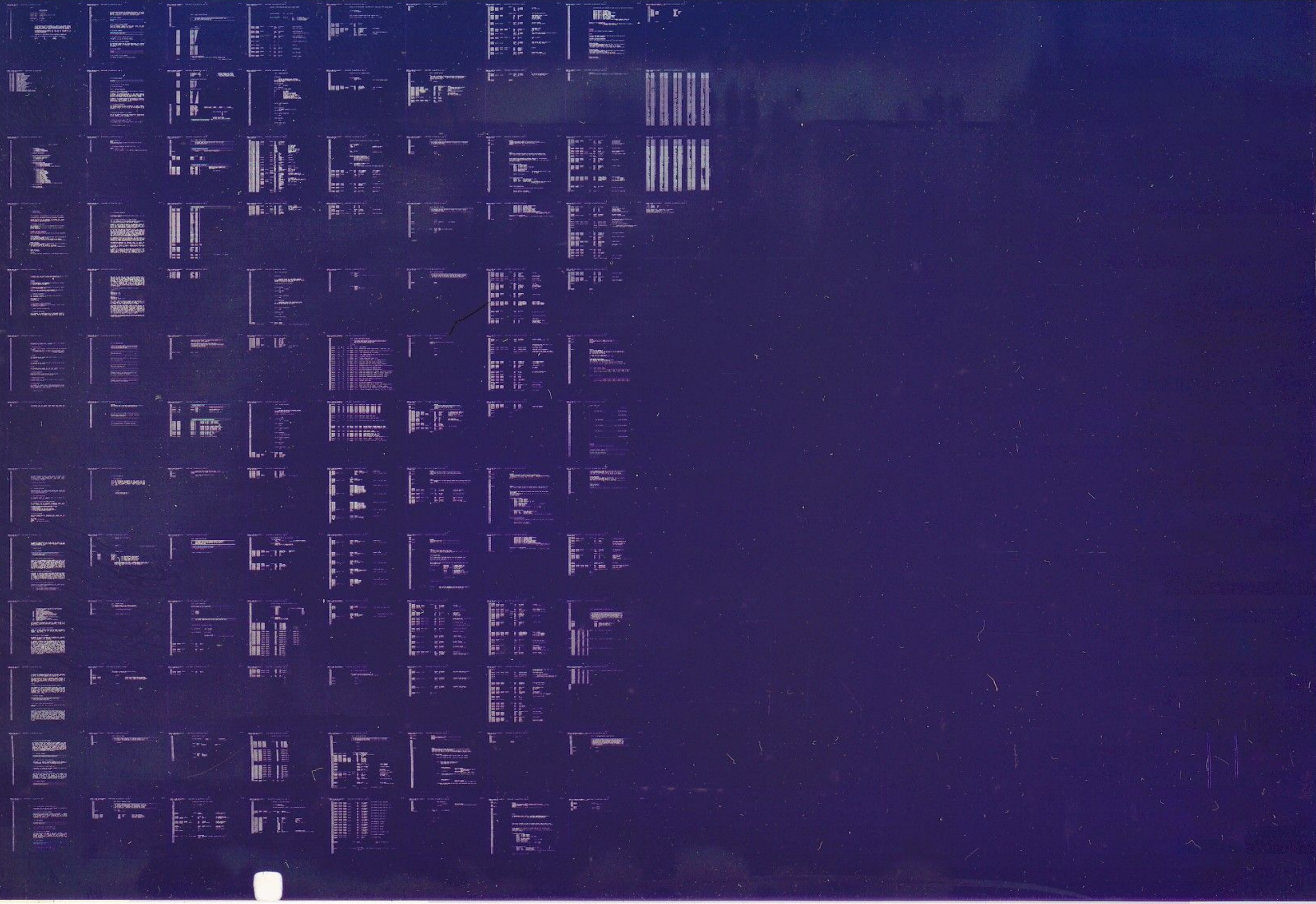


KMV11-A

LINE CNT DIAG  
CVK MBAO

AH-T372A-MC  
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MAY 1983  
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MADE IN USA



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IDENTIFICATION

PRODUCT CODE: AC-T371A-MC  
PRODUCT NAME: CVKMBA0 KMV11A LINE CNT DIAG  
PRODUCT DATE: JAN 1983  
MAINTAINER: CSS ANNECY  
AUTHOR: MICHELET, GUY

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## 1.0 INTRODUCTION

### 1.1 PROGRAM ABSTRACT

THIS DIAGNOSTIC WAS DESIGNED TO TEST OUT THE KMV11 MODULE  
THE PROGRAM WAS IMPLEMENTED USING THE DIAGNOSTIC SUPERVISOR.  
THROUGH DIALOGUE WITH THE OPERATOR, THE PROGRAM WILL ALLOW  
MODIFICATION OF DEVICE PARAMETERS, SUCH AS UNIBUS ADDRESS,  
VECTOR ADDRESS, AND PROCESSOR TYPE.

### 1.2 HARDWARE INTRODUCTION

THIS DIAGNOSTIC WILL TEST ALL THE HARDWARE PART OF THE KMV11 A  
MODULE (M7500).  
TO TEST COMPLETELY THIS PART ,EXTERNAL LOOP BACK CONNECTOR  
MUST BE INSTALLED.

#### EXTERNAL LOOP BACK CONNECTOR:

-----  
KMV11 A CAN OPERATE EITHER IN RS422 OR RS 423 LEVEL CONVERTERS

#### RS422 LOOP BACK:

TO TEST COMPLETELY A KMV11 B IN RS422 MODE ,RUN THIS DIAGNOSTIC  
WHITH LOOP BACK CONNECTOR PLUG :  
-USE H3255 TO LOOP DIRECTLY AT THE OUTPUT OF THE MODULE  
-USE H3251 PLUG AT THE END OF BC55U MODEM CABLE CONNECTOR ASSY.

#### RS423 LOOP BACK:

TO TEST COMPLETELY A KMV11-A IN RS423 MODE ,RUN THIS DIAGNOSTIC  
WHITH LOOP BACK CONNECTOR PLUG :  
-USE H3255 TO LOOP AT THE OUTPUT OF THE MODULE  
-USE H3251 PLUG AT THE END OF BC55H MODEM CABLE CONNECTOR ASSY.

#### RS232 LOOP BACK:

SAME AS FOR RS423.

#### CAUTION:

USE CF H325 LOOP BACK CONNECTOR WILL CAUSE MESSAGES ERROR IN TEST 8.

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DIAGNOSTIC WILL TEST KMV11 CLOCKS, LINE INTERRUPTS, TX AND RX FUNCTION  
IN INTERNAL AND EXTERNAL LOOP BACK AND MODEM SIGNALS.

**CAUTION:**

\*\*\*\*\*

AT THE BEGINNING OF THE DIAGNOSTIC THE OPERATOR WILL ANSWER  
BY "YES " OR "NO" AT THE QUESTION:  
IS EXTERNAL CONNECTOR PLUGGED?

IF CONNECTOR NOT PLUGGED THE DIAGNOSTIC WILL REPORT AN ERROR  
AND EXIT CORRESPONDING TEST.

KMV11 A IS FULLY TESTED ONLY WHEN DIAGNOSTIC HAS BEEN RUN  
SUCCESSFULLY IN BOTH RS422 AND RS423 LOOP BACK.

**2.0 HARDWARE REQUIREMENTS**

THE FOLLOWING HARDWARE IS REQUIRED TO RUN THE KMV11 A  
LINE CONTROLLER STATIC TESTS:

PDP-11/03,23,23 PLUS  
16K MEMORY  
CONSOLE TERMINAL

**3.0 PRELIMINARY PROGRAM REQUIREMENTS**

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

**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

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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 KMV11 LINE CNT DIAGNOSTIC IS ABOUT :

- 85 SECONDS FROM TEST 1 TO TEST 6 (TEST IN INTERNAL LOOP).
- 125 SECONDS FROM TEST 1 TO TEST 8 (COMPLETE TEST, WITH EXTERNAL CONNECTOR).

#### 4.3 XXDP+

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

#### 4.4 ACT/SLIDE

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

#### 4.5 APT

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

#### 4.6 MEMORY MANAGEMENT

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

#### 5.0 PROGRAM LOAD MEDIA

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THIS PROGRAM CAN BE LOADED FROM PAPER TAPE USING THE  
ABSOLUTE LOADER OR FROM ACT, SLIDE, OR APT SYSTEMS, OR FROM



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ANY MEDIA SUPPORTED BY XXDP+. WHEN USING THE PAPER TAPE ABSOLUTE LOADER, THE PROGRAM SHOULD BE LOADED FIRST, FOLLOWED BY THE DIAGNOSTIC SUPERVISOR. WHEN USING XXDP+, THE DIAGNOSTIC SUPERVISOR SHOULD BE LOADED FIRST, FOLLOWED BY THE DIAGNOSTIC PROGRAM.

## 6.0 OPERATING INSTRUCTIONS

### 6.1 LOADING AND STARTING PROCEDURES

#### 6.1.1 LOADING PROCEDURES

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

#### 6.1.2 STARTING PROCEDURES

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

#### 6.1.3 STEPS FOR QUICK AND SIMPLE EXECUTION

THE DIAGNOSTIC CAN BE EXECUTED STANDALONE 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 STA<CR>
- D) ANSWER HARDWARE AND SOFTWARE QUESTIONS
- E) GET END OF PASS MESSAGES OR ERROR MESSAGES
- F) TO END EXECUTION, ENTER CONTROL/C

### 6.2 INITIAL DIALOGUE

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

```
DRS LOADED
DIAG. RUN-TIME SERVICES
VKMBAO
KMV11 A LINE CONTROLER DIAGNOSTIC
DR>
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THE OPERATOR THEN PROCEEDS BY TYPING ONE OR MORE OF THE  
COMMANDS DESCRIBED IN THE FOLLOWING SECTION 6.3.(FOR MORE  
DETAILED INFORMATION, REFER TO THE DIAGNOSTIC SUPERVISOR  
FUNCTIONAL SPECIFICATION).

6.3 PROGRAM OPTIONS

6.3.1 START COMMAND

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

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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                         |
| BCE | BELL ON ERROR   |
| UAM | RUN IN UNATTENDED MODE, BYPASSING MANUAL INTERVENTION TESTS |
| ISR | INHIBIT STATISTICAL REPORTS                                 |
| IDU | INHIBIT DROPPING OF UNITS BY DIAGNOSTIC LOOP                |
| 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.

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

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

EXAMPLE:

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

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

6.3.2 RESTART COMMAND

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

6.3.2.1 TESTS, PASS, AND FLAGS SWITCHES

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

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

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

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6.3.2.3 EFFECT OF RESTART COMMAND

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

6.3.3 CONTINUE COMMAND

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

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

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

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

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

6.3.3.3 EFFECT OF CONTINUE COMMAND

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

6.3.4 PROCEED COMMAND

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

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

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

6.3.4.2 EFFECT OF PROCEED COMMAND

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

6.3.5 ADD COMMAND

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

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

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

6.3.5.2 EFFECT OF ADD COMMAND

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

6.3.6 DROP COMMAND

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

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

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

6.3.6.2 EFFECT OF DROP COMMAND

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

6.3.7 PRINT COMMAND

\*\*\*\*\*  
PRI(NT)  
\*\*\*\*\*

6.3.7.1 EFFECT OF PRINT COMMAND

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

6.3.8 DISPLAY COMMAND

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

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

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

6.3.8.2 EFFECT OF DISPLAY COMMAND

THE HARDWARE P-TABLES FOR ALL UNITS UNDER TEST ARE PRINTED 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.

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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 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.

2. MICRO-CPU CSR ADDRESS: (0) 177000?

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

3. MICRO CPU VECTOR ADDRESS: (0) 300?

THE ALLOWABLE RANGE IS 300-770, AND DEFAULT VALUE IS 300

4. MICRO CPU PRIORITY LEVEL: (4) 7?



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DEFAULT VALUE IS 4

NOTE:

M7500 AND M75G1 MODULE MOUNTED WITH DC003 CHIPS CAN ONLY  
INTERUPT ON LEVEL 4

5. IS LOOP BACK CONNECTOR PLUGGED? 0=NO,1=YES (0) 1 ?

DEFAULT VALUE IS 1 (YES)

NOTE :

REFER TO CHAPTER 1.2 FOR LOOP BACK CONNECTOR DESCRIPTION.

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### 6.3.13 SOFTWARE PARAMETERS

NO SOFTWARE PARAMETER QUESTIONS ARE ASKED BY PART 2 OF THE STATIC LOGIC TESTS.

### 6.3.14 EXTENDED DISCUSSION OF P-TABLE DIALOGUE

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

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

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

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

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

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

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

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

THE FOLLOWING DIALOGUE WOULD ACCOMPLISH THIS GOAL:

# UNITS (D) ? 16

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

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

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

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

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

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7.0 TEST DESCRIPTIONS

\*\*\*\*\* TEST 1 \*\*\*\*\*  
\*VERIFY THAT REFERENCED UNIBUS DEVICE REGISTERS  
\*DOES NOT CAUSE TIME OUT TRAP  
\*\*\*\*\*

\*\*\*\*\* TEST 2 \*\*\*\*\*  
\*  
\*PROM REVISION TEST  
\*  
\*\*\*\*\*

\*\*\*\*\* TEST 3 \*\*\*\*\*  
\*  
\*REAL TIME CLOCK TEST  
\*  
\*\*\*\*\*

\*\*\*\*\* TEST 4 \*\*\*\*\*  
\*  
\*BAUD RATE GENERATOR TEST  
\*  
\*\*\*\*\*

\*\*\*\*\* TEST 5 \*\*\*\*\*  
\*  
\*TRANSMIT FRAMES AT LOW SPEED IN INTERNAL LOOP  
\*ON CHANEL A WHITHOUT ANY INTERUPT  
\*  
\*\*\*\*\*

\*\*\*\*\* TEST 6 \*\*\*\*\*  
\*  
\*TRANSMIT AND RECEIVE FRAMES IN INTERNAL LOOP AT  
\*DIFFERENT SPEED WITH INTERUPT  
\*  
\*\*\*\*\*

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CAUTION:  
TEST NUMBER 7 AND 8 LOOP BACK CONNECTOR MUST BE INSTALLED.  
REFER TO CHAPTER 1.2 FOR LOOP BACK DESCRIPTION

\*\*\*\*\* TEST 7 \*\*\*\*\*  
\*  
\*TRANSMIT AND RECEIVE FRAMES IN EXTERNAL LOOP BACK  
\*(WITH EXTERNAL LOOP BACK)  
\*  
\*\*\*\*\*

\*\*\*\*\* TEST 8 \*\*\*\*\*  
\*  
\*TEST ALL MODEM SIGNAL IN EXTERNAL LOOP BACK  
\*  
\*\*\*\*\*

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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 AND EXTENDED ERROR INFORMATION.

### 9.0 HISTORY

- DESIGN STARTED ON MAY 82
- REVIEW ON DECEMBER 82

a

KMV11 A LINE CNT DIAGNOSTIC  
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```

939          .TITLE KMV11 A LINE CNT DIAGNOSTIC
947          002000          .=2000
948
949
950
951
952
953
954          .MCALL  SVC
955 002000          SVC          ; INITIALIZE SUPERVISOR MACROS
956
957
958
959
960
961 002000          BGNMOD  KMV11A
962
963
964          000000          $LSTIN= 0
965          000000          $LSTTAG= 0
966          177777          SVCINS= -1      ; LIST INSTRUCTIONS, SHIFTED RIGHT
967          177777          SVCTS= -1      ; LIST TEST TAGS, SHIFTED RIGHT
968          177777          SVCSUB= -1     ; LIST SUBTEST TAGS, SHIFTED RIGHT
969          177777          SVCGBL= -1    ; LIST GLOBAL TAGS, SHIFTED RIGHT
970          177777          SVCTAG= -1    ; LIST OTHER TAGS, SHIFTED RIGHT
971
972          ; CHANGE THE VALUES OF THE SVC... SYMBOLS TO BE ZERO IF YOU WISH
973          ; TO ALIGN THE MACRO CALLS AND THEIR EXPANSIONS. CHANGE THE
974          ; SYMBOLS TO BE MINUS-ONE TO NOT LIST THE EXPANSIONS. YOU MAY
975          ; CHANGE THE SYMBOLS AT ANY POINT IN YOUR PROGRAM.
976
977

```

KMV11 A LINE CNT DIAGNOSTIC  
PROGRAM HEADER

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979  
980  
981  
982  
983  
984  
985  
986  
987  
988

1006  
1007  
1008

002000

002000

.SBTTL PROGRAM HEADER

:++

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

:--

POINTER BGNSW,BGNDU,BGNSETUP

HEADER VKMBA0,A,0,240.,0



KMV11 A LINE CNT DIAGNOSTIC  
PROGRAM HEADER

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1020  
1021  
1022  
1023  
1024  
1025  
1026  
1027  
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1029  
1030  
1031  
1032  
1046  
1047  
1048  
1049

002122

000000  
177777  
177777

002130

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

BGNPROT

0  
-1  
-1

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

ENDPROT

KMV11 A LINE CNT DIAGNOSTIC  
DISPATCH TABLE

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1051  
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1053  
1054  
1055  
1056  
1057  
1058 002130  
1059  
1066  
1067

.SBTTL DISPATCH TABLE

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

DISPATCH 8

KMV11 A LINE CNT DIAGNOSTIC  
DEFAULT HARDWARE P-TABLE

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1080  
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1095  
1096

002152  
  
002154 177000  
002156 000300  
002160 004000  
002162 000001  
002164

.SBTTL DEFAULT HARDWARE P-TABLE

:/ THE DEFAULT HARDWARE P-TABLE CONTAINS DEFAULT VALUES OF  
:/ THE TEST-DEVICE PARAMETERS. THE STRUCTURE OF THIS TABLE  
:/ IS IDENTICAL TO THE STRUCTURE OF THE RUN-TIME P-TABLE.  
:/ AND IS USED AS A "TEMPLATE" FOR BUILDING THE P-TABLE

.ENABL AMA BGNHW DFPTBL

.WORD 177000 :KMV11, CSRS ADDRESS  
.WORD 300 :KMV11, VECTOR ADDRESS  
.WORD 4000 :INTERRUPT PRIORITY LEVEL  
.WORD 1 :LOOP BACK CONNECTOR?  
ENDHW

1098  
1099  
1100  
1101  
1102  
1103  
1104  
1105  
1106  
1107  
1108  
1109  
1110  
1111  
1112  
1113  
1114  
1115  
1125  
1126  
1141  
1142 002164

.SBTTL GLOBAL EQUATES SECTION

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

EQUALS

:  
: BIT DIFINITIONS  
:

100000  
040000  
020000  
010000  
004000  
002000  
001000  
000400  
000200  
000100  
000040  
000020  
000010  
000004  
000002  
000001

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

001000  
000400  
000200  
000100  
000040  
000020  
000010  
000004  
000002  
000001

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

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

000040

EF.START== 32. ; START COMMAND WAS ISSUED

000037  
000036  
000035  
000034

EF.RESTART== 31.  
EF.CONTINUE== 30.  
EF.NEW== 29.  
EF.PWR== 28.

: RESTART COMMAND WAS ISSUED  
: CONTINUE COMMAND WAS ISSUED  
: A NEW PASS HAS BEEN STARTED  
: A POWER-FAIL/POWER-UP OCCURRED

: PRIORITY LEVEL DEFINITIONS

000340  
000300  
000240  
000200  
000140  
000100  
000040  
000000

PRI07== 340  
PRI06== 300  
PRI05== 240  
PRI04== 200  
PRI03== 140  
PRI02== 100  
PRI01== 40  
PRI00== 0

: OPERATOR FLAG BITS

000004  
000010  
000020  
000040  
000100  
000200  
000400  
001000  
002000  
004000  
010000  
020000  
040000  
100000

EVL== 4  
LOT== 10  
ADR== 20  
IDU== 40  
ISR== 100  
UAM== 200  
BOE== 400  
PNT== 1000  
PRI== 2000  
IXE== 4000  
IBE== 10000  
IER== 20000  
LOE== 40000  
HOE== 100000

1143  
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000340  
054000  
044000  
040000  
052525  
125252  
013224  
000154  
000174  
000146  
000141

MAXPRI==340  
MAINT0==54000  
MAINT1==44000  
MCLR==40000  
DATA1== 052525  
DATA2== 125252  
KB1.2== 5780.  
KB64== 108.  
KB56== 124.  
KB68== 102.  
KB72== 97.

:MASTER CLEAR = 1,MODE = 1 ,MAINT 1 = 1 ,T11=HOLD  
:MASTER CLEAR = 1,MODE = 0 ,MAINT 1 = 0 ,T11=NOT HOLD

:OCTAL VALUE OF 1.2 KBAUDS  
: .. .. 64 ..  
: .. .. 56 ..  
: .. .. 68 ..  
: .. .. 72 ..

:DIVIDER CALCULATION  
:DECIMAL VAUE = 6912:YYY KBAUDS

:\*\*\*\*\*  
: \* PROGRAM EVENT FLAG DEFINITIONS  
:\*\*\*\*\*

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL DATA SECTION

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002164  
  
  
  
  
  
002220 000000  
002220 000000  
002222 000000  
002224 000000  
002226 000000  
  
002230 000000  
002232 000005  
002234 000000  
002236 000000  
002240 000015  
002242 000000  
002244 000000  
002246 000000  
002250 000000

.SBTTL GLOBAL DATA SECTION

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

\* STORAGE FOR DEVICE REGISTERS  
DESCRPT <KMV11A LINE CNT DIAGNOSTIC>

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

\* PROGRAM CONTROL PARAMETERS  
LOCK: .WORD 0 ;ADDRESS FOR LOCK CURRENT DATA  
MAXERR: .WORD 5 ;MAX ERROR BEFORE DROPPING THE UNIT  
ERRCNT: .WORD 0 ;ERROR COUNT  
LSSW: .WORD 0  
LSUIT: .WORD 15 ;MAX LINE UNIT  
LOGDEV: .WORD 0  
SAVPC: .WORD 0  
PSTACK: .WORD 0  
FTIME: .WORD 0

```

1218 :*****
1219 :* MISCELLANEOUS STORAGE
1220 :*****
1221 002252 000000 SAVE4: .WORD 0
1222 002254 000000 SAVE6: .WORD 0
1223 002256 000000 FLAG: .WORD 0
1224
1225 002260 000000 DELCT1: .WORD 0
1226 002262 000000 DELCT2: .WORD 0
1227 002264 000000 GOOD: .WORD 0
1228 002266 000000 GOOD0: .WORD 0
1229 002270 000000 GOOD1: .WORD 0
1230 002272 000000 GOOD2: .WORD 0
1231 002274 000000 GOOD4: .WORD 0
1232 002276 000000 GOOD6: .WORD 0
1233 002300 000000 GOOD10: .WORD 0
1234 002302 000000 GOOD12: .WORD 0
1235 002304 000000 GOOD14: .WORD 0
1236 002306 000000 GOOD16: .WORD 0
1237 002310 000000 SELO: .WORD 0
1238 002312 000000 SEL1: .WORD 0
1239 002314 000000 SEL2: .WORD 0
1240 002316 000000 SEL4: .WORD 0
1241 002320 000000 SEL6: .WORD 0
1242 002322 000000 SEL10: .WORD 0
1243 002324 000000 SEL12: .WORD 0
1244 002326 000000 SEL14: .WORD 0
1245 002330 000000 SEL16: .WORD 0
1246 002332 000000 BSEL1: .WORD 0
1247 002334 000000 RANST: .WORD 0
1248 002336 000000 RANSEL: .WORD 0
1249 002340 000000 RANMTA: .WORD 0
1250 002342 000000 RANDN: .WORD 0
1251 002344 000000 SAVPC1: .WORD 0
1252 002346 000000 SAVSTA: .WORD 0
1253 002350 000000 COUNT: .WORD 0
1254 002352 000000 NUMBER: .WORD 0
1255 002354 000000 ADDR: .WORD 0
1256 002356 000000 GDDAT: .WORD 0
1257 002360 000000 BDDAT: .WORD 0
1258
1259 002362 TTABLE: .BLKW 2000
1260 006362 RTABLE: .BLKW 2000
1261
1262 012362 000000 EXADDR: .WORD 0
1263 012364 000000 INTFLG: .WORD 0
1264 012366 000000 BAD: .WORD 0
1265 012370 000000 BSELO: .WORD 0
1266 012372 000000 DATA: .WORD 0
1267 012374 000000 VECT: .WORD 0
1268
1269
1270 012376 000000 KIND: .WORD 0
1271 012400 000000 CHANEL: .WORD 0
1272
1273 012402 000000 TXDATA: .WORD 0
1274 012404 000000 RXDATA: .WORD 0

```

:=0 IF KMV11A ,=1 IF KMV11B

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL DATA SECTION

MACRO M1200 06-JAN-83 09:40 PAGE 26-1

1275 012406 000000  
1276 012410 000000  
1277 012412 000000  
1278 012414 000000  
1279 012416 000000  
1280 012420 000000  
1281 012422 000000

TSPEED: .WORD 0  
LENGTH: .WORD 0  
NUB: .WORD 0  
RXCNT: .WORD 0  
STAERR: .WORD 0  
WRDCNT: .WORD 0  
UNIT: .WORD 0





KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL DATA SECTION

MACRO M1200 06-JAN-83 09:40 PAGE 28

```

1307
1308
1309
1310 012426      000
1311
1312 012430      000
1313 012431      000
1314
1315 012432 000000
1316
1317
1318
1319
1320
1321
1322
1323
1324
1325 012434 000000
1326 012436 000000
1327 012440 000000
1328 012442 000000
1329 012444 000000
1330 012446 000000
1331 012450 000000
1332 012452 000000
1333 012454 000000
1334 012456 000000
1335
1336 012460 000000
1337 012462 000000
1338 012464 000000
1339 012466 000000
1340
1341 012470 000000

```

```

:*****
:* PROGRAM CONTROL FLAGS
:*****
INIFLG: .BYTE 0 ;PROGRAM INITIALIZING FLAG
        .EVEN
LOKFLG: .BYTE 0 ;LOCK ON CURRENT TEST FLAG
QV.FLG: .BYTE 0 ;QUICK VERIFY FLAG
        .EVEN
UUT:    .WORD 0 ;CURRENT UNIT UNDER TEST

```

```

:*****
:* POINTERS TO KMV11 VECTORS AND REGISTERS
:*****
KMVV00: 0 ;POINTER TO KMV11 INTRPT VECTOR 0
KMVLVL: 0 ;POINTER TO KMV11 INTRPT SERVICE
KMVV04: 0 ;POINTER TO KMV11 INTRPT VECTOR 04
        .. .. .. .. 02
KMVV06: 0 ; .. .. .. .. 06
KMTLVL: 0 ;POINTER TO KMV11 TX INTRPT SERVICE PS
KMVCSR: 0 ;POINTER TO KMV11 CONTROL STATUS REGISTER
KMVP02: 0 ;POINTER TO KMV11 PORT REGISTER - SEL2
KMVP04: 0 ;POINTER TO KMV11 PORT REGISTER - SEL4
KMVP06: 0 ;POINTER TO KMV11 PORT REGISTER - SEL6

```

```

KMVP10: 0 ;POINTER TO KMV11 PORT REG -SEL10
KMVP12: 0 ;POINTER TO PORT REG -SEL 14
KMVP14: 0 ;POINTER TO PORT REG -SEL14
KMVP16: 0 ;POINTER TO PORT REG 16

```

```

LOOP: 0 ;POINTER TO LOOP BACK CONNECTOR

```

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL DATA SECTION

MACRO M1200 06-JAN-83 09:40 PAGE 29

1343  
1344  
1345 012472  
1346  
1347  
1348 012472  
1349 012672

:\*\*\*\* PRIMARY REG ADRS STORAGE FOR THIS UNIT \*\*\*\*  
:THESE LOCATIONS WILL BE LOADED FOR THE CURRENT UNIT, IN INIT CODE  
REGADR:

::\*\*\*\* STACK USED FOR SUBROUTINE LINKAGE \*\*\*\*  
.BLKW 100  
SSTACK:

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL DATA SECTION

MACRO M1200 06-JAN-83 09:40 PAGE 30

1351  
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012672

.SBTTL GLOBAL TEXT SECTION

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

:\*\*\*\*\*  
:\* NAMES OF DEVICES SUPPORTED BY PROGRAM  
:\*\*\*\*\*  
: DEVTYP <KMV11A>

:  
: FORMAT STATEMENTS USED IN PRINT CALLS  
:

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.SBTTL GLOBAL SUBROUTINES

MACRO'S NEEDED TO CALL SUBROUTINES

.MACRO CLRMAR  
ROMCLK  
004000  
.ENDM CLRMAR

THE GLOBAL SUBROUTINES ARE CALLED BY MORE THAN ONE TEST

:ROUTINE TO WAIT FOR EVENT OR TIMEOUT

:CALLING SEQUENCE: JSR PC, WAIT1  
JSR PC, WAIT2

:INPUTS PARAMETERS: DELCT1, DELCT2

: INC DELCT1 UNTIL 0  
DEC DELCT2 UNTIL 0 DELCT2= NUMB OF WAIT1 PASSES

WAIT2: INC DELCT1  
BNE WAIT2

BREAK

DEC DELCT2  
BNE WAIT2

RTS PC

012702 005237 002260  
012706 001375  
012710  
012712 005337 002262  
012716 001371  
012720 000207

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 09:40 PAGE 31-1

1439

1440

1441 012722 005237 002260

1442 012726 001375

1443

1444 012730 000207

WAIT1: INC DELCT1  
          BNE WAIT1  
          RTS PC

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 09:40 PAGE 32

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1471  
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1473

:MACRO TO WAIT A FEW MS

:CALLING SEQUENCE:      WAITA    X                    0<X<177777  
:                            WAITB   X,Y                    0<X OR Y<177777

.MACRO    WAITA    X  
          MOV    #X,DELCT1                    :LOAD COUNT  
          JSR    PC,WAIT1                    :WAIT  
.ENDM

.MACRO    WAITB    X,Y  
          MOV    #X,DELCT1  
          MOV    #Y,DELCT2  
          JSR    PC,WAIT2  
.ENDM

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 09:40 PAGE 33

```

1475          ;ROUTINE TO DROP UNIT AFTER 5 ERROR
1476
1477
1478          ;JSR  PC,CHKMAX
1479
1480
1481
1482
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1484
1485
1486
1487 012732    CHKMAX: INLOOP          ;LOOPING ON ERROR?
1488 012734    BCOMPLETE          1$    ;IF YES, EXIT
1489
1490
1491 012736    RFLAGS  RO          ;GET OPERATOR FLAG
1492 012740    032700  000040    BIT   #IDU,RO    ;IS DROPPING INHIBITTED?
1493 012744    001026    BNE     1$    ;IF YES EXIT
1494
1495
1496 012746    005237  002234    INC   ERRCNT          ;UPDATE ERROR COUNT
1497 012752    023737  002234  002232  CMP   ERRCNT,MAXERR  ;TOO MANY ERROR?
1498 012760    003420    BLE     1$    ;IF NOT JUMP
1499
1500
1501 012762    PRINTF  #NERRS,MAXERR,UUT  ;TOO MANY ERROR!
1502 013012    DODU   UUT                ;DROP UNIT
1503
1504 013020    DOCLN
1505          ;END THE SUBPASS
1506 013022    000207    1$:  RTS     PC
1507
1508
1509
1510
1511
1512 013024    045     116     045  NERRS: .NLIST  BEX
1513          .ASCIZ  /%N%AMORE THAN %D3%A  ERRORS ON UNIT %D2/
1514          .LIST   BEX
1515          .EVEN
1516
1517
1518
1519

```



KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 09:40 PAGE 34

:ROUTINE TO CHECK REGISTER BSELO AND TO REPORT ERROR

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1575

:CALLING SEQUENCE: JSR PC,TSTERR

:OUTPUT PARAMETERS: RETURN TO PC IF TEST IS OK  
PC+2 IF TIMEOUT DURING TEST  
PC+4 IF NO KMV11 ANSWER  
PC+6 IF DATA CMP ERROR

```

TSTERR: JSR R5,CBSELO      :LOOK IF BSELO=0
        .WORD 0           :TEST IS OK ,RTS PC
        BR 1$

        JSR R5,CBSELO      :LOOK IF BSELO=200
        .WORD 200         :TIMEOUT DURING TEST,RTS PC+2
        BR 2$

        JSR R5,CBSELO      :LOOK IF BSELO=100
        .WORD 100         :DATA CMP ERROR,RTS PC+6
        BR 3$

        BR 4$             :NO KMV11 ANSWER ,RTS PC+4

1$: RTS PC                :TEST OK

2$: ADD #2,(SP)           :TIMEOUT ERROR
   RTS PC

3$: ADD #6,(SP)           :DATA CMP ERROR
   RTS PC

4$: ADD #4,(SP)           :NO KMV11 ANSWER
   RTS PC
    
```

```

013074 004537 013644
013100 000000
013102 000411

013104 004537 013644
013110 000200
013112 000406

013114 004537 013644
013120 000100
013122 000405

013124 000407

013126 000207

013130 062716 000002
013134 000207

013136 062716 000006
013142 000207

013144 062716 000004
013150 000207
    
```

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.SBTTL NUMBER GENERATOR

DESCRIPTION:

ROUTINE TO GENERATE DATA PATTERNS,  
THE TYPE OF PATTERN IS SELECTED BY R3, AND THE  
PATTERN GENERATED IS RETURNED IN LOCATION 'DATA'  
AND LOCATION 'GOOD'

CALLING SEQUENCE:

JSR PC,GENER

INPUT PARAMETERS:

R3 CONTAINS THE PATTERN NUMBER

|      |   |
|------|---|
| R3=0 | ALL ZEROES  |
| 1    | ALL ONES  |
| 2    | 010101 ETC BIT PATTERN  |
| 3    | 101010 ETC BIT PATTERN  |
| 4    | ROTATING 1 IN A ZERO WORD   |
| 5    | ROTATING 0 IN AN ALL ONE WORD                                       |
| 6    | PSEUDO RANDOM NUMBER  |
| 7    | INCREMENTING DATA PATTERN, GOOD<br>CONTAINS THE VALUE TO BE UPDATED |

IMPLICIT INPUT PARAMETERS:

NONE

OUTPUT PARAMETERS:

THE NUMBER GENERATED IS HELD IN  
DATA AND GOOD.

IMPLICIT OUTPUT PARAMETERS:

NONE

COMPLETION CODES:

NONE

POSSIBLE ERROR CODES:

NONE



KMV11 A LINE CNT DIAGNOSTIC  
NUMBER GENERATOR

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|      |        |        |        |        |
|------|--------|--------|--------|--------|
| 1691 | 013412 | 006037 | 002342 |        |
| 1692 | 013416 | 005303 |        |        |
| 1693 | 013420 | 001357 |        |        |
| 1694 | 013422 | 000207 |        |        |
| 1695 | 013424 | 013700 | 002264 |        |
| 1696 | 013430 | 005200 |        |        |
| 1697 | 013432 | 010037 | 002264 |        |
| 1698 | 013436 | 004737 | 013532 |        |
| 1699 | 013442 | 013737 | 002264 | 012372 |
| 1700 | 013450 | 000207 |        |        |
| 1701 |        |        |        |        |

|         |     |           |
|---------|-----|-----------|
| RAN4:   | ROR | RANDN     |
|         | DEC | R3        |
|         | BNE | RAN2+4    |
| RANEX:  | RTS | PC        |
| GENINC: | MOV | GOOD,RO   |
|         | INC | RO        |
| GENEX:  | MOV | RO,GOOD   |
|         | JSR | PC,RSTREG |
|         | MOV | GOOD,DATA |
|         | RTS | PC        |

```

:ROTATE C TO B15
:IS THIS NUMBER REQUIRED?
:NO, GET ANOTHER
:YES, EXIT
:INCREMENTS LOC. 'GOOD'

```

KMV11 A LINE CNT DIAGNOSTIC  
SAVE REGISTERS

MACRO M1200 06-JAN-83 09:40 PAGE 36

1703  
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1759

013452  
013460  
013466 012637 002244

.SBTTL SAVE REGISTERS

DESCRIPTION:

ROUTINE TO SAVE ALL THE GENERAL PURPOSE  
REGISTERS ON THE STACK, AND LEAVE THE ADDRESS OF THE  
CALLING ROUTINE ON THE STACK. THE ROUTINE WILL RUN AT  
PRIORITY 7 TO AVOID ANY INTERRUPTS

CAUTION: REGISTER R0 IS NOT SAVED

CALLING SEQUENCE:

JSR PC, SAVREG

INPUT PARAMETERS:

NONE

IMPLICIT INPUT PARAMETERS:

NONE

OUTPUT PARAMETERS:

REGISTERS 0 THRU 5 ARE SAVED ON THE STACK  
AND THE RETURN ADDRESS OF THE CALLING ROUTINE IS  
SET AS THE LAST ENTRY ON THE STACK

IMPLICIT OUTPUT PARAMETERS:

NONE

COMPLETION CODES:

NONE

POSSIBLE ERROR CODES:

NONE

SAVREG: GETPRI SAVSTA  
SETPRI MAXPRI  
MOV (SP)+, SAVPC ;SAVE PC FOR RETURN FROM THIS ROUTINE

KMV11 A LINE CNT DIAGNOSTIC  
SAVE REGISTERS

MACRO M1200 06-JAN-83 09:40 PAGE 36-1

|      |        |        |        |        |              |                   |
|------|--------|--------|--------|--------|--------------|-------------------|
| 1760 | 013472 | 012637 | 002344 | MOV    | (SP)+,SAVPC1 |                   |
| 1761 | 013476 | 010546 |        | MOV    | R5,-(SP)     |                   |
| 1762 | 013500 | 010446 |        | MOV    | R4,-(SP)     |                   |
| 1763 | 013502 | 010346 |        | MOV    | R3,-(SP)     |                   |
| 1764 | 013504 | 010246 |        | MOV    | R2,-(SP)     |                   |
| 1765 | 013506 | 010146 |        | MOV    | R1,-(SP)     |                   |
| 1766 | 013510 | 010046 |        | MOV    | R0,-(SP)     |                   |
| 1767 | 013512 | 013746 | 002344 | MOV    | SAVPC1,-(SP) |                   |
| 1768 | 013516 | 013746 | 002244 | MOV    | SAVPC,-(SP)  | :PUT PC READY FOR |
| 1769 | 013522 |        |        | SETPRI | SAVSTA       |                   |
| 1770 | 013530 | 000207 |        | RTS    | PC           | :RETURN           |
| 1771 |        |        |        |        |              |                   |
| 1772 |        |        |        |        |              |                   |
| 1773 |        |        |        |        |              |                   |

KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

MACRO M1200 06-JAN-83 09:40 PAGE 37

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013532  
013540  
013546 012637 002244  
013552 012637 002344  
013556 012600  
013560 012601

.SBTTL RESTORE REGISTERS

DESCRIPTION:

RESTORE TO RESTORE THE GENERAL PURPOSE  
REGISTERS. THE STACK IS LEFT IN THE SAME STATE AS IT  
WAS WHEN SAVREG WAS CALLED.

CAUTION: REGISTER R0 IS NOT SAVED

CALLING SEQUENCE:

JSR PC,RSTREG

INPUT PARAMETERS:

NONE

IMPLICIT INPUT PARAMETERS:

NONE

OUTPUT PARAMETERS:

R1 THRU R5 RESTORED

IMPLICIT OUTPUT PARAMETERS:

NONE

COMPLETION CODES:

NONE

POSSIBLE ERROR CODES:

NONE

RSTREG: GETPRI SAVSTA  
SETPRI MAXPRI  
MOV (SP)+,SAVPC  
MOV (SP)+,SAVPC1  
MOV (SP)+,R0  
MOV (SP)+,R1

KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

MACRO M1200 06-JAN-83 09:40 PAGE 37-1

|      |        |        |        |
|------|--------|--------|--------|
| 1832 | 013562 | 012602 |        |
| 1833 | 013564 | 012603 |        |
| 1834 | 013566 | 012604 |        |
| 1835 | 013570 | 012605 |        |
| 1836 | 013572 | 013746 | 002344 |
| 1837 | 013576 | 013746 | 002244 |
| 1838 | 013602 |        |        |
| 1839 | 013610 | 000207 |        |

|        |              |                   |
|--------|--------------|-------------------|
| MOV    | (SP)+,R2     |                   |
| MOV    | (SP)+,R3     |                   |
| MOV    | (SP)+,R4     |                   |
| MOV    | (SP)+,R5     |                   |
| MOV    | SAVPC1,-(SP) |                   |
| MOV    | SAVPC,-(SP)  | :PUT PC READY FOR |
| SETPRI | SAVSTA       |                   |
| RTS    | PC           |                   |



KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

MACRO M1200 06-JAN-83 09:40 PAGE 38

```

1841 ;CHECK CONTENT OF ONE OF THE 8 REGISTERS
1842
1843 ; CALLING SEQUENCE
1844 : JSR R5,CKSELN ; N = REGISTER NUMBER
1845 : .WORD A ; A=EXPECTED CONTENT OF REGISTER N
1846
1847 ;OUTPUT PARAMETER:
1848 : BRANCH IN PC+2 IF ERROR DETECTED
1849 : BRANCH IN PC IF NO ERROR DETECTED
1850
1851
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1854
1855 013612 012537 002264 CKSEL0: MOV (R5)+,GOOD ;WRITE GOOD
1856 013616 017737 176626 002310 MOV @KMVCSR,SELO ;READ SEL 0
1857 013624 023737 002310 002264 CMP SELO,GOOD ;CMP ?
1858 013632 001001 BNE 1$
1859 013634 000402 BR 2$
1860 013636 062705 000002 1$: ADD #2,R5
1861 013642 000205 2$: RTS R5
1862
1863
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1868
1869 013644 005037 002264 CBSEL0: CLR GOOD
1870 013650 012537 002264 MOV (R5)+,GOOD
1871 013654 117737 176570 012370 MOVB @KMVCSR,BSEL0
1872 013662 123737 012370 002264 CMPB BSEL0,GOOD
1873 013670 001001 BNE 1$
1874 013672 000402 BR 2$
1875 013674 062705 000002 1$: ADD #2,R5
1876 013700 000205 2$: RTS R5

```

KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

MACRO M1200 06-JAN-83 09:40 PAGE 39

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1934

:ROUTINE TO CHECK ALL REGISTER FROM SEL0 TO SEL16

:CALLING SEQUENCE:

```

:      JSR R5,CKALL
:      .WORD A
:      .WORD B
:      .WORD C
:      .WORD D
:      .WORD E
:      .WORD F
:      .WORD G
:      .WORD H
    
```

```

A = EXPECTED VALUE FOR SEL0
B      ..      ..      SEL2
C      ..      ..      SEL4
D      ..      ..      SEL6
E      ..      ..      SEL10
F      ..      ..      SEL12
G      ..      ..      SEL14
H      ..      ..      SEL16
    
```

:OUTPJT PARAMETER:

```

:      BRANCH IN PC+2 IF ERROR
:      BRANCH IN PC IF NO ERROR
    
```

CKALL:

```

MOV      (R5)+,GOOD0
MOV      (R5)+,GOOD2
MOV      (R5)+,GOOD4
MOV      (R5)+,GOOD6
MOV      (R5)+,GOOD10
MOV      (R5)+,GOOD12
MOV      (R5)+,GOOD14
MOV      (R5)+,GOOD16

MOV      @KMVCSR,SEL0      ;READ SEL0
NOP
MOV      @KMVP02,SEL2      ;READ SEL2
NOP
MOV      @KMVP04,SEL4      ;READ SEL4
NOP
MOV      @KMVP06,SEL6      ;READ SEL6
NOP
MOV      @KMVP10,SEL10     ;READ SEL10
NOP
MOV      @KMVP12,SEL12     ;READ SEL12
NOP
MOV      @KMVP14,SEL14     ;READ SEL14
NOP
MOV      @KMVP16,SEL16     ;READ SEL16

CMP      SEL0,GOOD0
BNE      1$
CMP      SEL2,GOOD2
BNE      1$
CMP      SEL4,GOOD4
BNE      1$
CMP      SEL6,GOOD6
BNE      1$
CMP      SEL10,GOOD10
BNE      1$
CMP      SEL12,GOOD12
    
```

```

013702 012537 002266
013706 012537 002272
013712 012537 002274
013716 012537 002276
013722 012537 002300
013726 012537 002302
013732 012537 002304
013736 012537 002306

013742 017737 176502 002310
013750 000240
013752 017737 176474 002314
013760 000240
013762 017737 176466 002316
013770 000240
013772 017737 176460 002320
014000 000240
014002 017737 176452 002322
014010 000240
014012 017737 176444 002324
014020 000240
014022 017737 176436 002326
014030 000240
014032 017737 176430 002330

014040 023737 002310 002266
014046 001035
014050 023737 002314 002272
014056 001031
014060 023737 002316 002274
014066 001025
014070 023737 002320 002276
014076 001021
014100 023737 002322 002300
014106 001015
014110 023737 002324 002302
    
```

KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

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|      |        |        |        |        |     |              |
|------|--------|--------|--------|--------|-----|--------------|
| 1935 | 014116 | 001011 |        |        | BNE | 1\$          |
| 1936 | 014120 | 023737 | 002326 | 002304 | CMP | SEL14,GOOD14 |
| 1937 | 014126 | 001005 |        |        | BNE | 1\$          |
| 1938 | 014130 | 023737 | 002330 | 002306 | CMP | SEL16,GOOD16 |
| 1939 | 014136 | 001001 |        |        | BNE | 1\$          |
| 1940 |        |        |        |        |     |              |
| 1941 | 014140 | 000402 |        |        | BR  | 2\$          |
| 1942 | 014142 | 062705 | 000002 |        | ADD | #2,R5        |
| 1943 | 014146 | 000205 |        |        | RTS | R5           |

KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

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```

1945                                     ;ROUTINE TO CHECK SEL2 TO SEL16
1946
1947
1948
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1950
1951 014150 012537 002272          CKREG: MOV      (R5)+,GOOD2
1952 014154 012537 002274          MOV      (R5)+,GOOD4
1953 014160 012537 002276          MOV      (R5)+,GOOD6
1954 014164 012537 002300          MOV      (R5)+,GOOD10
1955 014170 012537 002302          MOV      (R5)+,GOOD12
1956 014174 012537 002304          MOV      (R5)+,GOOD14
1957 014200 012537 002306          MOV      (R5)+,GOOD16
1958
1959
1960 014204 017737 176242 002314    MOV      @KMVP02,SEL2
1961 014212 000240                    NOP
1962 014214 017737 176234 002316    MOV      @KMVP04,SEL4
1963 014222 000240                    NOP
1964 014224 017737 176226 002320    MOV      @KMVP06,SEL6
1965 014232 000240                    NOP
1966 014234 017737 176220 002322    MOV      @KMVP10,SEL10
1967 014242 000240                    NOP
1968 014244 017737 176212 002324    MOV      @KMVP12,SEL12
1969 014252 000240                    NOP
1970 014254 017737 176204 002326    MOV      @KMVP14,SEL14
1971 014262 000240                    NOP
1972 014264 017737 176176 002330    MOV      @KMVP16,SEL16
1973
1974
1975
1976
1977 014272 023737 002314 002272    CMP      SEL2,GOOD2
1978 014300 001031                    BNE     1$
1979 014302 023737 002316 002274    CMP      SEL4,GOOD4
1980 014310 001025                    BNE     1$
1981 014312 023737 002320 002276    CMP      SEL6,GOOD6
1982 014320 001021                    BNE     1$
1983 014322 023737 002322 002300    CMP      SEL10,GOOD10
1984 014330 001015                    BNE     1$
1985 014332 023737 002324 002302    CMP      SEL12,GOOD12
1986 014340 001011                    BNE     1$
1987 014342 023737 002326 002304    CMP      SEL14,GOOD14
1988 014350 001005                    BNE     1$
1989 014352 023737 002330 002306    CMP      SEL16,GOOD16
1990 014360 001001                    BNE     1$
1991 014362 000402                    BR      2$
1992
1993 014364 062705 000002          1$:     ADD      #2,R5
1994 014370 000205                    2$:     RTS      R5

```

KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

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014372 005077 176052  
014376 012777 054000 176044  
014404  
  
014416 012702 000010  
014422 013701 012450  
014426 005021  
014430 005302  
014432 001375  
014434 004537 013702  
014440 000000  
014442 000000  
014444 000000  
014446 000000  
014450 000000  
014452 000000  
014454 000000  
014456 000000  
014460 000404  
014462  
014472 000207

:ROUTINE TO CLEAR KMV11 MODULE

:CALLING SEQUENCE:  
: JSR PC,CLRKMV

:ROUTINE DESCRIPTION: CLEAR ALL CSR'S REGISTERS AND CHECK IF = 0

CLRKMV: CLR @KMVCSR  
MOV #MAINT0,@KMVCSR  
WAITA 0

1\$: MOV #10,R2  
MOV KMVCSR,R1 :LOAD ADDRESS  
CLR (R1)+ :CLEAR  
DEC R2 :ALL DONE  
BNE 1\$ :NO  
JSR R5,CKALL :CHECK ALL REG = 0  
.WORD 0  
.WORD 0  
.WORD 0  
.WORD 0  
.WORD 0  
.WORD 0  
.WORD 0  
.WORD 0

2\$: BR 2\$ :OK BRANCH AT END  
ERRHRD 1,EM0002,PRALL :CSR'S REGISTERS CAN'T BE CLEARED  
RTS PC

KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

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2032 ;ROUTINE TO SET MAINT MODE 1 AND CHECK DCT11 CLEAR SELO AFTER HAVING DECODED

2033

2034

2035 ;CALLING SEQUENCE:

2036 ; JSR PC,MAINM1

2037

2038

2039

2040 ;GIVE AN ERROR IF MASTER CLEAR IS NOT CLEAR BY DCT11

2041 ;

2042 ;MAINT1= MASTER CLEAR=1 + MAINT 1 =0 + MODE = 1 : T11=HOLD

2043

2044

2045

2046

2047

2048

2049

2050 014474 005077 175750 MAINM1: CLR @KMVCSR

2051 014500 000240 NOP

2052 014502 000240 NOP

2053 014504 000240 NOP

2054

2055 014506 012777 044000 175734 MOV #MAINT1,@KMVCSR ;LOAD ADDRESS

2056 014514 012737 000000 002260 MOV #0,DELCT1

2057 014522 012737 000001 002262 MOV #1,DELCT2

2058 014530 004737 012702 JSR PC,WAIT2

2059 014534 004537 013612 JSR R5,CKSELO ;CHECK SELO=0 BUT MODE BIT =1

2060 014540 004000 .WORD 4000

2061 014542 000404 BR 1\$ ;OK BRANCH

2062 014544 ERRHRD 2,EM0001,PRSELO

2063 014554 000207 1\$: RTS PC

2064

2065

2066

2067

2068

KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

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2087  
2088

014556 012537 012412  
014562 053777 012412 175660  
014570 012737 000000 002260  
014576 004737 012722  
014602 000205

;ROUTINE TO SET TEST NUMBER ON BSELO

;CALLING SEQUENCE:  
: JSR R5,TSTNUB  
: .WORD A

A=TEST MICRO PROGRAM NUMBER

TSTNUB: MOV (R5)+,NUB  
BIS NUB,@KMVCSR  
MOV #0000,DELCT1  
JSR PC,WAIT1  
RTS R5

;LOAD TEST NUMBER

;WAIT

KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

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2146

:ROUTINE TO WRITE OR READ ONE OF THE KMV11 REGISTERS

:CALLING SEQUENCE:

:JSR R5,WRITE  
:WORD A  
:WORD B

A=ADDRESS TO WRITE  
B=DATA TO WRITE

:JSR R5,READ  
:WORD A

A=ADDRESS TO READ

:MICRO DIAG NB 47 DESCRIPTION:  
:WRITE: PUT ADDRESS TO WRITE IN SEL2  
: PUT DATA TO WRITE IN SEL4  
: SET BIT 0 OF SEL6(WRITE BIT)  
: SET TEST NB 44  
: KMV11 CLEAR BSELO WHEN DONE

:READ: PUT ADDRESS TO READ IN SEL2  
: CLEAR BIT 0 IN SEL6  
: SET TEST 47  
: KMV11 READ ADDRESS IN SEL2 AND CLEAR BSELO WHEN DONE

WRITE: MOV (R5)+,@KMVP02  
MOV (R5)+,@KMVP04  
MOV #1,@KMVP06  
JSR R5,TSTNUB  
.WORD 47  
RTS R5

:WRITE ADDRESS  
: DATA  
:BIT WRITE  
:SEND TEST NB 44  
:RETURN

READ: MOV (R5)+,@KMVP02  
CLR @KMVP04  
CLR @KMVP06

:SET ADDRESS TO READ  
:SEND TEST NB 44

JSR R5,TSTNUB  
.WORD 47

JSR PC,TSTERR  
BR 1\$

:CHECK BSEL 0  
:OK

014604 012577 175642  
014610 012577 175640  
014614 012777 000001 175634  
014622 004537 014556  
014626 000047  
014630 000205  
014632 012577 175614  
014636 005077 175612  
014642 005077 175610  
014646 004537 014556  
014652 000047  
014654 004737 013074  
014660 000412



KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

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|      |        |        |        |        |      |        |             |                   |
|------|--------|--------|--------|--------|------|--------|-------------|-------------------|
| 2147 | 014662 | 000402 |        |        |      | BR     | 2\$         |                   |
| 2148 | 014664 | 000401 |        |        |      | BR     | 2\$         |                   |
| 2149 | 014666 | 000400 |        |        |      | BR     | 2\$         |                   |
| 2150 |        |        |        |        |      |        |             |                   |
| 2151 | 014670 |        |        |        | 2\$: | ERRHRD | 4,EM0004    | ;NO KMV ANSWER    |
| 2152 | 014700 | 004737 | 012732 |        |      | JSR    | PC,CHKMAX   |                   |
| 2153 | 014704 | 000205 |        |        |      | RTS    | R5          |                   |
| 2154 |        |        |        |        |      |        |             |                   |
| 2155 | 014706 | 017737 | 175542 | 012366 | 1\$: | MOV    | @KMVP04,BAD | ;READ DATA IN BAD |
| 2156 | 014714 | 000205 |        |        |      | RTS    | R5          |                   |
| 2157 |        |        |        |        |      |        |             |                   |
| 2158 |        |        |        |        |      |        |             |                   |
| 2159 |        |        |        |        |      |        |             |                   |
| 2160 |        |        |        |        |      |        |             |                   |
| 2161 |        |        |        |        |      |        |             |                   |

KMV11 A LINE CNT DIAGNOSTIC  
RESTORE REGISTERS

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2163  
2164  
2165  
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```
.MACRO EDSCALL XY  
.LIST  
:***** TEST'XY' *****  
.NLIST  
.ENDM
```

```
.MACRO BADHEAD  
.RADIX 10  
EDSCALL \TSTESTNUM+1  
.RADIX 8  
.ENDM
```

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL ERROR REPORT SECTION

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2241  
2242

.SBTTL GLOBAL ERROR REPORT SECTION

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

.NLIST BEX

|        |     |     |     |         |  |
|--------|-----|-----|-----|---------|--|
| 014716 | 040 | 102 | 125 | TIM:    | .ASCIZ / BUS TIMEOUT/  |
| 014733 | 045 | 116 | 045 | TFM36:  | .ASCIZ /%N%REGISTER ADDRESS ERROR,ADDRESS = %06%A,UNIT = %02/        |
| 015021 | 115 | 101 | 123 | EM0001: | .ASCIZ /MASTER CLEAR FAIL TO RESET: DCT11 CAN'T CLEAR MASTER CLEAR / |
| 015115 | 040 | 113 | 115 | EM0002: | .ASCIZ / KMV11 REGISTERS CAN'T BE CLEARED /                          |
| 015160 | 040 | 104 | 101 | EM0003: | .ASCIZ / DATA COMPARE ERROR ON KMV11 REGISTER (SEL2 TO SEL16)/       |
| 015246 | 040 | 116 | 117 | EM0004: | .ASCIZ / NO ANSWER FROM KMV11 /                                      |
| 015275 | 124 | 111 | 115 | EM0006: | .ASCIZ /TIMEOUT DURING KMV11 MICRO TEST /                            |
| 015336 | 111 | 116 | 124 | EM0007: | .ASCIZ /INTERUPT OCCURED ON KMV11 AT INCORRECT VECTOR /              |
| 015416 | 113 | 115 | 126 | EM0011: | .ASCIZ /KMV11 REAL TIME CLOCK FAILED TO INTERUPT /                   |
| 015470 | 107 | 105 | 116 | EM0012: | .ASCIZ /GENERATOR COUNT CAN'T BE READ OR WRITE CORRECTLY /           |
| 015552 | 107 | 105 | 116 | EM0013: | .ASCIZ /GENERATOR OUTPUT ISN'T IN A GOOD STATE(NO ACTION ON OUTPUT)/ |
| 015646 | 116 | 117 | 040 | EM0033: | .ASCIZ /NO CHANGE IN BAUD RATE GENERATOR COUNT /                     |
| 015716 | 116 | 117 | 040 | EM0014: | .ASCIZ /NO ACTION ON BAUD RATE GENERATOR OUTPUT /                    |
| 015767 | 105 | 122 | 122 | EM0015: | .ASCIZ /ERROR WHEN TRANSMITTING IN INTERNAL LOOP WITHOUT INTERUPTS / |
| 016063 | 105 | 122 | 122 | EM0016: | .ASCIZ /ERROR WHEN TRANSMITTING FRAMES IN INTERNAL LOOPBACK MODE /   |
| 016156 | 105 | 122 | 122 | EM0017: | .ASCIZ /ERROR WHEN TRANSMITTING FRAMES IN EXTERNAL LOOPBACK /        |
| 016243 | 105 | 122 | 122 | EM0022: | .ASCIZ /ERROR DURING TRANSMISSION AND RECEPTION OF FRAMES /          |
| 016326 | 122 | 105 | 101 | EM0023: | .ASCIZ /REAL TIME CLOCK INTERUPT OCCURED TOO EARLY /                 |
| 016402 | 111 | 116 | 103 | EM0024: | .ASCIZ /INCORRECT KMV11 REPLY /                                      |
| 016431 | 116 | 117 | 040 | EM0027: | .ASCIZ /NO LOOP BACK CONNECTOR,TEST NOT EXECUTED /                   |
| 016503 | 105 | 122 | 122 | EM0031: | .ASCIZ /ERROR WHEN TRANSMITTING IN INTERNAL LOOP WITHOUT INTERUPTS / |
| 016577 | 115 | 117 | 104 | EM0032: | .ASCIZ /MODEM SIGNAL ERROR ON CHANNEL IN EXTERNAL LOOPBACK /         |
| 016663 | 040 | 120 | 122 | EM0035: | .ASCIZ / PROM REVISION IS NOT COMPATIBLE WITH DIAGNOSTIC REVISION/   |
| 016755 | 040 | 111 | 116 | EM0036: | .ASCIZ / INTERUPT OCCURED ON DCT11 WHEN REAL TIME CLOCK IS DISABLE/  |

KMV11 A LINE CNT DIAGNOSTIC  
 GLOBAL ERROR REPORT SECTION

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|      |        |     |     |     |                      |  |                     |
|------|--------|-----|-----|-----|----------------------|--|---------------------|
| 2244 | 017050 | 045 | 116 | 045 | MSELO: .ASCIZ /%NZA  | SELO = %06ZA                               | SHOULD BE = %06ZN/  |
| 2245 |        |     |     |     |                      |  |                     |
| 2246 | 017116 | 045 | 116 | 045 | MREG0: .ASCIZ /%NZA  | SELO = %06ZA                               | SHOULD BE = %06/    |
| 2247 | 017162 | 045 | 116 | 045 | MREG2: .ASCIZ /%NZA  | SEL2 = %06ZA                               | SHOULD BE = %06/    |
| 2248 | 017226 | 045 | 116 | 045 | MREG4: .ASCIZ /%NZA  | SEL4 = %06ZA                               | SHOULD BE = %06/    |
| 2249 | 017272 | 045 | 116 | 045 | MREG6: .ASCIZ /%NZA  | SEL6 = %06ZA                               | SHOULD BE = %06/    |
| 2250 | 017336 | 045 | 116 | 045 | MREG10: .ASCIZ /%NZA | SEL10 = %06ZA                              | SHOULD BE = %06/    |
| 2251 | 017402 | 045 | 116 | 045 | MREG12: .ASCIZ /%NZA | SEL12 = %06ZA                              | SHOULD BE = %06/    |
| 2252 | 017446 | 045 | 116 | 045 | MREG14: .ASCIZ /%NZA | SEL14 = %06ZA                              | SHOULD BE = %06/    |
| 2253 | 017512 | 045 | 116 | 045 | MREG16: .ASCIZ /%NZA | SEL16 = %06ZA                              | SHOULD BE = %06/    |
| 2254 |        |     |     |     |                      |  |                     |
| 2255 |        |     |     |     |                      |  |                     |
| 2256 | 017556 | 045 | 116 | 045 | MINT: .ASCIZ /%NZA   | GOOD = %06ZA                               | BAD = %06/          |
| 2257 |        |     |     |     |                      |  |                     |
| 2258 | 017612 | 045 | 116 | 045 | MBSELO: .ASCIZ /%NZA | BSELO = %06ZA                              | SHOULD BE = %06/    |
| 2259 |        |     |     |     |                      |  |                     |
| 2260 |        |     |     |     |                      |  |                     |
| 2261 | 017654 | 045 | 116 | 045 | MVECT: .ASCIZ /%NZA  | RECEIVE BAD VECT = %06ZA                   | SHOULD BE = %06/    |
| 2262 |        |     |     |     |                      |  |                     |
| 2263 |        |     |     |     |                      |  |                     |
| 2264 |        |     |     |     |                      |  |                     |
| 2265 |        |     |     |     |                      |  |                     |
| 2266 |        |     |     |     |                      |  |                     |
| 2267 | 017730 | 045 | 116 | 045 | MT11V: .ASCIZ /%NZA  | RECEIVE VECTOR = %06ZA                     | SHOULD BE = %06/    |
| 2268 | 020006 | 045 | 116 | 045 | MFRAM1: .ASCIZ /%NZA | RECEIVE FRAME IS = %06ZA                   | SHOULD BE = %06/    |
| 2269 | 020064 | 045 | 116 | 045 | MFRAM2: .ASCIZ /%NZA | TRANSMIT SPEED IS = %06ZA                  | FRAME LENGTH = %06/ |
| 2270 |        |     |     |     |                      |  |                     |
| 2271 |        |     |     |     |                      |  |                     |
| 2272 | 020146 | 045 | 116 | 045 | MSTER1: .ASCIZ /%NZA | ERROR STATUS = %06/                        |                     |
| 2273 | 020200 | 045 | 116 | 045 | MSTER2: .ASCIZ /%NZA | WORD COUNT DISCREPANCY = %06/              |                     |
| 2274 |        |     |     |     |                      |  |                     |
| 2275 | 020243 | 045 | 116 | 045 | MODEM1: .ASCIZ /%NZA | TESTED MODEM SIGNAL IS = %06/              |                     |
| 2276 | 020307 | 045 | 116 | 045 | MODEM2: .ASCIZ /%NZA | RESULT OF TEST IS = %06/                   |                     |
| 2277 | 020346 | 045 | 116 | 045 | MODEM3: .ASCIZ /%NZA | MODEM SIGNAL STATE IS = %06/               |                     |
| 2278 | 020411 | 045 | 116 | 045 | MODEM4: .ASCIZ /%NZA | SEE TEST HEADER FOR SIGNAL DESCRIPTION /   |                     |
| 2279 |        |     |     |     |                      |  |                     |
| 2280 | 020466 | 045 | 116 | 045 | MRAMEF: .ASCIZ /%NZA | TXDATA = %06ZA ,                           | RXDATA = %06/       |
| 2281 |        |     |     |     |                      |  |                     |
| 2282 | 020537 | 045 | 116 | 045 | MLOOP: .ASCIZ /%NZA  | NO LOOP BACK CONNECTOR, TEST NOT EXECUTED/ |                     |
| 2283 |        |     |     |     | .EVEN                |  |                     |

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL ERROR REPORT SECTION

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|      |        |               |        |                      |  |                              |
|------|--------|---------------|--------|----------------------|--|------------------------------|
| 2285 | 020616 |               | BGNMSG | PRSELO               |  | ;REPORT SELO                 |
| 2286 | 020616 |               | PRINTB | #MSELO,SELU,GOOD     |  |                              |
| 2287 | 020646 | 004737 012732 | JSR    | PC,CHKMAX            |  | ;CHECK IF TOO MANY ERROR     |
| 2288 | 020652 |               | BREAK  |                      |  |                              |
| 2289 | 020654 |               | ENDMSG |                      |  |                              |
| 2290 |        |               |        |                      |  |                              |
| 2291 |        |               |        |                      |  |                              |
| 2292 |        |               |        |                      |  |                              |
| 2293 | 020656 |               | BGNMSG | PRINT                |  |                              |
| 2294 | 020656 |               | PRINTB | #MINT,GOOD,BAD       |  |                              |
| 2295 | 020706 | 004737 012732 | JSR    | PC,CHKMAX            |  | ;CHECK IF TOO MANY ERROR     |
| 2296 | 020712 |               | BREAK  |                      |  |                              |
| 2297 | 020714 |               | ENDMSG |                      |  |                              |
| 2298 |        |               |        |                      |  |                              |
| 2299 |        |               |        |                      |  |                              |
| 2300 | 020716 |               | BGNMSG | PRALL                |  | ;REPORT CONTENT OF ALL CSR'S |
| 2301 | 020716 |               | PRINTB | #MREG0,SELO,GOOD0    |  |                              |
| 2302 | 020746 |               | PRINTB | #MREG2,SEL2,GOOD2    |  |                              |
| 2303 | 020776 |               | PRINTB | #MREG4,SEL4,GOOD4    |  |                              |
| 2304 | 021026 |               | PRINTB | #MREG6,SEL6,GOOD6    |  |                              |
| 2305 | 021056 |               | PRINTB | #MREG10,SEL10,GOOD10 |  |                              |
| 2306 | 021106 |               | PRINTB | #MREG12,SEL12,GOOD12 |  |                              |
| 2307 | 021136 |               | PRINTB | #MREG14,SEL14,GOOD14 |  |                              |
| 2308 | 021166 |               | PRINTB | #MREG16,SEL16,GOOD16 |  |                              |
| 2309 | 021216 | 004737 012732 | JSR    | PC,CHKMAX            |  | ;CHECK IF TOO MANY ERROR     |
| 2310 | 021222 |               | BREAK  |                      |  |                              |
| 2311 | 021224 |               | ENDMSG |                      |  |                              |
| 2312 |        |               |        |                      |  |                              |
| 2313 |        |               |        |                      |  |                              |
| 2314 |        |               |        |                      |  |                              |
| 2315 |        |               |        |                      |  |                              |
| 2316 |        |               |        |                      |  |                              |
| 2317 |        |               |        |                      |  |                              |
| 2318 | 021226 |               | BGNMSG | PRREG                |  | ;REPORT ALL CSR'S BUT SELO   |
| 2319 | 021226 |               | PRINTB | #MREG2,SEL2,GOOD2    |  |                              |
| 2320 | 021256 |               | PRINTB | #MREG4,SEL4,GOOD4    |  |                              |
| 2321 | 021306 |               | PRINTB | #MREG6,SEL6,GOOD6    |  |                              |
| 2322 | 021336 |               | PRINTB | #MREG10,SEL10,GOOD10 |  |                              |
| 2323 | 021366 |               | PRINTB | #MREG12,SEL12,GOOD12 |  |                              |
| 2324 | 021416 |               | PRINTB | #MREG14,SEL14,GOOD14 |  |                              |
| 2325 | 021446 |               | PRINTB | #MREG16,SEL16,GOOD16 |  |                              |
| 2326 | 021476 | 004737 012732 | JSR    | PC,CHKMAX            |  | ;CHECK IF TOO MANY ERROR     |
| 2327 | 021502 |               | BREAK  |                      |  |                              |
| 2328 | 021504 |               | ENDMSG |                      |  |                              |
| 2329 |        |               |        |                      |  |                              |
| 2330 |        |               |        |                      |  |                              |
| 2331 |        |               |        |                      |  |                              |
| 2332 |        |               |        |                      |  |                              |
| 2333 | 021506 |               | BGNMSG | PADFLT               |  | ;ADDRESS TEST                |
| 2334 | 021506 |               | PRINTB | #TFM36,ADDR,UNIT     |  |                              |
| 2335 | 021536 | 004737 012732 | JSR    | PC,CHKMAX            |  |                              |
| 2336 | 021542 |               | ENDMSG |                      |  |                              |
| 2337 |        |               |        |                      |  |                              |
| 2338 |        |               |        |                      |  |                              |
| 2339 |        |               |        |                      |  |                              |
| 2340 |        |               |        |                      |  |                              |
| 2341 |        |               |        |                      |  |                              |

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL ERROR REPORT SECTION

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|      |        |               |        |                       |                            |
|------|--------|---------------|--------|-----------------------|----------------------------|
| 2342 |        |               |        |                       |                            |
| 2343 |        |               |        |                       |                            |
| 2344 |        |               |        |                       |                            |
| 2345 | 021544 |               | BGNMSG | PBSELG                | :REPORT BSELO              |
| 2346 | 021544 |               | PRINTB | #MBSELO,BSELO,GOOD    |                            |
| 2347 | 021574 | 004737 012732 | JSR    | PC,CHKMAX             | :CHECK IF TOO MANY ERROR   |
| 2348 | 021600 |               | BREAK  |                       |                            |
| 2349 | 021602 |               | ENDMSG |                       |                            |
| 2350 |        |               |        |                       |                            |
| 2351 |        |               |        |                       |                            |
| 2352 |        |               |        |                       |                            |
| 2353 |        |               |        |                       |                            |
| 2354 |        |               |        |                       |                            |
| 2355 |        |               |        |                       |                            |
| 2356 |        |               |        |                       |                            |
| 2357 |        |               |        |                       |                            |
| 2358 | 021604 |               | BGNMSG | PVECT                 | :REPORT VECTOR             |
| 2359 | 021604 |               | PRINTB | #MVECT,VECT,GOOD      |                            |
| 2360 | 021634 | 004737 012732 | JSR    | PC,CHKMAX             | :CHECK IF TOO MANY ERROR   |
| 2361 | 021640 |               | BREAK  |                       |                            |
| 2362 | 021642 |               | ENDMSG |                       |                            |
| 2363 |        |               |        |                       |                            |
| 2364 |        |               |        |                       |                            |
| 2365 |        |               |        |                       |                            |
| 2366 |        |               |        |                       |                            |
| 2367 | 021644 |               | BGNMSG | PRT11V                |                            |
| 2368 | 021644 |               | PRINTB | #MT11V,VECT,GOOD      |                            |
| 2369 | 021674 | 004737 012732 | JSR    | PC,CHKMAX             | :CHECK IF TOO MANY ERROR   |
| 2370 | 021700 |               | BREAK  |                       |                            |
| 2371 | 021702 |               | ENDMSG |                       |                            |
| 2372 |        |               |        |                       |                            |
| 2373 |        |               |        |                       |                            |
| 2374 |        |               |        |                       |                            |
| 2375 |        |               |        |                       |                            |
| 2376 | 021704 |               | BGNMSG | PFRAME                | :REPORT FRAME ERROR        |
| 2377 | 021704 |               | PRINTB | #MFRAM1,RXDATA,TXDATA |                            |
| 2378 | 021734 |               | PRINTB | #MFRAM2,TSPEED,LENGTH |                            |
| 2379 | 021764 | 004737 012732 | JSR    | PC,CHKMAX             | :CHECK IF TOO MANY ERROR   |
| 2380 | 021770 |               | BREAK  |                       |                            |
| 2381 | 021772 |               | ENDMSG |                       |                            |
| 2382 |        |               |        |                       |                            |
| 2383 |        |               |        |                       |                            |
| 2384 |        |               |        |                       |                            |
| 2385 |        |               |        |                       |                            |
| 2386 |        |               |        |                       |                            |
| 2387 | 021774 |               | BGNMSG | PMODEM                | :REPORT MODEM SIGNAL ERROR |
| 2388 | 021774 |               | PRINTB | #MODEM1,GOOD          |                            |
| 2389 | 022020 |               | PRINTB | #MODEM2,BAD           |                            |
| 2390 | 022044 |               | PRINTB | #MODEM3,DATA          |                            |
| 2391 | 022070 |               | PRINTB | #MODEM4               |                            |
| 2392 | 022110 | 004737 012732 | JSR    | PC,CHKMAX             | :CHECK IF TOO MANY ERROR   |
| 2393 | 022114 |               | BREAK  |                       |                            |
| 2394 | 022116 |               | ENDMSG |                       |                            |
| 2395 |        |               |        |                       |                            |
| 2396 |        |               |        |                       |                            |
| 2397 |        |               |        |                       |                            |
| 2398 |        |               |        |                       |                            |

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL ERROR REPORT SECTION

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022120  
022120  
022150  
022152  
  
022154  
022154  
022200  
022224  
022230  
022232

004737 012732

BGNMSG PRAMEF  
PRINTB #MRAMEF, TXDATA, RXDATA  
BREAK  
ENDMSG

;SHORT REPORT FOR FRAME ERROR

BGNMSG PRSTER  
PRINTB #MSTER1, STAERR  
PRINTB #MSTER2, WRDCNT  
JSR PC, CHKMAX  
BREAK  
ENDMSG

;REPORT ERROR STATUS ,WORD CNT

;CHECK IF TOO MANY ERROR

KMV11 A LINE CNT DIAGNOSTIC  
GLOBAL ERROR REPORT SECTION

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.SBTTL REPORT CODING SECTION

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

022234

BGNRPT

022234

EXIT RPT

022240

ENDRPT



```

2454          .SBTTL  INITIALIZE SECTION
2455
2456          :////////////////////////////////////////////////////////////////////
2457          :/ THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
2458          :/ AT THE BEGINNING OF EACH PASS.
2459          :////////////////////////////////////////////////////////////////////
2460
2461 022242          BGNINIT
2462
2463
2498
2499          .EVEN
2500
2501
2502          .EVEN
2503
2504
2505
2506          :INITIALIZE SUBROUTINE STACK
2507 022242 012705 012672          MOV      #SSTACK,R5
2508          :STORE BASE LEVEL PROGRAM STACK POINTER
2509 022246 010637 002246          MOV      SP,PSTACK
2510 022252 005737 002250          TST      FTIME
2511 022256 001011          BNE      1$
2512 022260 013737 000004 002252          MOV      @#4,SAVE4
2513 022266 013737 000006 002254          MOV      @#6,SAVE6
2514 022274 012737 000001 002250          MOV      #1,FTIME
2515 022302 013737 002252 000004 1$: MOV      SAVE4,@#4
2516 022310 013737 002254 000006          MOV      SAVE6,@#6
2517
2518 022316          READEF #EF.START          :START COMMAND?
2519 022324          BCOMPLETE          SETUP          :IF YES BRANCH
2520
2521 022326          READEF #EF.CONTINUE
2522 022334          BCOMPLETE          END          :CONTINUE COMMAND?
2523
2524 022336          READEF #EF.NEW
2525 022344          BNCOMPLETE          NEXT          :NEW PASS?
2526          :IF NOT EXIT SETUP
2527 022346 012737 177777 012432 SETUP: MOV      #-1,UUT          :INITIALISE UNIT NUMBER
2528
2529 022354 005237 012432          NEXT: INC      UUT          :POINT NEXT UNIT
2530 022360 023737 012432 002240          CMP      UUT,LSUIT          :ALL DONE?
2531 022366 001521          BEQ      ABORT          :IF YES END OF PASS
2532
2533 022370 013701 012432          MOV      UUT,R1
2534 022374          PRINTF #RUNNING,R1          :PRINT RUNNING MESSAGE
2535          .EVEN
2536
2537
2538 022416          GPHARD UUT,R1          :GET P TABLE
2539 022426          BNCOMPLETE          NEXT          :IF NOT AVAILABLE GET NEXT
2540
2541
2542 022430          GETPRM:
2543
2544 022430 011137 012450          MOV      (R1),KMVCSR          :GET ADDRESS OF KMV11

```



KMV11 A LINE CNT DIAGNOSTIC  
INITIALIZE SECTION

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2602 022724  
2603  
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2606

END: ENDINIT

2608  
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2647  
2648  
2649

.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 #7,R5 :7 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  
DEC R5 :DEC REGISTER COUNT  
BNE 1\$ :BR IF NOT LAST REGISTER  
BR 3\$  
2\$: ADD #4,SP  
DODU LOGDEV  
3\$: MOV SAVE4,4  
MOV SAVE6,6  
ENDAUTO

022726

013701 012450  
012705 000007  
012737 022770 000004  
012737 000340 000006  
005711  
000240  
062701 000002  
005305  
001372  
000405

1\$:

2\$:

3\$:

000004  
000006

000004  
000006

023002  
023010  
023016



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.SBTTL DROP UNIT SECTION

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

023024

BGNDU

023024

.EVEN  
PRINTF #DROPD,RO :UNIT DROPPED

023046

EXIT DU

023052

045 116 045 DROPD: .NLIST BEX  
.ASCIZ /%N% UNIT %D2% DROPPED/  
.LIST BEX  
.EVEN

023102

ENDDU



KMV11 A LINE CNT DIAGNOSTIC  
HARDWARE TESTS

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2770  
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2775 023106  
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2800  
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2816  
2822

.SBTTL HARDWARE TESTS

:START OF CODE BLOCK WHICH IS USED AS DATA  
ROMMAP:;++  
: TEST TO ...  
:--

: BGNTST

: EXIT TST

: .EVEN  
ENDTST



KMV11 A LINE CNT DIAGNOSTIC  
HARDWARE TESTS

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2824 023106

2825

2826

2827 023106

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2829 023106

2830 023106 013701 0:2450

2831 023112 012705 000007

2832 023116 012737 023154 000004

2833 023124 012737 000340 000006

2834 023132 005711

2835 023134 000240

2836 023136

2837 023142 062701 000002

2838 023146 005305

2839 023150 001370

2840 023152 000413

2841

2842 023154 062706 000004

2843 023160 010137 002354

2844 023164 013737 012432 012422

2845 023172

2846

2847 023202 013737 002252 000004

2848 023210 013737 002254 000006

2849 023216

2850

2851 023222

2852

2853

BADHEAD  
:\*\*\*\*\* TEST1 \*\*\*\*\*  
:\*VERIFY THAT REFERENCING UNIBJS DEVICE REGISTERS  
:\*DOES NOT CAUSE A TIME OUT TRAP  
BADHEAD

:\*\*\*\*\* TEST1 \*\*\*\*\*

BGNTST

MOV KMVCSR,R1 ;R1 CONTAINS KMV11 ADDRESSES  
MOV #7,R5 ;7 REGISTERS TO BE TESTED  
MOV #2\$,4 ;SET OUT TIMEOUT TRAP  
MOV #340,6 ;LEVEL 7  
1\$: TST (R1) ;REFERENCE DEVICE REGISTERS  
NOP

ESCAPE TST  
ADD #2,R1 ;NEXT REGISTER  
DEC R5 ;DEC REGISTER COUNT  
BNE 1\$ ;BR IF NOT LAST REGISTER  
BR 3\$

2\$: ADD #4,SP  
MOV R1,ADDR  
MOV UUT,UNIT  
ERRHRD 0,TIM,PADFLT ;TIME OUT ERROR

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

ENDTST  
.EVEN

KMV11 A LINE CNT DIAGNOSTIC  
HARDWARE TESTS

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2855 023224

BADHEAD

:\*\*\*\*\* TEST2 \*\*\*\*\*  
:CHECK PROM REVISION TO SEE IF COMPATIBLE WITH DIAGNOSTIC

2856  
2857 023224

BADHEAD

:\*\*\*\*\* TEST2 \*\*\*\*\*

2858  
2859  
2860  
2861  
2862 023224

STARS 1

:READ LOCATION 2 OF THE PROM (ADDRESS 160002) WHICH CONTAINS PROM VERSION  
:NUMBER

2863  
2864  
2865  
2866 023224

:CHECK IF DIAGNOSTIC AND PROM ARE COMPATIBLE AND GIVE AN ERROR IF NOT  
STARS 1

2867  
2868  
2869  
2870  
2871

2872 023224

BGNTST

2873 023224 004737 014372  
2874 023230 004737 014474

JSR PC,CLRKMV  
JSR PC,MAINM1

:CLEAR ALL REGISTERS  
:SET MAINT MODE

2875  
2876

2877 023234 004537 014632  
2878 023240 160002

REVPRO: JSR R5,READ  
.WORD 160002

:READ LOCATION 160002

2879  
2880

2881 023242 023737 012424 012366  
2882 023250 001410

CMP GDREV,BAD  
BEQ 1\$

:LOOK IF COMPATIBLE  
:YES

2883

2884 023252  
2885 023262 004737 012732

ERRHRD 7,EM0035  
JSR PC,CHKMAX  
ESCAPE TST

:REPORT THE ERROR  
:CHECK IF TOO MANY ERROR

2886 023266

2887 023272

1\$:  
ENDTST

2890  
2891  
2892 023274

BADHEAD  
:\*\*\*\*\* TEST3 \*\*\*\*\*  
:REAL TIME CLOCK TEST  
BADHEAD  
:\*\*\*\*\* TEST3 \*\*\*\*\*

2893  
2894 023274

2895  
2896  
2897  
2898  
2899  
2900  
2901 023274

STARS 1  
:THIS TEST CHECK KMV11 REAL TIME CLOCK.  
:THE DCT11 FULLY EXECUTE THIS MICRO TEST AND GIVE A RESULT VIA CSR'S  
:TO THE HOST. (TIMING IN CHECKED BY DCT11)

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:TEST DESCRIPTION:  
:DCT11 ENABLE KMV11 CLOCK, AND THEN SET UP A 80 MS PERIODE CLOCK.  
:DCT11 WAIT FOR AT LEAST 80 MS AND CHECK IF AN INTERUPT OCCUR  
:ON DCT11 CHIP AT VECTOR 130  
:DCT11 TURN OF CLOCK, WAIT AGAIN FOR MORE THAN 80 MS AND CHECK THAT  
:NO INTERUPT OCCUR

:ERROR REPORTING:      BSELO=200      IF TIMEOUT DURING TEST  
                          BSELO=100      IF ERROR DURING TEST  
                          BSELO=TEST NUB    IF NO KMV11 ANSWER  
                          BSELO=0        IF TEST IS OK  
:IF ERROR                SEL6=1            IF NO INTERUPT OCCUR  
                          SEL6=2            IF BAD VECTOR  
                          SEL6=4            IF INTERUPT OCCUR WHEN CLOCK  
  IS NOT ENABLE  
                          SEL6=10        INTERUPT OCCUR TOO EARLY

SEL2=EXPECTED VECTOR

: MICRO TEST NB= 27

2941  
2942  
2943  
2944 023274

:CAUTION:                KMV11 CRISTAL FREQUENCY CAN'T BE CHECKED WITH THIS TEST;  
                          FOR THAT THE OPERATOR MUST SCOPE THE CRISTAL SIGNAL  
                          DIRECTLY ON THE MODULE ON IC Y2 (13824 KHZ)  
STARS 1

KMV11 A LINE CNT DIAGNOSTIC  
HARDWARE TESTS

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|      |        |        |        |        |        |            |              |                                   |  |
|------|--------|--------|--------|--------|--------|------------|--------------|-----------------------------------|--|
| 2946 |        |        |        |        |        |            |              |                                   |  |
| 2947 | 023274 |        |        |        | BGNTST |            |              |                                   |  |
| 2948 | 023274 | 004737 | 014372 |        | JSR    | PC,CLRKMV  |              | :CLR REG                          |  |
| 2949 | 023300 | 004737 | 014474 |        | JSR    | PC,MAINM1  |              | :SET MAINT MODE                   |  |
| 2950 | 023304 | 004537 | 014556 |        | RTCLK: | R5,TSTNUB  |              |                                   |  |
| 2951 | 023310 | 000027 |        |        | .WORD  | 27         |              |                                   |  |
| 2952 |        |        |        |        |        |            |              |                                   |  |
| 2953 | 023312 |        |        |        | WAITB  | 0,2        |              | :WAIT FOR TEST EXECUTION          |  |
| 2954 |        |        |        |        |        |            |              |                                   |  |
| 2955 |        |        |        |        |        |            |              |                                   |  |
| 2956 | 023332 | 004737 | 013074 |        | JSR    | PC,TSTERR  |              | :CHECK BSELO                      |  |
| 2957 | 023336 | 000522 |        |        | BR     | 1\$        |              | :TEST OK                          |  |
| 2958 | 023340 | 000423 |        |        | BR     | 2\$        |              | :TIMEOUT ERROR                    |  |
| 2959 | 023342 | 000432 |        |        | BR     | 3\$        |              | :NO KMV ANSWER                    |  |
| 2960 |        |        |        |        |        |            |              |                                   |  |
| 2961 |        |        |        |        |        |            |              |                                   |  |
| 2962 | 023344 | 022777 | 000001 | 167104 | CMP    | #1,@KMVP06 |              | :ERROR DURING TEST .SEE WHICH ONE |  |
| 2963 | 023352 | 001436 |        |        | BEQ    | 4\$        |              | :NO INTERRUPT OCCUR               |  |
| 2964 |        |        |        |        |        |            |              |                                   |  |
| 2965 | 023354 | 022777 | 000002 | 167074 | CMP    | #2,@KMVP06 |              |                                   |  |
| 2966 | 023362 | 001442 |        |        | BEQ    | 5\$        |              | :INT ON BAD VECTOR                |  |
| 2967 |        |        |        |        |        |            |              |                                   |  |
| 2968 | 023364 | 022737 | 000004 | 012456 | CMP    | #4,KMVP06  |              |                                   |  |
| 2969 | 023372 | 001454 |        |        | BEQ    | 6\$        |              | :INT OCCUR WHEN CLOCK IS DESABLE  |  |
| 2970 |        |        |        |        |        |            |              |                                   |  |
| 2971 |        |        |        |        |        |            |              |                                   |  |
| 2972 |        |        |        |        |        |            |              |                                   |  |
| 2973 | 023374 | 022737 | 000010 | 012456 | CMP    | #10,KMVP06 |              | :INTERUPT OCCUR TOO EARLY         |  |
| 2974 | 023402 | 001460 |        |        | BEQ    | 7\$        |              |                                   |  |
| 2975 |        |        |        |        |        |            |              |                                   |  |
| 2976 | 023404 | 000137 | 023564 |        | JMP    | 10\$       |              | :WRONG KMV11 ANSWER               |  |
| 2977 |        |        |        |        |        |            |              |                                   |  |
| 2978 |        |        |        |        |        |            |              |                                   |  |
| 2979 |        |        |        |        |        |            |              |                                   |  |
| 2980 |        |        |        |        |        |            |              |                                   |  |
| 2981 | 023410 |        |        |        | 2\$:   | ERRHRD     | 8,EM0006     | :TIMEOUT ERROR                    |  |
| 2982 | 023420 | 004737 | 012732 |        | JSR    | PC,CHKMAX  |              | :CHECK IF TOO MANY ERROR          |  |
| 2983 | 023424 |        |        |        | ESCAPE | TST        |              |                                   |  |
| 2984 |        |        |        |        |        |            |              |                                   |  |
| 2985 |        |        |        |        |        |            |              |                                   |  |
| 2986 |        |        |        |        |        |            |              |                                   |  |
| 2987 | 023430 |        |        |        | 3\$:   | ERRHRD     | 9,EM0004     | :NO KMV11 ANSWER                  |  |
| 2988 | 023440 | 004737 | 012732 |        | JSR    | PC,CHKMAX  |              | :CHECK IF TOO MANY ERROR          |  |
| 2989 | 023444 |        |        |        | ESCAPE | TST        |              |                                   |  |
| 2990 |        |        |        |        |        |            |              |                                   |  |
| 2991 |        |        |        |        |        |            |              |                                   |  |
| 2992 | 023450 |        |        |        | 4\$:   | ERRHRD     | 10,EM0011    | :NO INTERRUPT OCCUR               |  |
| 2993 | 023460 | 004737 | 012732 |        | JSR    | PC,CHKMAX  |              | :CHECK IF TOO MANY ERROR          |  |
| 2994 | 023464 |        |        |        | ESCAPE | TST        |              |                                   |  |
| 2995 |        |        |        |        |        |            |              |                                   |  |
| 2996 |        |        |        |        |        |            |              |                                   |  |
| 2997 |        |        |        |        |        |            |              |                                   |  |
| 2998 | 023470 | 017737 | 166760 | 012374 | 5\$:   | MOV        | @KMVP04,VECT | :READ BAD VECT                    |  |
| 2999 | 023476 | 012737 | 000130 | 002264 | MOV    | #130,GOOD  |              |                                   |  |
| 3000 | 023504 |        |        |        | ERRHRD | 11,EM0007  |              | :INTERUPT OCCUR AT A BAD VECTOR   |  |
| 3001 | 023514 | 004737 | 012732 |        | JSR    | PC,CHKMAX  |              | :CHECK IF TOO MANY ERROR          |  |
| 3002 | 023520 |        |        |        | ESCAPE | TST        |              |                                   |  |

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|      |        |        |        |        |                  |                                    |
|------|--------|--------|--------|--------|------------------|------------------------------------|
| 3003 |        |        |        |        |                  |                                    |
| 3004 |        |        |        |        |                  |                                    |
| 3005 | 023524 |        |        | 6\$:   | ERRHRD 12,EM0036 | :INT OCCUR WHEN CHIP IS DESABLE    |
| 3006 | 023534 | 004737 | 012732 |        | JSR PC,CHKMAX    | :CHECK IF TOO MANY ERROR           |
| 3007 | 023540 |        |        |        | ESCAPE TST       |                                    |
| 3008 |        |        |        |        |                  |                                    |
| 3009 |        |        |        |        |                  |                                    |
| 3010 |        |        |        |        |                  |                                    |
| 3011 |        |        |        |        |                  |                                    |
| 3012 | 023544 |        |        | 7\$:   | ERRHRD 13,EM0023 | :INTERUPT OCCUR TOO EARLY ON KMV11 |
| 3013 | 023554 | 004737 | 012732 |        | JSR PC,CHKMAX    | :CHECK IF TOO MANY ERROR           |
| 3014 | 023560 |        |        |        | ESCAPE TST       |                                    |
| 3015 |        |        |        |        |                  |                                    |
| 3016 |        |        |        |        |                  |                                    |
| 3017 |        |        |        |        |                  |                                    |
| 3018 |        |        |        |        |                  |                                    |
| 3019 |        |        |        |        |                  |                                    |
| 3020 |        |        |        |        |                  |                                    |
| 3021 | 023564 |        |        | 10\$:  | ERRHRD 14,EM0024 | :INCORRECT KMV11 RESULT            |
| 3022 | 023574 | 004737 | 012732 |        | JSR PC,CHKMAX    | :CHECK IF TOO MANY ERROR           |
| 3023 | 023600 |        |        |        | ESCAPE TST       |                                    |
| 3024 |        |        |        |        |                  |                                    |
| 3025 |        |        |        |        |                  |                                    |
| 3026 |        |        |        |        |                  |                                    |
| 3027 |        |        |        |        |                  |                                    |
| 3028 | 023604 | 000240 |        | 1\$:   | NOP              |                                    |
| 3029 | 023606 |        |        | ENDTST |                  |                                    |
| 3030 |        |        |        |        |                  |                                    |
| 3031 |        |        |        |        |                  |                                    |
| 3032 |        |        |        |        |                  |                                    |

3034 023610

BADHEAD

3035

:\*\*\*\*\* TEST4 \*\*\*\*\*

3036 023610

:BAUD RATE GENERATOR TEST

BADHEAD

:\*\*\*\*\* TEST4 \*\*\*\*\*

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3045 023610

STARS 1

:THIS TEST READ THE STATUS AND THE OUTPUT OF THE BAUD RATE GENERATOR

:DURING EACH PHASE OF THE CLOCK PULSE.

:NOTE:THIS TEST AND ALL THE VERIFICATIONS ARE MADE BY THE DCT11 WHICH

:ONLY GIVE TEST RESULT VIA CSR'S TO THE HOST(TIMING IS CHECKED BY DCT11)

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:TEST DESCRIPTION:

-DCT11 LOAD GENERATOR COUNT WITH MAX COUNT (=4.74 MSEC)

-READ BACK GENERATOR COUNT ,STATUS AND VALIDATE REPONSE.

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STEP 1:READ COUNT AFTER STARTING CLOCK  
CLOCK COUNT MUST BE NEGATIVE  
OUTPUT MUST BE = 1

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3062

3063

3064

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ERROR REPORTING:  
IF COUNT=POSITIVE

BSEL0=100=ERROR  
SEL6 =1 =GENE COUNT CAN'T BE READ OR  
WRITEN CORRECTLY

3066

3067

3068

3069

IF OUTPUT=0

BSEL0=100=ERROR  
SEL6 =2 =GENE OUTPUT IS NOT CORRECT

3070

3071

3072

STEP 2: WAIT 2,5MSEC AND READ BACK AGAIN GENERATOR COUNT AND STATUS  
OUTPUT MUST BE = 0

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ERROR REPORTING:  
IF OUTPUT =1

BSEL0=100= ERROR  
SEL6=10 =OUTPUT ISN'T IN A GOOD STATE

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3082

STEP3:WAIT 2.5 MSEC MORE AND READ BACK AGAIN GENERATOR COUNT AND STATUS  
OUTPUT MUST BE = 1

3083

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3085

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3088

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3089  
3090  
3091  
3092  
3093  
3094  
3095  
3096  
3097  
3098  
3099 023610

.....

ERROR REPORTING:

IF OUTPUT=0

-ELSE EXIT

BSEL0=100=ERROR  
SEL6=40 =NO ACTION ON GENERATOR OUTPUT

TEST 30=  
STARS 1

TEST GENERATOR A





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3158  
3159 024032  
3160 024042 004737 012732  
3161 024046  
3162  
3163  
3164  
3165 024052  
3166 024052

GENOUT: ERRHRD 19,EM0014  
JSR PC,CHKMAX  
ESCAPE TST

:NO ACTION ON GENERATOR OUTPUT  
:CHECK IF TOO MANY ERROR

BDROKO:  
ENDTST

3168  
3169 024054

BADHEAD

:\*\*\*\*\* TESTS \*\*\*\*\*  
:TRANSMIT DIFFERENT FRAMES (OF 500 WORDS) AT 1,2 KBAUDS SPEED IN  
:INTERNAL MODE WITHOUT ANY INTERRUPT ON CHANNEL A .

3170  
3171  
3172 024054

BADHEAD

:\*\*\*\*\* TESTS \*\*\*\*\*

3173  
3174  
3175  
3176  
3177  
3178  
3179  
3180 024054

STARS 1

:QBUS WRITE DIFFERENT TX TABLE OF 500 WORDS, LOAD IN KMV11 CSR'S  
:THE TX AND RX TABLE ADDRESS ,THE TABLE LENGTH AND TRANSFER SPEED

3181  
3182  
3183  
3184  
3185  
3186  
3187  
3188  
3189  
3190  
3191  
3192  
3193  
3194  
3195  
3196  
3197  
3198  
3199

:DCT11 EXECUTE THE TRANSFER IN INTERNAL MODE ON CHA AND WRITE BACK  
:IN RX TABLE (TRANSFER FROM QBUS TO KMV11 =DMA)  
:QBUS CHECK BSEL0 TO SEE THE STATUS OF THE TEST AND IF TEST DONE CHECK IF  
:RX TABLE =TX TABLE

3200  
3201  
3202  
3203

:PARAMETERS SELECTION:

SEL2= TX TABLE ADDRESS  
SEL4= TX TABLE LENGTH  
BSEL6= EXTENDED ADDRESS OF TX TABLE  
BSEL7= RX  
SEL12= RX TABLE ADDRESS  
SEL14= SPEED SELECTION  
BSEL16= ERROR STATUS  
SEL10= RECEIVED BYTE COUNT      DIFFERENCE BETWEEN RX AND TX TABLE  
   >0 IF TX>RX  
   <0 IF TX<RX  
  
BSEL0= TEST STATUS

3204  
3205  
3206  
3207

:TEST STATUS DESCRIPTION:

BSEL0= 0      =TEST DONE CHECK RX TABLE  
BSEL0= 200    =TIMEOUT ERROR  
BSEL0= TSTNB   =NO KMV11 ANSWER  
BSEL0= 100    =ERROR DURING TEST ,IN THAT CASE SEE WHICH KIND OF  
   ERROR BY TESTING BSEL16.

3208  
3209  
3210  
3211  
3212

:ERROR STATUS DESCRIPTION:

WHEN BSEL0=100,GIVE STATUS AND WORD COUNT DISCREPANCY

3213  
3214  
3215  
3216  
3217  
3218  
3219  
3220  
3221  
3222

BSEL16= BIT14=1 =FCS ERROR  
BSEL16= BIT13=1 =OVERRUN ERROR

KMV11 A LINE CNT DIAGNOSTIC  
HARDWARE TESTS

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3223  
3224  
3225  
3226  
3227  
3228  
3229  
3230  
3231  
3232  
3233  
3234  
3235  
3236  
3237 024054

: BSEL16= BIT8 =1 =ILLEGAL INTERRUPT ERROR  
: BSEL16= BIT7 =1 =RX ABORT ERROR  
: BSEL16= BIT6 =1 =UNDERRUN ERROR  
: BSEL16= BIT5 =1 =WORD COUNT DISCREPANCY  
: BSEL16= BIT4 =1 =DMA IN TIMEOUT ERROR  
: BSEL16= BIT3 =1 =DMA OUT TIMEOUT ERROR  
: BSEL16= BIT2 =1 =CLOCK PROBLEM (NO BUFFER EMPTY)  
: BSEL16= BIT1 =1 =DATA COMPARE ERROR BETWEEN TX AND RX TABLE (USED  
: ONLY DURING SELF TEST)  
: MICRO DIAG TEST DESCRIPTION:  
: TEST 36 =TRANSMIT FRAMES AT 1,2KB SPEED ON CHANNEL A WITHOUT INTERRUPT  
: STARS 1



KMV11 A LINE CNT DIAGNOSTIC  
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|      |        |        |        |        |        |                  |  |  |   |
|------|--------|--------|--------|--------|--------|------------------|--|--|---|
| 3296 |        |        |        |        |        |                  |  |  |   |
| 3297 | 024260 |        |        | 3S:    | ERRHRD | 25,EM0004        |  |  | :NO KMV11 ANSWER                        |
| 3298 | 024270 | 004737 | 012732 |        | JSR    | PC,CHKMAX        |  |  | :CHECK IF TOO MANY ERROR                |
| 3299 | 024274 |        |        |        | ESCAPE | TST              |  |  |   |
| 3300 |        |        |        |        |        |                  |  |  |   |
| 3301 |        |        |        |        |        |                  |  |  |   |
| 3302 |        |        |        |        |        |                  |  |  |   |
| 3303 | 024300 |        |        | 4S:    |        |                  |  |  | :ERROR DURING TEST READ ERROR STATUS    |
| 3304 |        |        |        |        |        |                  |  |  | :TO CHECK WHICH ONE                     |
| 3305 |        |        |        |        |        |                  |  |  |   |
| 3306 | 024300 | 017737 | 166162 |        | MOV    | @KMVP16,STAERR   |  |  | :READ ERROR STATUS                      |
| 3307 |        |        |        |        |        |                  |  |  |   |
| 3308 | 024306 | 017737 | 166146 |        | MOV    | @KMVP10,WRDCNT   |  |  | :READ WORD COUNT DISCREPANCY            |
| 3309 |        |        |        |        |        |                  |  |  |   |
| 3310 | 024314 |        |        |        | ERRHRD | ?6,EM0031,PRSTER |  |  | :ERROR WHILE TX,RX FRAMES,GIVE ERROR    |
| 3311 |        |        |        |        |        |                  |  |  | :GIVE ERROR STATUS,WORD CNT DISCREPANCY |
| 3312 | 024324 |        |        |        | ESCAPE | TST              |  |  |   |
| 3313 |        |        |        |        |        |                  |  |  |   |
| 3314 |        |        |        |        |        |                  |  |  |   |
| 3315 |        |        |        |        |        |                  |  |  |   |
| 3316 |        |        |        |        |        |                  |  |  |   |
| 3317 |        |        |        |        |        |                  |  |  |   |
| 3318 |        |        |        |        |        |                  |  |  |   |
| 3319 |        |        |        |        |        |                  |  |  |   |
| 3320 |        |        |        |        |        |                  |  |  |   |
| 3321 | 024330 | 012702 | 002362 | 6S:    | MOV    | #TTABLE,R2       |  |  | :LOAD TXTABLE ADDRESS                   |
| 3322 | 024334 | 012705 | 006362 |        | MOV    | #RTABLE,R5       |  |  | : " RXTABLE ADDRESS                     |
| 3323 | 024340 | 013704 | 012410 |        | MOV    | LENGTH,R4        |  |  | :TABLE LENGTH                           |
| 3324 |        |        |        |        |        |                  |  |  |   |
| 3325 | 024344 | 022225 |        | RXCK:  | CMP    | (R2)+,(R5)+      |  |  | :CHECK RX AND TX TABLE                  |
| 3326 | 024346 | 001007 |        |        | BNE    | RXERR            |  |  |   |
| 3327 | 024350 | 005304 |        |        | DEC    | R4               |  |  | :ALL CHECK?                             |
| 3328 | 024352 | 001374 |        |        | BNE    | RXCK             |  |  | :NO BRANCH                              |
| 3329 |        |        |        |        |        |                  |  |  |   |
| 3330 |        |        |        |        |        |                  |  |  |   |
| 3331 |        |        |        |        |        |                  |  |  |   |
| 3332 | 024354 | 022703 | 000005 |        | CMP    | #5,R3            |  |  | :ALL KIND OF PATTERN DONE?              |
| 3333 | 024360 | 001255 |        |        | BNE    | TXSTAR           |  |  | :NO TRY WITH NEW ONE                    |
| 3334 |        |        |        |        |        |                  |  |  |   |
| 3335 | 024362 | 000137 | 024504 |        | JMP    | RXEND            |  |  |   |
| 3336 |        |        |        |        |        |                  |  |  |   |
| 3337 | 024366 | 162705 | 000002 | RXERR: | SUB    | #2,R5            |  |  |   |
| 3338 | 024372 | 162702 | 000002 |        | SUB    | #2,R2            |  |  |   |
| 3339 |        |        |        |        |        |                  |  |  |   |
| 3340 | 024376 | 011237 | 012402 |        | MOV    | (R2),TXDATA      |  |  |   |
| 3341 | 024402 | 011537 | 012404 |        | MOV    | (R5),RXDATA      |  |  |   |
| 3342 |        |        |        |        |        |                  |  |  |   |
| 3343 | 024406 | 005737 | 002256 |        | TST    | FLAG             |  |  | :LOOK IF 1ST ERROR                      |
| 3344 | 024412 | 001014 |        |        | BNE    | 7S               |  |  |   |
| 3345 |        |        |        |        |        |                  |  |  |   |
| 3346 | 024414 |        |        |        | ERRHRD | 27,EM0015,PFRAME |  |  | :DATA CMP ERROR                         |
| 3347 | 024424 | 005237 | 002256 |        | INC    | FLAG             |  |  |   |
| 3348 | 024430 | 062702 | 000002 |        | ADD    | #2,R2            |  |  | :POINT NEXT ADDRESS                     |
| 3349 | 024434 | 062705 | 000002 |        | ADD    | #2,R5            |  |  |   |
| 3350 | 024440 | 000137 | 024344 |        | JMP    | RXCK             |  |  |   |
| 3351 |        |        |        |        |        |                  |  |  |   |
| 3352 | 024444 |        |        | 7S:    | ERRHRD | 27,0,PRAMEF      |  |  | :SHORT REPORT                           |

KMV11 A LINE CNT DIAGNOSTIC  
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|      |        |        |        |        |        |          |                     |
|------|--------|--------|--------|--------|--------|----------|---------------------|
| 3353 | 024454 | 005237 | 002256 |        | INC    | FLAG     |                     |
| 3354 | 024460 | 062702 | 000002 |        | ADD    | #2,R2    |                     |
| 3355 | 024464 | 062705 | 000002 |        | ADD    | #2,R5    | :POINT NEXT ADDRESS |
| 3356 | 024470 | 022737 | 000010 | 002256 | CMP    | #10,FLAG | :LOOK IF 10 REPORT  |
| 3357 | 024476 | 001322 |        |        | BNE    | RXCK     |                     |
| 3358 |        |        |        |        |        |          |                     |
| 3359 | 024500 |        |        |        | ESCAPE | TST      |                     |
| 3360 |        |        |        |        |        |          |                     |
| 3361 |        |        |        |        |        |          |                     |
| 3362 | 024504 |        |        |        |        |          |                     |
| 3363 |        |        |        |        |        |          |                     |
| 3364 |        |        |        |        |        |          |                     |
| 3365 |        |        |        |        |        |          |                     |
| 3366 | 024504 |        |        |        |        |          |                     |

RXEND:

ENDTST

3368  
3369  
3370  
3371 024506

BADHEAD  
:\*\*\*\*\* TEST6 \*\*\*\*\*  
:TRANSMIT DIFFERENT FRAME OF VARIOUS LENGTH (FROM 2BYTES TO 2K BYTES)  
:AT 72 KBAUDS IN INTERNAL MODE ON CHANNEL A (TRANSMISSION WITH INTERRUPT)  
BADHEAD  
:\*\*\*\*\* TEST6 \*\*\*\*\*

3372  
3373  
3374 024506

3375  
3376  
3377  
3378  
3379  
3380  
3381  
3382 024506

STARS 1  
:QBUS WRITE DIFFERENT TX TABLE OF VARIOUS LENGTH, LOAD IN KMV11 CSR'S  
:THE TX AND RX TABLE ADDRESS ,THE TABLE LENGTH AND TRANSFER SPEED  
:  
:DCT11 EXECUTE THE TRANSFER IN INTERNAL MODE ON CHA AND WRITTE BACK  
:IN RX TABLE  
:QBUS CHECK BSELO TO SEE THE STATUS OF THE TEST AND IF TEST DONE CHECK IF  
:RX TABLE =TX TABLE  
:SPEED=72 KBAUDS

3383  
3384  
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3389  
3390  
3391  
3392  
3393  
3394  
3395  
3396  
3397  
3398  
3399  
3400  
3401  
3402  
3403  
3404  
3405  
3406  
3407

PARAMETERS SELECTION:  
SEL2= TX TABLE ADDRESS  
SEL4= TX TABLE LENGTH  
BSEL6= EXTENDED ADDRESS OF TX TABLE  
BSEL7= RX  
SEL12= RX TABLE ADDRESS  
SEL14= SPEED SELECTION (= 141 IF 72KBAUDS)  
BSEL16= ERROR STATUS  
BSELO= TEST STATUS  
SEL10= BYTE COUNT DESCREPANCY >0 IF TX>RX  
<0 IF TX<RX

3408  
3409  
3410  
3411  
3412

TEST STATUS DESCRIPTION:  
BSELO= 0 =TEST DONE CHECK RX TABLE  
BSELO= 200 =TIMEOUT ERROR  
BSELO= TSTNB =NO KMV11 ANSWER  
BSELO= 100 =ERROR DURING TEST ,LOOK WHICH ONE BY TESTING BSEL16

3413  
3414  
3415  
3416  
3417  
3418  
3419  
3420  
3421  
3422

ERROR STATUS DESCRIPTION:  
WHEN BSELO=100,GIVE CONTAINIT OF ERROR STATUS AND WORD COUNT DISCREPANCY  
  
BSEL16= BIT14=1 =FCS ERROR  
BSEL16= BIT13=1 =OVERRUN ERROR





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```

3440 024506          BGNTST
3441 024506 004737 014372      JSR    PC,CLRKMV      :CLR REG
3442 024512 004737 014474      JSR    PC,MAINM1     :SET MAINT MODE
3443 024516 005037 002256      CLR    FLAG
3444
3445
3446 024522 012703 000005          MOV    #5,R3          :SELECT RANDOM PATTERN
3447 024526 012737 000141 012406  MOV    #KB72,TSPEED  :SELECT SPEED
3448
3449 024534 012737 000001 012410  TXLTAR: MOV    #1,LENGTH  :START WITH 2 CHARACTERS
3450
3451 024542 013704 012410      TXLBGN: MOV    LENGTH,R4
3452 024546 012702 002362      MOV    #TTABLE,R2
3453 024552 004737 013152      10$:   JSR    PC,GENER    :WRITE TX TABLE
3454 024556 013722 012372      MOV    DATA,(R2)+
3455 024562 005304          DEC    R4
3456 024564 001372          BNE    10$
3457
3458 024566          BREAK
3459
3460 024570 013704 012410      MOV    LENGTH,R4          :CLEAR RX TABLE
3461 024574 012702 006362      MOV    #RTABLE,R2
3462 024600 005022      20$:   CLR    (R2)+
3463 024602 005304          DEC    R4
3464 024604 001375          BNE    20$
3465
3466
3467
3468
3469
3470
3471 024606 013777 012406 165650      MOV    TSPEED,@KMVP14  :SEND TX SPEED
3472 024614 012777 002362 165630      MOV    #TTABLE,@KMVP02 :  " TX TABLE ADDRESS
3473 024622 013777 012410 165624      MOV    LENGTH,@KMVP04  :  " " " " " " LENGTH
3474 024630 012777 006362 165624      MOV    #RTABLE,@KMVP12 :SEND RX TABLE ADDRESS
3475 024636 005077 165614      CLR    @KMVP06         :CLR EXTENDED ADDRESS
3476
3477
3478
3479 024642 004537 014556      JSR    R5,TSTNUB
3480 024646 000040          .WORD  40              :DO TEST 40= CHA TEST
3481
3482 024650          WAITB  0,2            :WAIT FOR TEST EXECUTION
3483
3484
3485 024670 004737 013074      JSR    PC,TSTERR      :CHECK BSELO
3486
3487 024674 000427          BR     6$              :TEST OK CHECK RX TABLE
3488 024676 000402          BR     3$              :TIMEOUT ERROR
3489 024700 000401          BR     3$              :NO KMV11 ANSWER
3490 024702 000410          BR     4$              :CHECK SEL16 TO SEE WHICH ONE
3491
3492
3493 024704          3$:   ERRHRD 28,EM0004  :NO KMV11 ANSWER
3494 024714 004737 012732      JSR    PC,CHKMAX     :CHECK IF TOO MANY ERROR
3495 024720          ESCAPE TST
3496

```

KMV11 A LINE CNT DIAGNOSTIC  
HARDWARE TESTS

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|      |        |        |        |        |  |         |                         |  |   |
|------|--------|--------|--------|--------|--|---------|-------------------------|--|---|
| 3497 | 024724 |        |        |        |  | 4\$:    |                         |  | :ERROR DURING TEST; READ ERROR STATUS   |
| 3498 |        |        |        |        |  |         |                         |  | :TO SEE WHICH ONE                       |
| 3499 |        |        |        |        |  |         |                         |  |   |
| 3500 | 024724 | 017737 | 165536 | 012416 |  |         | MOV @KMVP16,STAERR      |  | :READ ERROR STATUS                      |
| 3501 |        |        |        |        |  |         |                         |  |   |
| 3502 | 024732 | 017737 | 165522 | 012420 |  |         | MOV @KMVP10,WRDCNT      |  | :READ WORD COUNT DISCREPANCY            |
| 3503 |        |        |        |        |  |         |                         |  |   |
| 3504 | 024740 |        |        |        |  |         | ERRHRD 29,EM0022,PRSTER |  | :ERROR WHILE TX,RX FRAMES,GIVE ERROR    |
| 3505 |        |        |        |        |  |         |                         |  | :GIVE ERROR STATUS,WORD CNT DISCREPANCY |
| 3506 | 024750 |        |        |        |  |         | ESCAPE TST              |  |   |
| 3507 |        |        |        |        |  |         |                         |  |   |
| 3508 |        |        |        |        |  |         |                         |  |   |
| 3509 |        |        |        |        |  |         |                         |  |   |
| 3510 |        |        |        |        |  |         |                         |  |   |
| 3511 | 024754 | 012702 | 002362 |        |  | 6\$:    | MOV #TTABLE,R2          |  | :LOAD TX TABLE ADDRESS                  |
| 3512 | 024760 | 012705 | 006362 |        |  |         | MOV #RTABLE,R5          |  | : " RX "                                |
| 3513 | 024764 | 013704 | 012410 |        |  |         | MOV LENGTH,R4           |  | : " TX TABLE LENGTH                     |
| 3514 |        |        |        |        |  |         |                         |  |   |
| 3515 |        |        |        |        |  |         |                         |  |   |
| 3516 | 024770 | 022522 |        |        |  | RXLCK:  | CMP (R5)+,(R2)+         |  | :CMP TX AND RX TABLE                    |
| 3517 | 024772 | 001015 |        |        |  |         | BNE RXLERR              |  | :BR IF ERROR                            |
| 3518 | 024774 | 005304 |        |        |  |         | DEC R4                  |  | :ALL DONE                               |
| 3519 | 024776 | 001374 |        |        |  |         | BNE RXLCK               |  | :NO                                     |
| 3520 |        |        |        |        |  |         |                         |  |   |
| 3521 | 025000 | 062737 | 000400 | 012410 |  |         | ADD #400,LENGTH         |  | :CHANGE LENGTH                          |
| 3522 | 025006 | 022737 | 002000 | 012410 |  |         | CMP #2000,LENGTH        |  | :IS IT MAX?                             |
| 3523 | 025014 | 100252 |        |        |  |         | BPL TXLBGN              |  | :NO DO TEST AGAIN WITH NEW TABLE        |
| 3524 |        |        |        |        |  |         |                         |  | LENGTH                                  |
| 3525 |        |        |        |        |  |         |                         |  | :                                       |
| 3526 | 025016 | 005303 |        |        |  |         | DEC R3                  |  | :SELECT OTHER PATERNS                   |
| 3527 | 025020 | 001245 |        |        |  |         | BNE TXLTAR              |  |   |
| 3528 |        |        |        |        |  |         |                         |  |   |
| 3529 | 025022 | 000137 | 025144 |        |  |         | JMP RXLEND              |  |   |
| 3530 |        |        |        |        |  |         |                         |  |   |
| 3531 |        |        |        |        |  |         |                         |  |   |
| 3532 |        |        |        |        |  |         |                         |  |   |
| 3533 | 025026 | 162705 | 000002 |        |  | RXLERR: | SUB #2,R5               |  |   |
| 3534 | 025032 | 162702 | 000002 |        |  |         | SUB #2,R2               |  |   |
| 3535 |        |        |        |        |  |         |                         |  |   |
| 3536 | 025036 | 011237 | 012402 |        |  |         | MOV (R2),TXDATA         |  |   |
| 3537 | 025042 | 011537 | 012404 |        |  |         | MOV (R5),RXDATA         |  |   |
| 3538 |        |        |        |        |  |         |                         |  |   |
| 3539 | 025046 | 005737 | 002256 |        |  |         | TST FLAG                |  | :LOOK IF 1ST ERROR                      |
| 3540 | 025052 | 001014 |        |        |  |         | BNE 30\$                |  |   |
| 3541 |        |        |        |        |  |         |                         |  |   |
| 3542 | 025054 |        |        |        |  |         | ERRHRD 30,EM0016,PFRAME |  | :DATA CMP ERROR                         |
| 3543 | 025064 | 005237 | 002256 |        |  |         | INC FLAG                |  |   |
| 3544 | 025070 | 062702 | 000002 |        |  |         | ADD #2,R2               |  | :POINT NEXT ADDRESS                     |
| 3545 | 025074 | 062705 | 000002 |        |  |         | ADD #2,R5               |  |   |
| 3546 | 025100 | 000137 | 024344 |        |  |         | JMP RXCK                |  |   |
| 3547 |        |        |        |        |  |         |                         |  |   |
| 3548 | 025104 |        |        |        |  | 30\$:   | ERRHRD 30,0,PRAMEF      |  | :SHORT REPORT                           |
| 3549 | 025114 | 005237 | 002256 |        |  |         | INC FLAG                |  |   |
| 3550 | 025120 | 062702 | 000002 |        |  |         | ADD #2,R2               |  |   |
| 3551 | 025124 | 062705 | 000002 |        |  |         | ADD #2,R5               |  | :POINT NEXT ADDRESS                     |
| 3552 | 025130 | 022737 | 000010 | 002256 |  |         | CMP #10,FLAG            |  | :LOOK IF 10 REPORT                      |
| 3553 | 025136 | 001314 |        |        |  |         | BNE RXLCK               |  |   |

KMV11 A LINE CNT DIAGNOSTIC  
HARDWARE TESTS

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3554  
3555 025140  
3556  
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3558  
3559  
3560 025144  
3561 025144

ESCAPE TST

RXLEND:  
ENDTST

3563  
3564 025146  
3565  
3566  
3567 025146  
3568  
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3574 025146  
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BADHEAD  
:\*\*\*\*\* TEST7 \*\*\*\*\*  
:TRANSMIT DIFFERENT FRAMES OF VARIOUS LENGTH IN EXTERNAL LOOP BACK  
:MODE ON CHANNEL A AT 72KB  
BADHEAD  
:\*\*\*\*\* TEST7 \*\*\*\*\*

STARS 1  
:AT BEGINNING OF TEST ,CHECK IF LOOP BACK CONNECTORS ARE INSTALLED  
:OR NOT:IF NOT INSTALLED = EXIT TEST AND GIVE ERROR MESSAGE  
\*\*\*\*\*  
:QBUS WRITE DIFFERENT TX TABLE OF VARIOUS LENGTH, LOAD IN KMV11 CSR'S  
:THE TX AND RX TABLE ADDRESS ,THE TABLE LENGTH AND TRANSFER SPEED (72KB)  
:DCT11 EXECUTE THE TRANSFER IN EXTERNAL MODE ON CHA AND WRITE BACK  
:IN RX TABLE  
:QBUS CHECK BSEL0 TO SEE THE STATUS OF THE TEST AND IF TEST DONE CHECK IF  
:RX TABLE =TX TABLE  
:PARAMETERS SELECTION:  
SEL2= TX TABLE ADDRESS  
SEL4= TX TABLE LENGTH  
BSEL6= EXTENDED ADDRESS OF TX TABLE  
BSEL7= RX  
SEL12= RX TABLE ADDRESS  
SEL14= SPEED SELECTION (=141 IF 72KB)  
BSEL16= ERROR STATUS  
BSEL0= TEST STATUS  
SEL10= RECEIVE BYTE COUNT >0 IF TX>RX  
<0 IF TX<RX  
:TEST STATUS DESCRIPTION:  
BSEL0= 0 =TEST DONE CHECK RX TABLE  
BSEL0= 200 =TIMEOUT ERROR  
BSEL0= TSTNB =NO KMV11 ANSWER  
BSEL0= 100 =ERROR DURING TEST ,LOOK WHICH ONE BY TESTING BSEL16  
:ERROR STATUS DESCRIPTION:

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WHEN BSELO=100,GIVE CONTAINIT OF ERROR STATUS AND WORD COUNT DISCREPANCY

BSEL16= BIT14=1 =FCS ERROR  
BSEL16= BIT13=1 =OVERRUN ERROR  
BSEL16= BIT8 =1 =ILLEGAL INTERRUPT ERROR  
BSEL16= BIT7 =1 =RX ABORT ERROR  
BSEL16= BIT6 =1 =UNDERRUN ERROR  
BSEL16= BIT5 =1 =BYTE COUNT DISCREPANCY  
BSEL16= BIT4 =1 =DMA IN TIMEOUT ERROR  
BSEL16= BIT3 =1 =DMA OUT TIMEOUT ERROR  
BSEL16= BIT2 =1 =CLOCK PROBLEM  
BSEL16= BIT1 =1 =DATA COMPARE ERROR BETWEEN TX AND RX TABLE (USE ONLY DURING SELF TEST)

MICRO DIAG TEST DESCRIPTION:  
TEST 42 =TRANSMIT VARIOUS LENGTH FRAME AT 72 KBAUDS SPEED ON CHANNEL A IN EXTERNAL LOOP BACK MODE

CAUTION:  
-----  
RUN ONLY WITH EXTERNAL LOOP BACK CONNECTOR:

NOTE:  
TO FULLY TEST KMV11 DIAGNOSTIC MUST BE RUN WITH RS422 AND RS423 EXTERNAL LOOP BACK CONECTOR  
EXTERNAL LOOP BACK CONNECTOR:  
-----  
KMV11 A CAN OPERATE EITHER IN RS422 OR RS 423 LEVEL CONVERTERS

RS422 LOOP BACK:  
TO TEST COMPLETELY A KMV11 B IN RS422 MODE ,RUN THIS DIAGNOSTIC WITH LOOP BACK CONNECTOR PLUG :  
-USE H3255 TO LOOP DIRECTLY AT THE OUTPUT OF THE MODULE  
-USE H3251 PLUG AT THE END OF BC55U MODEM CABLE CONNECTOR ASSY.

RS423 LOOP BACK:  
TO TEST COMPLETELY A KMV11-A IN RS423 MODE ,RUN THIS DIAGNOSTIC WITH LOOP BACK CONNECTOR PLUG :  
-USE H3255 TO LOOP AT THE OUTPUT OF THE MODULE  
-USE H3251 PLUG AT THE END OF BC55H MODEM CABLE CONNECTOR ASSY.

RS232 LOOP BACK:  
SAME AS FOR RS423.



KMV11 A LINE CNT DIAGNOSTIC  
HARDWARE TESTS

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```

3685 025146          BGNTST
3686 025146 004737 014372      JSR    PC,CLRKMV      ;CLEAR REGISTERS
3687 025152 005737 012470      TST    LOOP          ;IS LOOP BIT=1?
3688 025156 001012              BNE    BGNTXA        ;YES GO ON TEST
3689 025160          PRINTF  #MLOOP        ;NO LOOP BACK CONNECTOR
3690          EXIT    TST          ;TEST NOT EXECUTED
3691 025200
3692
3693
3694 025204 004737 014474      BGNTXA: JSR    PC,MAINM1 ;SET MAINT MODE
3695 025210 005037 002256      CLR    FLAG
3696
3697 025214 012703 000005      MOV    #5,R3         ;SELECT RANDOM PATTERN
3698 025220 012737 000141 012406  MOV    #KB72,TSPEED ;SELECT SPEED
3699
3700 025226 012737 000001 012410 TXATAR: MOV    #1,LENGTH ;1ST TABLE LENGTH(1 WORD)
3701
3702 025234 013704 012410      TXABGN: MOV    LENGTH,R4
3703 025240          BREAK
3704
3705 025242 012702 002362      MOV    #TTABLE,R2
3706 025246 004737 013152      10$:  JSR    PC,GENER    ;WRITE TABLE
3707 025252 013722 012372      MOV    DATA,(R2)+
3708 025256 005304          DEC    R4
3709 025260 001372          BNE    10$
3710
3711
3712
3713 025262 013704 012410      MOV    LENGTH,R4
3714 025266 012702 006362      20$:  MOV    #RTABLE,R2    ;CLEAR RX TABLE
3715 025272 005022          CLR    (R2)+
3716 025274 005304          DEC    R4
3717 025276 001375          BNE    20$
3718
3719
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3721
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3723
3724
3725 025300 013777 012406 165156  MOV    TSPEED,@KMVP14 ;SEND TX SPEED
3726 025306 012777 002362 165136  MOV    #TTABLE,@KMVP02 ;" TX TABLE ADDRESS
3727 025314 013777 012410 165132  MOV    LENGTH,@KMVP04 ;" " " " LENGTH
3728 025322 012777 006362 165132  MOV    #RTABLE,@KMVP12 ;SEND RX TABLE ADDRESS
3729 025330 005077 165122          CLR    @KMVP06        ;CLR EXTENDED ADDRESS
3730
3731
3732
3733
3734
3735 025334 004537 014556      1$:  JSR    R5,TSTNUB
3736 025340 000042          .WORD 42              ;DO TEST 42= CHB TEST
3737
3738
3739
3740 025342      2$:  WAITB 0,3          ;WAIT FOR TEST EXECUTION
3741

```

KMV11 A LINE CNT DIAGNOSTIC  
HARDWARE TESTS

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```

3742
3743 025362 004737 013074          JSR    PC,TSTERR          ;CHECK BSELO
3744
3745 025366 000427          BR     6$                ;TEST OK CHECK RX TABLE
3746 025370 000402          BR     3$                ;TIMEOUT ERROR
3747 025372 000401          BR     3$                ;NO KMV11 ANSWER
3748 025374 000410          BR     4$                ;CHECK SEL16 TO SEE WHICH ONE
3749
3750
3751 025376          3$:  ERRHRD  32,EM0004          ;NO KMV11 ANSWER
3752 025406 004737 012732          JSR    PC,CHKMAX          ;CHECK IF TOO MANY ERROR
3753 025412          ESCAPE  TST
3754
3755
3756 025416          4$:
3757
3758
3759 025416 017737 165044 012416          MOV    @KMVP16,STAERR          ;READ ERROR STATUS
3760
3761 025424 017737 165030 012420          MOV    @KMVP10,WRDCNT          ;READ WORD COUNT DISCREPANCY
3762
3763 025432          ERRHRD  33,EM0022,PRSTER          ;ERROR WHILE TX,RX FRAMES,GIVE ERROR
3764
3765 025442          ESCAPE  TST          ;GIVE ERROR STATUS,WORD CNT DISCREPANCY
3766
3767
3768
3769
3770
3771 025446 012702 002362          6$:  MOV    #TTABLE,R2          ;LOAD TABLE PARAMETERS
3772 025452 012705 006362          MOV    #RTABLE,R5
3773 025456 013704 012410          MOV    LENGTH,R4
3774
3775 025462 022225          RXACK:  CMP    (R2)+,(R5)+          ;CHECK TX AND RX TABLE
3776 025464 001015          BNE    RXAERR
3777 025466 005304          DEC    R4
3778 025470 001374          BNE    RXACK
3779
3780 025472 062737 000400 012410          ADD    #400,LENGTH          ;CHANGE LENGTH
3781 025500 062737 002000 012410          CMP    #2000,LENGTH
3782 025506 100252          BPL    TXABGN
3783 025510 005303          DEC    R3          ;SELECT NEW PATERN
3784 025512 001245          BNE    TXATAR          ;ALL DONE
3785 025514 000137 025636          JMP    RXAEND
3786
3787
3788
3789 025520 162705 000002          RXAERR:  SUB    #2,R5
3790 025524 162702 000002          SUB    #2,R2
3791
3792 025530 011237 012402          MOV    (R2),TXDATA
3793 025534 011537 012404          MOV    (R5),RXDATA
3794
3795 025540 005737 002256          TST    FLAG          ;LOOK IF 1ST ERROR
3796 025544 001014          BNE    30$
3797
3798 025546          ERRHRD  34,EM0015,PFRAME          ;DATA CMP ERROR

```



KMV11 A LINE CNT DIAGNOSTIC  
HARDWARE TESTS

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|      |        |        |        |        |        |             |                     |
|------|--------|--------|--------|--------|--------|-------------|---------------------|
| 3799 | 025556 | 005237 | 002256 |        | INC    | FLAG        |                     |
| 3800 | 025562 | 062702 | 000002 |        | ADD    | #2,R2       | :POINT NEXT ADDRESS |
| 3801 | 025566 | 062705 | 000002 |        | ADD    | #2,R5       |                     |
| 3802 | 025572 | 000137 | 024770 |        | JMP    | RXLCK       |                     |
| 3803 |        |        |        |        |        |             |                     |
| 3804 | 025576 |        |        | 30\$:  | ERRHRD | 34,0,PRAMEF | :SHORT REPORT       |
| 3805 | 025606 | 005237 | 002256 |        | INC    | FLAG        |                     |
| 3806 | 025612 | 062702 | 000002 |        | ADD    | #2,R2       |                     |
| 3807 | 025616 | 062705 | 000002 |        | ADD    | #2,R5       | :POINT NEXT ADDRESS |
| 3808 | 025622 | 022737 | 000010 | 002256 | CMP    | #10,FLAG    | :LOOK IF 10 REPORT  |
| 3809 | 025630 | 001314 |        |        | BNE    | RXACK       |                     |
| 3810 |        |        |        |        |        |             |                     |
| 3811 | 025632 |        |        |        | ESCAPE | TST         |                     |
| 3812 |        |        |        |        |        |             |                     |
| 3813 |        |        |        |        |        |             |                     |
| 3814 |        |        |        |        |        |             |                     |
| 3815 |        |        |        |        |        |             |                     |
| 3816 |        |        |        |        |        |             |                     |
| 3817 | 025636 |        |        |        |        |             |                     |
| 3818 | 025636 |        |        |        |        |             |                     |

RXAEND:  
ENDTST

3820  
3821 025640

BADHEAD  
:\*\*\*\*\* TEST8 \*\*\*\*\*  
:TEST MODEM SIGNALS IN EXTERNAL LOOP BACK  
BADHEAD  
:\*\*\*\*\* TEST8 \*\*\*\*\*

3822  
3823 025640

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3830 025640

STARS 1  
:HOST SET TEST NUMBER 45  
:DCT11 TEST MODEM SIGNAL 105,106,109,111,112,107,108,125,140,141  
:BY SETTING AND CLEARING BIT 105,108,111,141,TIS AND TESTING  
:BIT 106,109,125,107,112,142.

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:IF TEST =OK,DCT11 CLEAR BSELO  
:IF ERROR SET 100 IN BSELO AND REPORT ERROR

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:ERROR REPORT DESCRIPTION:  
:SEL2 INDICATE WHICH MODEM SIGNAL IS TESTED  
:SEL4 INDICATE THE RESULT OF THE TEST  
:SEL10 INDICATE IF IT WAS DURING A CLEAR OR A SET OPERATION  
:SEL 10 BIT 1=0 INDICATE A CLEAR OPERATION ON TESTED MODEM SIGNAL  
                  =1          SET

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:SEL2 FORMAT (TESTED SIGNAL):  
-----  
/        /        /        / 141 / TIS / 111 / 108 / 105 /  
-----  
BIT 7    BIT 6    BIT5    BIT4    BIT3    BIT2    BIT1    BIT0

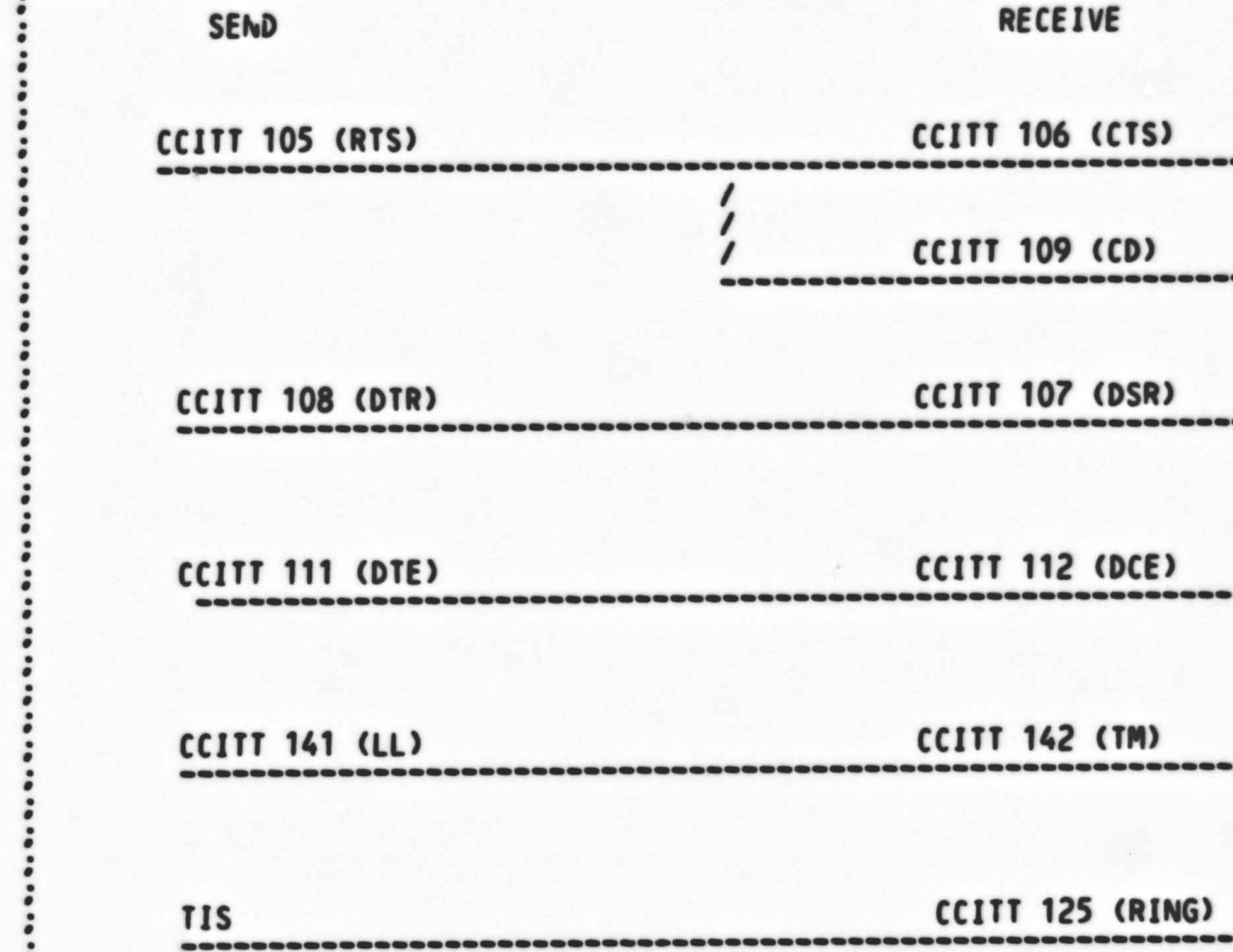
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:RESULT OF TEST (SEL4):  
-----  
/        /        / 106 / 125 / 109 / 142 / 112 / 107 /  
-----  
BIT 7    BIT 6    BIT5    BIT4    BIT3    BIT2    BIT1    BIT0

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:MODEM SIGNAL LINK:



:CAUTION:

:RUN ONLY WITH EXTERNAL LOOP BACK CONNECTOR:

:TO BE FULLY TESTED ,KMV11 DIAGNOSTIC MUST BE RUN WITH RS422 AND RS423  
:EXTERNAL LOOP BACK CONECTOR

:EXTERNAL LOOP BACK CONNECTOR:

:KMV11 A CAN OPERATE EITHER IN RS422 OR RS 423 LEVEL CONVERTERS

:RS422 LOOP BACK:

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025640

:TO TEST COMPLETELY A KMV11 B IN RS422 MODE ,RUN THIS DIAGNOSTIC  
:WHITH LOOP BACK CONNECTOR PLUG :  
:-USE H3255 TO LOOP DIRECTLY AT THE OUTPUT OF THE MODULE  
:-USE H3251 PLUG AT THE END OF BC55U MODEM CABLE CONNECTOR ASSY.  
:  
:RS423 LOOP BACK:  
:TO TEST COMPLETELY A KMV11-A IN RS423 MODE ,RUN THIS DIAGNOSTIC  
:WHITH LOOP BACK CONNECTOR PLUG :  
:-USE H3255 TO LOOP AT THE OUTPUT OF THE MODULE  
:-USE H3251 PLUG AT THE END OF BC55H MODEM CABLE CONNECTOR ASSY.  
:  
:RS232 LOOP BACK:  
:SAME AS FOR RS423.  
:  
:CAUTION:  
:USE OF H325 LOOP BACK CONNECTOR WILL CAUSE MESSAGES ERROR IN TEST 8.  
:  
:STARS 1

KMV11 A LINE CNT DIAGNOSTIC  
HARDWARE TESTS

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```

3953 025640          BGNTST
3954 025640 004737 014372      JSR      PC,CLR:KMV      ;CLEAR ALL REGISTERS
3955
3956 025644 005737 012470      TST      LOOP
3957 025650 001012              BNE      MODSIG        ;LOOP BACK PRESENT GO ON
3958
3959 025652              PRINTF   #MLOOP        ;NO LOOP BACK CONNECTOR
3960
3961
3962 025672              EXIT      TST          ;GO TO FOLLOWING TEST
3963
3964
3965
3966 025676 004737 014474      MODSIG: JSR      PC,MAINM1  ;SET MAINTENANCE MODE
3967 025702 004537 014556      JSR      R5,TSTNUB
3968 025706 000045              .WORD    45            ;SEND TEST 45
3969
3970 025710              WAITB   0.4
3971
3972 025730 004737 013074      JSR      PC,TSTERR     ;CHECK TEST RESULT
3973 025734 000430              BR       3$            ;TEST OK GO ON
3974 025736 000402              BR       4$            ;TIMEOUT
3975 025740 000401              BR       4$            ;NO TEST ANSWER
3976 025742 000406              BR       5$            ;ERROR DURING TEST ,LOOK WHICH ONE
3977
3978
3979
3980 025744          4$:      ERRHRD  36,EM0004  ;NO ANSWER
3981 025754          ESCAPE  TST
3982
3983 025760 017737 164466 002264  5$:      MOV      @KMVP02,GOOD  ;READ WHICH SIGNAL WAS TESTED
3984 025766 017737 164462 012366      MOV      @KMVP04,BAD    ;" " IS THE RESULT OF TEST
3985 025774 017737 164460 012372      MOV      @KMVP10,DATA   ;READ SIGNAL VALUE
3986
3987 026002          ERRHRD  37,EM0032,PMODEM ;REPORT ERROR
3988 026012          ESCAPE  TST
3989
3990 026016          3$:
3991 026016          MODEND:
3992
3993
3994 026016          ENDTST

```

3996  
3997  
3998  
3999  
4000  
4001  
4002  
4003  
4004  
4005  
4006  
4007  
4008  
4009  
4010  
4011  
4012  
4013  
4014  
4015 026020  
4016  
4017 026022  
4018 026032  
4019 026042  
4020 026054  
4021 026066  
4022  
4029  
4030  
4031 026066  
026071  
026074  
026077  
026102  
026105  
026110  
026113  
026116  
4032 026120  
026123  
026126  
026131  
026134  
026137  
026142  
026145  
026150  
026153  
4033 026154  
026157  
026162  
026165  
026170  
026173  
026176  
026201  
026204

115  
122  
103  
040  
123  
101  
122  
123  
040  
115  
122  
103  
040  
104  
122  
103  
040  
000  
111  
122  
103  
040  
104  
105  
040  
072  
111  
122  
103  
040  
111  
122  
103  
040  
111  
124  
105  
126  
072

111  
117  
120  
040  
104  
105  
040  
000  
103  
055  
125  
105  
117  
101  
122  
123  
040  
103  
055  
125  
122  
131  
105  
114  
114  
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,2,0,0,674,YES
GPRMD  PRIRTY,4,0,7000,4,7,YES
GPRMD  LOOPBK,6,0,1,0,1,YES
ENDHRD

```

ADDRES: .ASCIZ /MICRO-CPU CSR ADDRESS : /

VECTOR: .ASCIZ /MICRO-CPU VECTOR ADDRESS : /

PRIRTY: .ASCIZ /MICRO-CPU PRIORITY LEVEL : /

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HARDWARE PARAMETER CODING SECTION

|      |        |     |     |     |   |
|------|--------|-----|-----|-----|---|
| 4034 | 026207 | 000 |     |     |   |
|      | 026210 | 111 | 123 | 040 | LOOPBK: .ASCIZ /IS LOOP BACK CONNECTOR PLUGGED? 0=NO,1=YES: / |
|      | 026213 | 114 | 117 | 117 |   |
|      | 026216 | 120 | 040 | 102 |   |
|      | 026221 | 101 | 103 | 113 |   |
|      | 026224 | 040 | 103 | 117 |   |
|      | 026227 | 116 | 116 | 105 |   |
|      | 026232 | 103 | 124 | 117 |   |
|      | 026235 | 122 | 040 | 120 |   |
|      | 026240 | 114 | 125 | 107 |   |
|      | 026243 | 107 | 105 | 104 |   |
|      | 026246 | 077 | 040 | 060 |   |
|      | 026251 | 075 | 116 | 117 |   |
|      | 026254 | 054 | 061 | 075 |   |
|      | 026257 | 131 | 105 | 123 |   |
|      | 026262 | 072 | 040 | 000 |   |
| 4035 |        |     |     |     | .EVEN   |
| 4036 |        |     |     |     |   |
| 4037 |        |     |     |     |   |
| 4038 |        |     |     |     |   |
| 4039 |        |     |     |     |   |
| 4040 |        |     |     |     |   |
| 4041 |        |     |     |     |   |





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SOFTWARE PARAMETER CODING SECTION

4079  
4080 026270  
4081 026270  
4082  
4089  
4090 026410  
      026414  
4091 026414  
4092  
4093

\$PATCH:: .BLKW 50

LSLAST:: LASTAD  
          ENDMOD

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SOFTWARE PARAMETER CODING SECTION

4095  
4096  
4109  
4110 026414  
4111 026414  
4112 026420 177000  
4113 026422 000300  
4114 026424 004000  
4115 026426 000001  
4116 026430  
4117 026430  
4118  
4119  
4120  
4121  
4122  
4123 000001

BGNSETUP 1  
BGNPTAB  
.WORD 177000  
.WORD 300  
.WORD 4000  
.WORD 1  
ENDPTAB  
ENDSETUP

.END

KMV11 A LINE CNT DIAGNOSTIC MACRO M1200 06-JAN-83 09:40 PAGE 74-1

## SYMBOL TABLE

|          |        |           |          |          |            |           |        |         |        |            |
|----------|--------|-----------|----------|----------|------------|-----------|--------|---------|--------|------------|
| ABORT    | 022632 | C\$CVEC=  | 000036   | EM0002   | 015115     | GENER1    | 013274 | ISDU    | =      | 000041     |
| ADDR     | 002354 | C\$DCLN=  | 000044   | EM0003   | 015160     | GENEX     | 013432 | ISHRD   | =      | 000041     |
| ADDRS    | 026066 | C\$DODU=  | 000051   | EM0004   | 015246     | GENINC    | 013424 | ISINIT= | 000041 |            |
| ADR      | =      | C\$DRPT=  | 000024   | EM0006   | 015275     | GENISH    | 013302 | ISMOD   | =      | 000041     |
| ASSEMB=  | 000010 | C\$DU     | =        | EM0007   | 015336     | GENOUT    | 024032 | ISMSG   | =      | 000041     |
| BAD      | 012366 | C\$EDIT=  | 000003   | EM0011   | 015416     | GENRAN    | 013304 | ISPROT= | 000040 |            |
| BDDAT    | 002360 | C\$ERDF=  | 000055   | EM0012   | 015470     | GENROT    | 013260 | ISPTAB= | 000041 |            |
| BDRGEN   | 023626 | C\$ERHR=  | 000056   | EM0013   | 015552     | GENRO     | 013246 | ISPRW   | =      | 000041     |
| BDROKO   | 024052 | C\$ERRO=  | 000060   | EM0014   | 015716     | GENR1     | 013236 | ISRPT   | =      | 000041     |
| BGNTXA   | 025204 | C\$ERSF=  | 000054   | EM0015   | 015767     | GENSEL    | 013170 | ISSEG   | =      | 000041     |
| BIT0     | =      | C\$ERSO=  | 000057   | EM0016   | 016063     | GENO      | 013210 | ISSETU= | 000041 |            |
| BIT00    | =      | C\$ESCA=  | 000010   | EM0017   | 016156     | GEN1      | 013214 | ISSFT   | =      | 000041     |
| BIT01    | =      | C\$ESEG=  | 000005   | EM0022   | 016243     | GEN25     | 013230 | ISSRV   | =      | 000041     |
| BIT02    | =      | C\$ESUB=  | 000003   | EM0023   | 016326     | GEN52     | 013222 | ISSUB   | =      | 000041     |
| BIT03    | =      | C\$ETST=  | 000001   | EM0024   | 016402     | GETPRM    | 022430 | ISTST   | =      | 000041     |
| BIT04    | =      | C\$EXIT=  | 000032   | EM0027   | 016431     | GOOD      | 002264 | JSJMP   | =      | 000167     |
| BIT05    | =      | C\$GETB=  | 000026   | EM0031   | 016503     | GOOD0     | 002266 | KB1.2   | =      | 013224 G   |
| BIT06    | =      | C\$GETW=  | 000027   | EM0032   | 016577     | GOOD1     | 002270 | KB56    | =      | 000174 G G |
| BIT07    | =      | C\$GMAN=  | 000043   | EM0033   | 015646     | GOOD10    | 002300 | KB64    | =      | 000154 G G |
| BIT08    | =      | C\$GPHR=  | 000042   | EM0035   | 016663     | GOOD12    | 002302 | KB68    | =      | 000146 G G |
| BIT09    | =      | C\$GPLO=  | 000030   | EM0036   | 016755     | GOOD14    | 002304 | KB72    | =      | 000141 G   |
| BIT1     | =      | C\$GPRI=  | 000040   | END      | 022724     | GOOD16    | 002306 | KIND    | =      | 012376     |
| BIT10    | =      | C\$INIT=  | 000011   | ERRBLK   | 002226 G   | GOOD2     | 002272 | KMTLVL  | =      | 012446     |
| BIT11    | =      | C\$INLP=  | 000020   | ERRCNT   | 002234     | GOOD4     | 002274 | KMVC SR | =      | 012450     |
| BIT12    | =      | C\$MANI=  | 000050   | ERRMSG   | 002224 G   | GOOD6     | 002276 | KMVLVL  | =      | 012436     |
| BIT13    | =      | C\$MEM    | =        | ERRNBR   | 002222 G G | G\$CNTO=  | 000200 | KMVP02  | =      | 012452     |
| BIT14    | =      | C\$MSG    | =        | ERRTYP   | 002220 G G | G\$DELM=  | 000372 | KMVP04  | =      | 012454     |
| BIT15    | =      | C\$OPEN=  | 000034   | EVL      | =          | G\$DISP=  | 000003 | KMVP06  | =      | 012456     |
| BIT2     | =      | C\$PNTB=  | 000014   | EXADDR   | 012362     | G\$EXCP=  | 000400 | KMVP10  | =      | 012460     |
| BIT3     | =      | C\$PNTF=  | 000017   | E\$END   | =          | G\$HILI=  | 000002 | KMVP12  | =      | 012462     |
| BIT4     | =      | C\$PNTS=  | 000016   | ESLOAD=  | 000035     | G\$LOLI=  | 000001 | KMVP14  | =      | 012464     |
| BIT5     | =      | C\$PNTX=  | 000015   | FLAG     | 002256     | G\$NO     | =      | KMVP16  | =      | 012466     |
| BIT6     | =      | C\$QIO    | =        | FTIME    | 002250     | G\$OFFS=  | 000400 | KMVV00  | =      | 012434     |
| BIT7     | =      | C\$RDBU=  | 000007   | FSAU     | =          | G\$OFFSI= | 000376 | KMVV02  | =      | 012442     |
| BIT8     | =      | C\$REFG=  | 000047   | FSAUTO=  | 000020     | G\$PRMA=  | 000001 | KMVV04  | =      | 012440     |
| BIT9     | =      | C\$RESE=  | 000033   | F\$BGN   | =          | G\$PRMD=  | 000002 | KMVV06  | =      | 012444     |
| BOE      | =      | C\$REVI=  | 000003   | F\$CLEA= | 000007     | G\$PRML=  | 000000 | KMV11A  | =      | 002000 G   |
| BSELO    | 012370 | C\$RFLA=  | 000021   | F\$DU    | =          | G\$RADA=  | 000140 | LENGTH  | =      | 012410     |
| BSEL1    | 002332 | C\$RPT    | =        | F\$END   | =          | G\$RADB=  | 000000 | LOCK    | =      | 002230     |
| CBSELO   | 013644 | C\$SEFG=  | 000046   | F\$HARD= | 000004     | G\$RADD=  | 000040 | LOE     | =      | 040000 G   |
| CHANEL   | 012400 | C\$SPRI=  | 000041   | F\$HW    | =          | G\$RADL=  | 000120 | LOGDEV  | =      | 002242     |
| CHKMAX   | 012732 | C\$SVEC=  | 000037   | F\$INIT= | 000006     | G\$RADL=  | 000120 | LOKFLG  | =      | 012430     |
| CKALL    | 013702 | C\$STPRI= | 000013   | F\$JMP   | =          | G\$RADO=  | 000020 | LOOP    | =      | 012470     |
| CKREG    | 014150 | DATA      | 012372   | F\$MOD   | =          | G\$XFER=  | 000004 | LOOPBK  | =      | 026210     |
| CKSELO   | 013612 | DATA1     | =        | F\$MSG   | =          | G\$YES    | =      | LOT     | =      | 000010 G   |
| CLRKMV   | 014372 | DATA2     | =        | F\$PROT= | 000021     | HELP      | =      | LSACP   | =      | 002110 G   |
| COUNT    | 002350 | DELCT1    | 002260   | F\$PWR   | =          | HOE       | =      | LSAPT   | =      | 002036 G   |
| C\$AU    | =      | DELCT2    | 002262   | F\$RPT   | =          | IBE       | =      | LSAU    | =      | 023104 G   |
| C\$AUTO= | 000061 | DFPTBL    | 002154 G | F\$SEG   | =          | IDU       | =      | LSAUT   | =      | 002070 G   |
| C\$BRK   | =      | DIAGMC=   | 000000   | F\$SOFT= | 000005     | IER       | =      | LSAUTO  | =      | 022726 G   |
| C\$BSEG= | 000004 | DROPD     | 023052   | F\$SRV   | =          | INIFLG    | 012426 | LSCCP   | =      | 002106 G   |
| C\$BSUB= | 000002 | EF.CON=   | 000036 G | F\$SUB   | =          | INTFLG    | 012364 | LSCLEA  | =      | 023020 G   |
| C\$CEFG= | 000045 | EF.NEW=   | 000035 G | F\$SW    | =          | INTTX     | 024110 | LSCO    | =      | 002032 G   |
| C\$CLCK= | 000062 | EF.PWR=   | 000034 G | F\$TEST= | 000014     | ISR       | =      | LSDEPO  | =      | 002011 G   |
| C\$CLEA= | 000012 | EF.PWR=   | 000034 G | GDDAT    | 002356     | IXE       | =      | LSDESC  | =      | 002164 G   |
| C\$CLOS= | 000035 | EF.RES=   | 000037 G | GDREV    | 012424     | ISAU      | =      | LSDESP  | =      | 002076 G   |
| C\$CLP1= | 000006 | EF.STA=   | 000040 G | GENER    | 013152     | ISAUTO=   | 000041 | LSDEVP  | =      | 002060 G   |
|          |        | EM0001    | 015021   |          |            | ISCLN     | =      |         |        |            |

KMV11 A LINE CNT DIAGNOSTIC  
SYMBOL TABLE

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|        |        |   |         |        |         |        |          |        |          |        |
|--------|--------|---|---------|--------|---------|--------|----------|--------|----------|--------|
| LSDISP | 002132 | G | L10016  | 022240 | OSBGNS= | 000000 | RXEND    | 024504 | TSNS0 =  | 000000 |
| LSDLY  | 002116 | G | L10017  | 022724 | OSDU =  | 000001 | RXERR    | 024366 | TSNS1 =  | 000005 |
| LSDTP  | 002040 | G | L10020  | 023016 | OSERRT= | 000000 | RXLCK    | 024770 | TSPCNT=  | 000000 |
| LSDTYP | 002034 | G | L10021  | 023022 | OSGNSL= | 000001 | RXLEND   | 025144 | TSPTAB=  | 010037 |
| LSDU   | 023024 | G | L10022  | 023102 | OSPOIN= | 000001 | RXLERR   | 025026 | TSPTHV=  | 000001 |
| LSDUT  | 002072 | G | L10023  | 023104 | OSSETU= | 000001 | SAVE4    | 002252 | TSPTNU=  | 000001 |
| LSDVTY | 012672 | G | L10024  | 023222 | PADFLT  | 021506 | SAVE6    | 002254 | TSSAVL=  | 177777 |
| LSEF   | 002052 | G | L10025  | 023272 | PBSELO  | 021544 | SAVPC    | 002244 | TSSEGL=  | 177777 |
| LSENV1 | 002044 | G | L10026  | 023606 | PFRAME  | 021704 | SAVPC1   | 002344 | TSSIZE=  | 000006 |
| LSERRT | 002220 | G | L10027  | 024052 | PMODEM  | 021774 | SAVREG   | 013452 | TSSUBN=  | 000000 |
| LSETP  | 002102 | G | L10030  | 024504 | PNT =   | 001000 | SAVSTA   | 002346 | TSTAGL=  | 177777 |
| LSEXP1 | 002046 | G | L10031  | 025144 | PRALL   | 020716 | SELO     | 002310 | TSTAGN=  | 010041 |
| LSEXP4 | 002064 | G | L10032  | 025636 | PRAMEF  | 022120 | SEL1     | 002312 | TSTEMP=  | 000000 |
| LSEXP5 | 002066 | G | L10033  | 026016 | PRI =   | 002000 | SEL10    | 002322 | TSTEST=  | 000010 |
| LSHARD | 026022 | G | L10034  | 026066 | PRINT   | 020656 | SEL12    | 002324 | TSTSTM=  | 177777 |
| LSHIME | 002120 | G | L10035  | 026270 | PRIRTY  | 026154 | SEL14    | 002326 | TSTSTS=  | 000001 |
| LSHPCP | 002016 | G | L10036  | 026420 | PRI00 = | 000000 | SEL16    | 002330 | TSSAU =  | 010023 |
| LSHPTP | 002022 | G | L10040  | 026430 | PRI01 = | 000040 | SEL2     | 002314 | TSSAUT=  | 010020 |
| LSHW   | 002154 | G | MAINM1  | 014474 | PRI02 = | 000100 | SEL4     | 002316 | TSSCLE=  | 010021 |
| LSICP  | 002104 | G | MAINT0= | 054000 | PRI03 = | 000140 | SEL6     | 002320 | TSSDAT=  | 010040 |
| LSINIT | 022242 | G | MAINT1= | 044000 | PRI04 = | 000200 | SETUP    | 022346 | TSSDU =  | 010022 |
| LSLADP | 002026 | G | MAXERR  | 002232 | PRI05 = | 000240 | SSTACK   | 012672 | TSSHAR=  | 010034 |
| LSLAST | 026414 | G | MAXPRI= | 000340 | PRI06 = | 000300 | STAERR   | 012416 | TSSHW =  | 010001 |
| LSLOAD | 002100 | G | MSELO   | 017612 | PRI07 = | 000340 | SVCGBL=  | 000000 | TSSINI=  | 010017 |
| LSLUN  | 002074 | G | MCLR =  | 040000 | PRREG   | 021226 | SVCINS=  | 177777 | TSSMSG=  | 010015 |
| LSMREV | 002050 | G | MFRAM1  | 020006 | PRSELO  | 020616 | SVCSUB=  | 177777 | TSSPC =  | 000001 |
| LSNAME | 002000 | G | MFRAM2  | 020064 | PRSTER  | 022154 | SVCTAG=  | 177777 | TSSPRO=  | 010000 |
| LSPRIO | 002042 | G | MINT    | 017556 | PRT11V  | 021644 | SVCTS =  | 177777 | TSSPTA=  | 010037 |
| LSPROT | 002122 | G | MLOOP   | 020537 | PSTACK  | 002246 | SVCTST=  | 177777 | TSSRPT=  | 010016 |
| LSPRT  | 002112 | G | MODEM1  | 020243 | PVECT   | 021604 | SLSYM=   | 010000 | TSSSO=   | 010035 |
| LSREPP | 002062 | G | MODEM2  | 020307 | QV.FLG  | 012431 | TFM36    | 014733 | TSSTES=  | 010033 |
| LSREV  | 002010 | G | MODEM3  | 020346 | RANCLC  | 013404 | TIM      | 014716 | T1       | 023106 |
| LSRPT  | 022234 | G | MODEM4  | 020411 | RANDN   | 002342 | TSPEED   | 012406 | T2       | 023224 |
| LSSOFT | 026270 | G | MODEND  | 026016 | RANEX   | 013422 | TSTERR   | 013074 | T3       | 023274 |
| LSSPC  | 002056 | G | MODSIG  | 025676 | RANGEN  | 013324 | TSTNUB   | 014556 | T4       | 023610 |
| LSSPCP | 002020 | G | MRAMEF  | 020466 | RANMTA  | 002340 | TTABLE   | 002362 | T5       | 024054 |
| LSSPTP | 002024 | G | MREG0   | 017116 | RANSEC  | 013410 | TXABGN   | 025234 | T6       | 024506 |
| LSSTA  | 002030 | G | MREG10  | 017336 | RANSEL  | 002336 | TXATAR   | 025226 | T7       | 025146 |
| LSSW   | 002236 | G | MREG12  | 017402 | RANST   | 002334 | TXDATA   | 012402 | T8       | 025640 |
| LSTEST | 002114 | G | MREG14  | 017446 | RAN1    | 013336 | TXLBGN   | 024542 | UAM =    | 000200 |
| LSTIML | 002014 | G | MREG16  | 017512 | RAN2    | 013354 | TXLTAR   | 024534 | UNIT     | 012422 |
| LSUIT  | 002240 | G | MREG2   | 017162 | RAN4    | 013412 | TXSTAR   | 024114 | UUT      | 012432 |
| LSUNIT | 002012 | G | MREG4   | 017226 | READ    | 014632 | TSARGC=  | 000001 | VECT     | 012374 |
| L10001 | 002164 |   | MREG6   | 017272 | REGADR  | 012472 | TSCODE=  | 003032 | VECTOR   | 026120 |
| L10002 | 020654 |   | MSELO   | 017050 | REVPRO  | 023234 | TSERNR=  | 000045 | WAIT1    | 012722 |
| L10003 | 020714 |   | MSTER1  | 020146 | ROMMAP  | 023106 | TSEXCP=  | 000000 | WAIT2    | 012702 |
| L10004 | 021224 |   | MSTER2  | 020200 | RSTREG  | 013532 | TSFLAG=  | 000040 | WRDCNT   | 012420 |
| L10005 | 021504 |   | MT11V   | 017730 | RTABLE  | 006362 | TSFREE=  | 026430 | WRITE    | 014604 |
| L10006 | 021542 |   | MVECT   | 017654 | RTCLK   | 023304 | TSGMAN=  | 000000 | X\$ALWA= | 000000 |
| L10007 | 021602 |   | NERRS   | 013024 | RUNNIN  | 022640 | TSHILI=  | 000001 | X\$FALS= | 000040 |
| L10010 | 021642 |   | NEXT    | 022354 | RXACK   | 025462 | T\$LAST= | 000001 | X\$OFFS= | 000400 |
| L10011 | 021702 |   | NUB     | 012412 | RXAEND  | 025636 | T\$LOLI= | 000000 | X\$TRUE= | 000020 |
| L10012 | 021772 |   | NUMBER  | 002352 | RXAERR  | 025520 | T\$LSYM= | 010000 | \$LSTIN= | 000000 |
| L10013 | 022116 |   | OSAPTS= | 000000 | RXCK    | 024344 | T\$LTNO= | 000010 | \$LSTTA= | 000000 |
| L10014 | 022152 |   | OSAU =  | 000000 | RXCNT   | 012414 | TSNEST=  | 177777 | \$PATCH  | 026270 |
| L10015 | 022232 |   | OSBGNR= | 000000 | RXDATA  | 012404 |          |        |          |        |

KMV11 A LINE CNT DIAGNOSTIC  
SYMBOL TABLE

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. ABS. 026430 000  
000000 001  
ERRORS DETECTED: 0

VIRTUAL MEMORY USED: 29056 WORDS ( 114 PAGES)  
DYNAMIC MEMORY: 21924 WORDS ( 84 PAGES)  
ELAPSED TIME: 00:24:20  
VKMBAO.BIN,VKMBAO=[64,3]LIBA.MLB/ML,[64,5]VKMBAO