDO	036320	CHKRET	032322	CS.RSN=	010000		C\$REVI=	000003	
BAD6	002326	CDDS6	036464	CHKRP.=	000004	CS.SUC=	000001		C\$RFLA=	000021	
BIT0 =	000001	CDECON	033550	CHKRSP	010134	CS.TMO=	020000		C\$RPT =	000025	
BIT00 =	000001	CDIMDM	033614	CHKRW.=	000010	CTUP	036372		C\$SEFG=	000046	
BIT01 =	000002	CDISAB	036002	CHKSEQ	032342	CTUS5	036606		C\$SPRI=	000041	
BIT02 =	000004	CDUP	036302	CHKSUC	032424	CTXK11	034030		C\$SVEC=	000037	
BIT03 =	000010	CDUS5	036410	CHKTMB	032450	CTXK12	035534		C\$TIM =	000000	G
BIT04 =	000020	CDUS6A	036450	CHKTP.=	000001	CXMT1	033752		C\$TPRI=	000013	
BIT05 =	000040	CENAB	035746	CHKTW.=	000002	CXMT2	035506		C.BID =	000003	
BIT06 =	000100	CENMDM	033614	CHK.AH=	000014	C\$AU =	000052		C.BL10=	100010	G
BIT07 =	000200	CE.ABO=	100364	CHK.AL=	000012	C\$AUTO=	000061		C.BL11=	100011	G
BIT08 =	000400	CE.DBL=	100363	CHK.FL=	000002	C\$BRK =	000022		C.BL12=	100012	G
BIT09 =	001000	CE.DCP=	100356	CHK.PR=	000010	C\$BSEG=	000004		C.BL13=	100013	G
BIT1 =	000002	CE.DIS=	100366	CHK.SS=	000016	C\$BSUB=	000002		C.BL14=	100014	G
BIT10 =	002000	CE.ERR=	100370	CHK.WR=	000006	C\$CEFG=	000045		C.BL15=	100015	G
BIT11 =	004000	CE.FCS=	100367	CLKDTE=	100000	C\$CLCK=	000062		C.BL16=	100016	G
BIT12 =	010000	CE.INV=	100362	CLKRT	040046	C\$CLEA=	000012		C.BL17=	100017	G
BIT13 =	020000	CE.KMV=	100357	CMODCH	036070	C\$CLOS=	000035		C.BSLO=	100000	G
BIT14 =	040000	CE.LAT=	100370	CMODWR	036646	C\$CLP1=	000006		C.BSL1=	100001	G
BIT15 =	100000	CE.MDM=	100365	COMEXE	030354	C\$CVEC=	000036		C.BSL2=	100002	G
BIT2 =	000004	CE.MLN=	100372	COMPAR	011374	C\$DCLN=	000044		C.BSL3=	100003	G
BIT3 =	000010	CE.MOP=	100372	CONDIS	041314	C\$DODU=	000051		C.BSL4=	100004	G
BIT4 =	000020	CE.NTE=	100361	CONDP2	035240	C\$DRPT=	000024		C.BSL5=	100005	G
BIT5 =	000040	CE.NXM=	100374	CONDP3	040254	C\$DU =	000053		C.BSL6=	100006	G
BIT6 =	000100	CE.ODD=	100361	CONENB	040752	C\$EDIT=	000003		C.BSL7=	100007	G
BIT7 =	000200	CE.OOS=	100371	CONF1	032502	C\$ERDF=	000055		C.BUF =	000014	
BIT8 =	000400	CE.OVF=	100373	CONF2	035300	C\$ERHR=	000056		C.BUF1=	000014	
BIT9 =	001000	CE.RSE=	000357	CONMSN	041342	C\$ERRO=	000060		C.BUF2=	000024	
BI106.=	000010	CE.RTE=	100376	CONSTP	040534	C\$ERSF=	000054		C.CNT =	000020	
BI107.=	000004	CE.SRC=	100364	CONSTR	040266	C\$ERSO=	000057		C.CNT1=	000020	
BI109.=	000001	CE.TMB=	100360	CON2	035230	C\$ESCA=	000010		C.CNT2=	000030	
BI125.=	000002	CE.TMO=	100374	CON3	040244	C\$ESEG=	000005		C.DAI =	100024	G
BOE =	000400	CF.EOM=	000004	COPY	011552	C\$ESUB=	000003		C.DAO =	100026	G
BSEL0 =	000000	CF.HDR=	000020	CRCV1	033620	C\$ETST=	000001		C.DDI =	100020	G
BSEL1 =	000001	CF.LB =	100000	CRCV2	035546	C\$EXIT=	000032		C.DDO =	100022	G
BSEL2 =	000002	CF.SOM=	000010	CRDMDM	033614	C\$FLG =	000001	G	C.DXI =	100034	G
BSEL3 =	000003	CF.SYN=	000040	CSRCSC=	100000	C\$GETB=	000026		C.DXO =	100036	G
BSEL4 =	000004	CF.TRN=	000100	CSRDP	032222	C\$GETW=	000027		C.FLG =	000022	
BSEL5 =	000005	CG.DVM=	000004	CSRLEN=	000010	C\$GMAN=	000043		C.FLG1=	000022	
BSEL6 =	000006	CG.ENB=	000001			C\$GPHR=	000042		C.FLG2=	000032	

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 SYMBOL TABLE

C.FNC = 000010	DFPTBL 002164 G	E00002 016743	FS.TX = 005000	G\$OFFS= 000400
C.LIN = 000006	DIAGMC= 000000	E00003 017027	FS.XKL= 002000	G\$OF SI= 000376
C.LNK = 000000	DIMDM1 033404	E00004 017123	FTIME = 002256	G\$PRMA= 000001
C.MDS = 100030 G	DIMDM2 035474	E10000 015610	F\$AU = 000015	G\$PRMD= 000002
C.MOD = 000011	DISINT= 000050	E10001 015652	F\$AUTO= 000020	G\$PRML= 000000
C.PBIM= 100032 G	DLO = 000040	E10002 015735	F\$BGN = 000040	G\$RADA= 000140
C.PRI = 000200	DMAIN 034236	E10003 016022	F\$CLEA= 000007	G\$RADB= 000000
C.RSV = 000002	DMAOUT 034532	E10004 016106	F\$DU = 000016	G\$RADD= 000040
C.SELO= 100000 G	DMODCH 036274	E10005 016171	F\$END = 000041	G\$RADL= 000120
C.SEL2= 100002 G	DMODWR 036750	E10006 016221	F\$HARD= 000004	G\$RADO= 000020
C.SEL4= 100004 G	DMODWX 036756	E10007 016252	F\$HW = 000013	G\$XFER= 000004
C.SEL6= 100006 G	DSDO 036354	E10008 016334	F\$INIT= 000006	G\$YES = 000010
C.SL10= 100010 G	DSDS6 036550	E10009 016371	F\$JMP = 000050	HDLS DL= 000001
C.SL12= 100012 G	DSTART 035666	E10010 016421	F\$MOD = 000000	HELP = 000000
C.SL14= 100014 G	DSTOP 035740	E10011 016471	F\$MSG = 000011	HOE = 100000 G
C.SL16= 100016 G	DSUP 036336	E10012 016522	F\$PROT= 000021	IBE = 010000 G
C.STA = 000007	DSUS3 036476	FC.SER = 000367	F\$PWR = 000017	IDLE = 030746 G
C.STS = 000012	DUMMY1 032474	FC.CCP= 000020	F\$RPT = 000012	IDU = 000040 G
C.VECO= 000060	DUMMY2 035154	FC.CTL= 000006	F\$SEG = 000003	IEI = 000001
C.VEC2= 000070	DUMMY3 037756	FC.KCP= 000016	F\$SOFT= 000005	IEO = 000020
C.WRK = 000004	ECONB = 160002	FC.KIL= 000004	F\$SRV = 000010	IER = 020000 G
C.XXXX= 100000	EF.CON= 000036 G	FC.MAX= 000020	F\$SUB = 000002	INIFLG 002516
CO.IEI= 000001	EF.NEW= 000035 G	FC.RCE= 000002	F\$SW = 000014	INIPIO 011776
CO.IEO= 000020	EF.PWR= 000034 G	FC.RCP= 000014	F\$TEST= 000001	INLST 002406
CO.RQI= 000200	EF.RES= 000037 G	FC.TIM= 000010	F0 = 000000	INTIN 002506
C1.ERR= 000001	EF.STA= 000040 G	FC.XCP= 000012	F1 = 000001	INTOUT 002510
C1.MCL= 000100	ENATX = 000151	FC.XME= 000000	F10 = 000010	ISR = 000100 G
C1.MDE= 000020	END 020762	FIRST = 000002	F11 = 000011	ITIN 012710
C1.MT1= 000010	ENDINT= 000070	FRMLER= 000372	F12 = 000012	ITOUT 013044
C1.MT2= 000002	ENDMA = 000040 G	FS.AST= 000000	F13 = 000013	IXE = 004000 G
C1.RD = 000004	ENDSEI= 000005	FS.CIB= 002000	F14 = 000014	ISAU = 000041
C1.RUN= 000200	ENDXI1= 000020	FS.CON= 001000	F15 = 000015	ISAUTO= 000041
C1.WRT= 000040	ENDXI2= 000060	FS.CRA= 001000	F16 = 000016	ISCLN = 000041
C111 = 000004	ENDXI3= 000070	FS.DCN= 002000	F17 = 000017	ISDU = 000041
C112 = 000040	END1 021172	FS.DIS= 003000	F2 = 000002	ISHRD = 000041
C1200 = 000000	ENMDM1 033356	FS.DMS= 017000	F3 = 000003	ISINIT= 000041
C140 = 000010	ENMDM2 035454	FS.DVC= 001000	F4 = 000004	ISMOD = 000041
C141 = 000020	ENNIRX= 000040	FS.EMS= 016000	F5 = 000005	ISMSG = 000041
C142 = 000100	ENRX = 000331	FS.ENB= 002000	F6 = 000006	ISPROT= 000040
C19K = 002000	ENRXAD= 000335	FS.KIL= 000000	F7 = 000007	ISPTAB= 000041
C2.RYI= 000020	ENTHUN= 000020	FS.KRX= 010000	GDREV 007126	ISPWR = 000041
C2.RYO= 000200	ERCNTR 002264	FS.KTX= 007000	GOOD 002274	ISRPT = 000041
C2400 = 000400	ERR = 000400	FS.LTM= 001000	GOOD0 002276	ISSEG = 000041
C48K = 002400	ERRBLK 002244 G	FS.MCG= 005000	GOOD10 002306	ISSETU= 000041
C4800 = 001000	ERRCNT 002430	FS.MCH= 004000	GOOD12 002310	ISSRV = 000041
C56K = 003000	ERRFLG 002370	FS.MCR= 013000	GOOD14 002312	ISSUB = 000041
C64K = 003400	ERRMSG 002242 G	FS.MOR= 013000	GOOD16 002314	ISTST = 000041
C9600 = 001400	ERRNBR 002240 G	FS.MOW= 014000	GOOD2 002300	J\$JMP = 000167
DALON = 000040	ERRTYP 002236 G	FS.MRD= 014000	GOOD4 002302	KINVAL 031412
DATA 002340	EVL = 000004 G	FS.MSN= 004000	GOOD6 002304	KINVA1 031430
DBLCMD= 000363	EXITO 031436	FS.RTN= 001000	G\$CNTO= 000200	KMVC SR 002504
DCONF= 000356	EXIT1 032500	FS.RX = 006000	G\$DELM= 000372	KMVER = 000357
DCONF1 032544	EXIT3 037762	FS.STA= 011000	G\$DISP= 000003	LAST = 000001
DCONF2 035336	E\$END = 002100	FS.STM= 000000	G\$EXCP= 000400	LCLOOP 002344
DDISAB 036022	E\$LOAD= 000035	FS.STO= 012000	G\$HILI= 000002	LC.SM = 000274
DECONS 032730	E00000 016611	FS.STP= 001000	G\$LOLI= 000001	LC.S1 = 000076
DENAB 035770	E00001 016674	FS.STR= 000000	G\$NO = 000000	LDAPPL 012150



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SYMBOL TABLE

LDLDB	031664	LN.OFF=	000001	L\$INIT	020454	G	L10014	020444	MDMS3	=	000001			
LENGTH	002346	LN.ON	=	000000	L\$LADP	002026	G	L10015	020452	MDMS5	=	000002		
LF.ACT=	100000	LN.OOP=	000004	L\$LAST	044062	G	L10016	021172	MDMS6	=	000003			
LF.BWT=	000007	LN.OPE=	000001	L\$LOAD	002100	G	L10017	021262	MDMS6A=	000004				
LF.DLO=	000040	LN.REF=	000002	L\$LUN	002074	G	L10020	021266	MDMS7A=	000005				
LF.ENA=	002000	LN.SER=	000002	L\$MREV	002050	G	L10021	021350	MDMS7B=	000006				
LF.LPB=	001000	LN.STA=	000017	L\$NAME	002000	G	L10022	021352	MDM.FL=	000002				
LF.MDC=	000100	LN.SUB=	000360	L\$PRIO	002042	G	L10023	021476	MDM.LD=	000006				
LF.MFL=	004000	LN.TRI=	000006	L\$PROT	002122	G	L10024	021600	MDM.MA=	000010				
LF.MTP=	000020	LNOPDV	031206	L\$PRT	002112	G	L10025	021620	MDM.NM=	000004				
LF.PAC=	000200	LOCK	002260	L\$REPP	002062	G	L10026	022140	MDM.OM=	000011				
LF.RDY=	040000	LOE	=	040000	L\$REV	002010	G	L10027	022244	MDM.ST=	000005			
LF.REA=	010000	LOGDEV	002246	L\$RPT	020446	G	L10030	022712	MDROP	021316				
LF.TIM=	000010	LOKFLG	002520	L\$SPC	002056	G	L10031	024000	MD105	=	000002			
LF.UNL=	020000	LOOP	=	001000	L\$SPCP	002020	G	L10032	023226	MD108	=	000200		
LGT	=	000002	LOOPBK	030205	L\$SPTP	002024	G	L10033	023412	MD111	=	000001		
LINAR.	=	004000	LOT	=	000010	G	L10034	023664	MD140	=	000002			
LINCP.	=	002000	LPBACK	011706	L\$STA	002030	G	L10035	023776	MD141	=	000004		
LINCR.	=	100000	LSTAD	002500	L\$SW	002266	G	L10036	024320	MECO	014126			
LINCW.	=	000100	LSTBK	002502	L\$TEST	002114	G	L10037	024236	MERR	013456			
LINCX.	=	003500	LSTLGH	002400	L\$TIML	002014	G	L10040	024246	MNONEX	025514			
LINC1.	=	000400	LSTCYER=	000370	L\$UIT	002270	G	L10041	024256	MODDP	033442			
LINC2.	=	001000	LTIS5	037242	L\$UNIT	002012	G	L10042	024256	MODDWN=	000365			
LINDI.	=	010000	LTIS6A	037304	L.CMR	=	120016	L10043	024266	MODE	=	010000		
LINHDI.	=	000002	LTIS7	037332	L.COST=	000013	G	L10044	024276	MODE0	011574			
LINOV.	=	020000	LSACP	002110	L.CTL	=	000010	L10045	024306	MODHDL=	000026			
LINPW.	=	000200	LSAPT	002036	L.C1R	=	120000	L10046	024316	MODPDV	031176	G		
LINRP.	=	000004	LSAU	021352	L.C1W	=	120002	L10047	024640	MPROM	002524			
LINRW.	=	000010	LSAUT	002070	L.C2R	=	120004	L10050	024556	MPSTR	=	000017		
LINTU.	=	000020	LSAUTO	021174	L.C2W	=	120006	L10051	024566	MQIO	014315			
LIN.AD	000330	G	LSCCP	002106	L.DDM	=	000002	L10052	024576	MQION	014706			
LIN.A3	000332	G	LSCLEA	021264	L.DDS	=	000004	L10053	024606	MRCVER	015463			
LIN.A5	000333	G	LSCO	002032	L.DLC	=	000003	L10054	024616	MRDEXP	013532			
LIN.B1	000334	G	LSDPEO	002011	L.DLS	=	000006	L10055	024626	MSEL	014227			
LIN.B2	000335	G	LSDDESC	002176	L.FLG	=	000000	L10056	024636	MSELO	013572			
LIN.CP	000342	G	LSDESP	002076	L.KRBA=	000014	G	L10057	027050	MSEL10	013746			
LIN.FL	000304	G	LSDVVP	002060	L.LEN	=	000020	L10060	030010	MSEL12	014002			
LIN.LP	000312	G	LSDISP	002132	L.MPF	=	000020	L10061	030072	MSEL14	014036			
LIN.NM	000314	G	LSDLY	002116	L.NMST=	000016	G	L10062	044066	MSEL16	014072			
LIN.OA	000316	G	LSDTP	002040	L.NSTA=	000012	G	L10064	044076	MSEL2	013626			
LIN.OB	000317	G	LSDTYP	002034	L.OWNER=	000017	G	MAXERR	002262	MSEL4	013660			
LIN.OM	000315	G	LSDU	021270	L.PRI	=	000240	MBBUF0	015117	MSEL6	013712			
LIN.PB	000331	G	LSDUT	002072	L.RTR	=	120010	MBBUF1	015224	MXMTER	015411			
LIN.RB	000320	G	LSDVTY	007330	L.RTW	=	120012	MNUM	014425	NEXT	020572			
LIN.RP	000306	G	LSEF	002052	L.UNT	=	000011	MCLR	=	040000	NOCHAN	036272		
LIN.RS	000322	G	LSEVI	002044	L.VEC	=	000130	MCSR0	014546	NOTIM	037234			
LIN.RW	000310	G	LSERRT	002236	L.XXX=	120000	G	MCSR1	014625	NXMEM	=	000374		
LIN.R3	000340	G	LSETP	002102	L10001	002176	G	MCSR2	014575	OUTBUF	006620			
LIN.S0	000336	G	LSEXP1	002046	L10002	017236	G	MDAT0	014764	OUTLST	002410			
LIN.S1	000337	G	LSEXP4	002064	L10003	017314	G	MDAT1	015044	OUTNUM	002476			
LIN.TB	000324	G	LSEXP5	002066	L10004	017352	G	MDDMA	=	000040	OUTSEQ=	000371		
LIN.TS	000326	G	LSHARD	030014	L10005	017434	G	MDM	035442	OSAPTS=	000000			
LN.CLO=	000100	G	LSHIME	002120	L10006	017552	G	MDMCP.	=	000002	OSAU	=	000000	
LN.DUM=	000005	G	LSHPCP	002016	L10007	017614	G	MDMDL.	=	000001	OSBGNR=	000000		
LN.LOA=	000004	G	LSHPTP	002022	L10010	017652	G	MDMDP.	=	000004	OSBGNS=	000000		
LN.LOO=	000003	G	LSHW	002164	L10011	020034	G	MDMSE.	=	000010	OSDU	=	000001	
LN.OAU=	000003	G	LSICP	002104	L10012	020142	G	MDMS1	=	000000	OSERRT=	000000		



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 SYMBOL TABLE

OSGNSW= 000000	PRI00 = 000000 G	REASEN 034116	SEL16 = 000016	S.RCVA= 110000 G
OSPOIN= 000001	PRI01 = 000040 G	REASHO 034076	SEL2 = 000002	S.RCVB= 110010 G
OSSETU= 000001	PRI02 = 000100 G	REASN 034124	SEL4 = 000004	S.STSA= 110004 G
PARTNB= 160004	PRI03 = 000140 G	REAWI1 034162	SEL6 = 000006	S.STSB= 110014 G
PARO = 172340	PRI04 = 000200 G	REAWI3 043504	SEND 032270	S.VCRA= 000140
PAR7 = 172356	PRI05 = 000240 G	RECENA 032200	SENDCO 032262	S.VCRB= 000150
PATLGH 007124	PRI06 = 000300 G	REGADR 007130	SENDTX 032304	S.VCSP= 000120
PATTAB 007010	PRI07 = 000340 G	REG0 002350	SETUP 020564	S.VCXA= 000100
PATTRN 007012	PROMNB 002556	REG1 002352	SF.ACT= 000200	S.VCXB= 000110
PA.DIP= 000020	PRQION 017616 G	REG2 002354	SF.ENA= 000100	S.XMTA= 110002 G
PA.TMO= 000200	PRSEL 017554 G	REG3 002356	SF.LPB= 000004	S.XMTB= 110012 G
PA.112= 000040	PRSELO 017240 G	REG4 002360	SF.PAC= 000020	S.XXXX= 110000
PA.142= 000100	PRSTAT 017436 G	REG5 002362	SF.REA= 000010	S1 = 000000
PBRSP 020036 G	PRO = 000000	REG6 002364	SF.UNL= 000040	S106 = 000010
PB.DMA= 000040	PR1 = 000040	REG7 002366	SHORTS 027052	S107 = 000004
PB.108= 000200	PR2 = 000100	REQCNT 002372	SLTNM = 000002	S109 = 000001
PB.111= 000001	PR3 = 000140	REVCHK 012362	SLT0 031112 G	S111 = 000004
PB.140= 000002	PR4 = 000200	REXTST= 000020	SLT1 031124 G	S112 = 000020
PB.141= 000004	PR5 = 000240	RMARK0 021042	SR0 = 177572	S125 = 000002
PC.DC = 000000	PR6 = 000300	RMARK1 021120	SR3 = 172516	S140 = 000010
PC.EC = 000001	PR7 = 000340	RQI = 000200	SSTACK 007330	S141 = 000020
PC.EC0= 000100	PSTACK 002250	RSPCNT 002402	STAT1 037506	S142 = 000040
PC.EC2= 000200	P.CMR = 130016 G	RSPLST 010554	STAT3 037540	S3 = 000001
PC.GF = 000002	P.RPA = 130000 G	RSPOKE 006574	STAT5 037572	S5 = 000002
PC.GN = 000003	P.WPB = 130012 G	RTXINT= 000050	STAT6 037624	S6 = 000003
PC.GRN= 000002	P.WPC = 130006 G	RUN = 100000	STAT6A 037634	S6A = 000004
PC.LF = 000010	P.XXXX= 130000	RUNAPP 012554	STAT7A 037670	S7A = 000005
PC.LN = 000011	QC.CTO= 000200	RUNDTX= 000300	STAT7B 037700	S7B = 000006
PC.RED= 000010	QC.DCO= 000001	RUNNIN 020764	STA6 037644	TEMP 002374
PC.RF = 000006	QC.HLT= 000002	RXABO = 000364	STA7 037710	TFM36 015537
PC.RN = 000007	QC.VCO= 000040	RXBUF0 002574	STIS7 037044	TIC = 000001
PC.RTC= 000001	QC.VC4= 000100	RXBUF1 003174	SUB1 024642	TIMDP 037010
PC.SCM= 000040	QIOP 013154	RXBUF2 003574	SUB2 025120	TIMOUT 036764
PC.SE = 000012	QV.FLG 002521	RXENA = 000001	SUB3 025254	TMOUT 002404
PC.SI = 000013	Q.CTL = 140000 G	R990\$ 042122	SUB4 025550	TOOBUF= 000360
PC.SLM= 000020	Q.XXXX= 140000	SAVE4 002252	SUB5 025710	TSTF0 010614
PC.SM = 000220	RATE 002342	SAVE6 002254	SUB6 026064	TSTF1 010640
PC.YEL= 000004	RCDATA= 000001	SCABOR= 000200	SUB7 026222	TSTF10 011124
PC.YF = 000004	RCRCRX= 000100	SCCRC = 000100	SUCCE= 000001	TSTF11 011150
PC.YN = 000005	RCRCTX= 000200	SCENDR= 000200	SVCGBL= 000000	TSTF12 011174
PC.OF = 000014	RCVADD 002422	SCIP = 000002	SVCINS= 177777	TSTF13 011220
PC.ON = 000015	RCVBUF 002426	SCOVER= 000040	SVCSUB= 177777	TSTF14 011244
PC.2F = 000016	RCVKIL 033200	SCTBE = 000004	SVCTAG= 177777	TSTF15 011270
PC.2N = 000017	RCV1 032760	SC.DTR= 000200	SVCTST= 177777	TSTF16 011314
PDDEF = 077406	RDATA 007400	SC.MOF= 000005	SYNCO= 000040	TSTF17 011340
PDPTST 030274	RDBOK 037764	SC.RTS= 000002	S\$LSYM= 010000	TSTF2 010664
PDPTYP 002514	RDMDM1 033326	SC106 = 000040	S.CMDA= 110006 G	TSTF3 010710
PDRO = 172300	RDMDM2 035416	SC107 = 000010	S.CMDB= 110016 G	TSTF4 010734
PDVNM = 000005	RDYI = 000020	SC109 = 000010	S.COST= 000001	TSTF5 010760
PNT = 001000 G	RDYIDN 032024	SC125 = 000040	S.FLG = 000000	TSTF6 011004
PRBCOM 020144 G	RDYIST 031444	SDLC = 000001	S.LEN = 000004	TSTF7 011030
PRBECO 017316 G	RDYO = 000200	SECON = 000001	S.LOAD 002412	TSTF8 011054
PRBNUM 020410 G	RDYODN 031756	SELNUM 002416	S.NMST= 000002	TSTF9 011100
PRBQIO 017654 G	RDYOST 031524	SELO = 000000	S.OWNR= 000003	TXBUF0 004574
PRDAT 017354 G	READ = 002000	SEL10 = 000010	S.PRIR= 000340	TXBUF1 005174
PRI = 002000 G	REANEX 034106	SEL12 = 000012	S.PRIS= 000240	TXBUF2 005574
PRILEV 002512		SEL14 = 000014	S.PRIX= 000300	TXENA = 000010

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SYMBOL TABLE

TYPO0	011364	T1	021354	G	XMT3	040076	\$CMPDV	000236	G	\$LNOLG=	000021	G
TYPO1	011367	T10	026362	G	XSTART	035712	\$CMQIN=	173610		\$LNOTB	000302	G
TSARGC=	000001	T11	026616	G	X\$ALWA=	000000	\$CMQRM=	173624		\$LSTIN=	177777	
TS(ODE=	004032	T12	027330	G	X\$FALS=	000040	\$CRCT	043666		\$LSTTA=	177777	
TSFRRN=	000003	T2	021500	G	X\$OFFS=	000400	\$CRCTC	043662		\$LTFNC	000270	G
TS\$EXCP=	000000	T3	021602	G	X\$TRUE=	000020	\$CRCTX	043560		\$MODDP	035132	G
TSFLAG=	000040	T4	021622	G	X990\$	042030	\$CSLO	031240	G	\$MODLG=	000005	G
TSFREE=	044076	T5	022142	G	X999\$	042040	\$CSL2	031300	G	\$MODTB	000372	G
TSGMAN=	000000	T6	022246	G	ZF.COU=	001000	\$CSL2\$	031332		\$OVERR	043420	
TSHILI=	000001	T7	022714	G	ZF.DDM=	000001	\$CSRDP	031216	G	\$PATCH	043736	G
TSLAST=	000001	T7.1	022742		ZF.DLC=	000002	\$CSRGLG=	000003	G	\$PDVNM	000206	G
TSLOLI=	000000	T7.2	023230		ZF.LLC=	000004	\$CSRTB	000274	G	\$PDVTA	000200	G
TSLSYM=	010000	T7.3	023414		ZF.LMC=	000100	\$CTCMP=	173006		\$PDVTB	031070	G
TSLTNO=	000014	T7.4	023666		ZF.MFL=	000010	\$DBG	= 000001		\$RAM	= 030354	
TSNEST=	177777	T8	024002	G	ZF.MUX=	000040	\$DDCCP=	172632		\$RCCMP=	173026	
TSNSO =	000000	T8.1	024230		ZF.TIM=	000200	\$DDDIS=	172474		\$RDBAF	000230	G
TSNS1 =	000004	T8.2	024240		Z.DAT =	000010	\$DDENB=	172466		\$RDBC =	000017	
TSNS2 =	000002	T8.3	024250		Z.DSP =	000000	\$DDKCP=	172622		\$RDBCT	000224	G
T\$PCNT=	000000	T8.4	024260		Z.FLG =	000006	\$DDKIE=	172422		\$RDBGT=	172074	
T\$PTAB=	010063	T8.5	024270		Z.LEN =	000010	\$DDMSN=	172502		\$RDBIN	031010	G
T\$PTHV=	000001	T8.6	024300		Z.LLN =	000004	\$DDRCP=	172612		\$RDBLH	000250	G
T\$PTNU=	000001	T8.7	024310		Z.MAP =	000012	\$DDSTP=	172460		\$RDBNM	000216	G
T\$SAVL=	177777	T9	024322	G	Z.NAM =	000002	\$DDSTR=	172452		\$RDBQP=	172162	
T\$SEGL=	177777	T9.1	024550		Z.SCH =	000005	\$DDXME=	172406		\$RDBRT=	172216	
T\$SIZE=	000006	T9.2	024560		\$ABORE	043336	\$DDXMP=	172602		\$RDBS =	000400	
T\$SUBN=	000000	T9.3	024570		\$AUXDP=	174372	\$DLCRQ=	173034		\$RDBSZ	000220	G
T\$TAGL=	177777	T9.4	024600		\$BREAK	030750	\$ENDRC	042474		\$RDBTH	000234	G
T\$TAGN=	010065	T9.5	024610		\$BUFF	030354	\$ENDRE	043460		\$RDBWT=	172140	
T\$TEMP=	000000	T9.6	024620		\$CCBAF	000226	\$FRKHD	000242	G	\$RDQCT	000254	G
T\$TEST=	000014	T9.7	024630		\$CCBC =	000005	\$FWEND=	043726		\$RDQSL	000252	G
T\$TSTM=	177777	UAM	= 000200	G	\$CCBCT	000222	\$HIGH	000272	G	\$REC	043344	
T\$TSTS=	000001	UNIT	002272		\$CCBIN	030752	\$INTSX=	173246		\$SLTMA	000202	G
T\$SAU =	010022	UNLDB	031564		\$CCBLH	000246	\$INTX7=	173346		\$SLTMB	031102	G
T\$SAUT=	010017	UUT	002522		\$CCBNM	000212	\$KCE.E=	000102		\$SLTNM	000210	G
T\$SCLE=	010020	VECTOR	030117		\$CCBRT=	172352	\$KCE.I=	000200		\$START=	030354	
T\$SDAT=	010064	VKMCAO	002000	G	\$CCBS =	000034	\$KLCMP=	173016		\$STKDP	000240	G
T\$SDU =	010021	WDATA	007506		\$CCBSZ	000214	\$LDBAF	000232	G	\$STMDA	000262	G
T\$SHAR=	010061	WRIRET	034224		\$CHKDP	032156	\$LDBGT=	172044		\$STMDB	000264	G
T\$SHW =	010001	WRITE =	020000		\$CHKLG=	000013	\$LDBRT=	172216		\$STMFC	000266	G
T\$SINI=	010016	XDP	042626		\$CHKTB	000344	\$LINDP	037734	G	\$XMCMP=	172776	
T\$MSG=	010014	XMTADD	002420		\$CKINT=	174042	\$LLCRQ=	173116		\$XXX	042002	
T\$SPC =	000001	XMTBUF	002424		\$CLKCT	000256	\$LLCTA	000204	G	\$STR	= 160000	
T\$SPRO=	010000	XMTKIL	033300		\$CLKDC	000260	\$LLCTB	031106	G	\$ADD=	030354	
T\$SPTA=	010063	XMTKI2	035216		\$CLKTK=	000024	\$LNRXA	042050	G	\$STR	030354	G
T\$SRPT=	010015	XMTKI3	040170		\$CLKVL=	005216	\$LNSPC	042564	G	.WAIT	007336	
T\$SSUB=	010055	XMT1	033050		\$CLMEM	031052	\$LNTXA	041640	G	..SIZE	007620	
T\$STES=	010060	XMT2	035162									

. ABS. 044076 000  
000000 001  
ERRORS DETECTED: 0

VIRTUAL MEMORY USED: 31368 WORDS ( 123 PAGES)  
DYNAMIC MEMORY: 21924 WORDS ( 84 PAGES)  
ELAPSED TIME: 00:11:45  
VKMCAO.BIN, VKMCAO/-SP=LIBA/ML, VKMCAO, KEXDEF, KASTOR.TMP, PGEND.MAC