

KMV11-C

KMV11-C FCTNL DIAG
CVKMJAO

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FICHE 1 OF 2

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The main body of the document is a dense grid of approximately 15 columns and 20 rows of small, illegible text and diagrams. The content is too faint to transcribe accurately but appears to be a technical manual or diagnostic chart. A small yellow mark is visible at the bottom center of the page.

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IDENTIFICATION

PRODUCT CODE: AC T381A MC
PRODUCT NAME: CVKMJAO KMV11-C FCTML DIAG
PRODUCT DATE: AUGUST 1983
MAINTAINER: CSS NSG/E ANNECY FRANCE
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1.0 INTRODUCTION

1.1 PROGRAM ABSTRACT

THIS DIAGNOSTIC IS DESIGNED TO TEST THE KMV11 C FIRMWARE WHICH IS INTENDED TO :

- HANDLE THE COMMUNICATION TO AND FROM THE HOST
- CHECK COMMAND SEQUENCING AND SYNTAX
- HANDLE X25 LEVEL 2 SPECIFICATIONS
- HANDLE COMMUNICATION TO AND FROM THE LINE

THE READER IS ASSUMED TO HAVE A GOOD KNOWLEDGE ABOUT THE KMV11-C FUNCTIONALITIES. THE MANUALS CLOSELY ASSOCIATED TO THE PURPOSE OF THIS DIAGNOSTIC ARE:

- THE KMV11-C OPTION DESCRIPTION
- THE KMV11-C FUNCTIONAL SPECIFICATIONS

THE KMV11-C IS SUBMITTED TO FUNCTIONAL TESTS, TO BE SURE THAT THE FIRMWARE CAN:

- ACCEPT THE HOST COMMANDS, PERFORMING THE CORRECT CSR HAND SHAKING
- TAKE THE RIGHT ACTION (CHANGE LINK STATE,...)
- SEND BACK TO THE HOST THE RIGHT RESPONSES INCLUDING STATUS AND PARAMETERS

FUNCTIONAL TESTING IS MADE POSSIBLE BY USING THE INTERNAL LOOP BACK FACILITY WHICH PERMITS TO OPEN/CLOSE THE LOOP AS WE WANT WITHOUT ANY OPERATOR INTERVENTION. FOR EXAMPLE, THE LINK STATE TRANSITION "SYNC" - "RUNNING" IS SO FAST, THAT IT ISN'T POSSIBLE TO TEST THE CHECK PROCESS UNDER THE "SYNC" STATE. BY OPENING THE LOOP, NO "SYNC" - "RUNNING" TRANSITION OCCURS AND THE "SYNC" STATE REMAINS DURING ALL THE RETRY PERIOD AND LET ENOUGH TIME TO TEST

•• CAUTION ••

IN OPPOSITE, AS THE MODEM SIGNALS MUST BE DISABLED FOR THIS INTERNAL MODE, IT IS NOT POSSIBLE TO CONTROL MODEM SIGNALS. TO BE SURE THAT THE MODEM SIGNALS ARE CORRECTLY HANDLED, IT IS RECOMMENDED TO RUN THE KMV11-C STATIC DIAGNOSTIC FIRST, BEFORE THE FUNCTIONAL ONE AND, TO COMPLETE MODEM TESTING BY RUNNING THE REGRESSION/PERFORMANCE TESTS AFTER THE FUNCTIONAL DIAGNOSTIC.

•• WARNING ••

MOST RESPONSES COME AS AN ANSWER TO A COMMAND IN A SYNCHRONOUS WAY, HOWEVER SOME RESPONSES MAY COME ASYNCHRONOUSLY, NOT AS A RESPONSE TO A COMMAND. THE STATUS CORRESPONDING TO THESE RESPONSES CANNOT BE TESTED IN A LOCAL LOOP MODE AND THAT IS, WITHOUT A DCE EQUIPMENT. HERE ARE:

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CONNECT RECEIVED (367)
DISCONNECT RECEIVED (366)
MODEM DOWN (365)
RESET (364)

THE KMV11-C FIRMWARE IS DIVIDED INTO PARTS. ONE IS FIXED IN THE EPROM MEMORY (THIS IS THE NATIVE FIRMWARE) AND, THE OTHER ONE IS LOADED BY THE HOST IN THE RAM MEMORY, IT IS THE APPLICATION FIRMWARE. THE FUNCTIONAL DIAG, LOADS THE FIRMWARE AS A NORMAL APPLICATION MODE FIRMWARE PROGRAM AND, PASSES CONTROL TO THE START ADDRESS OF THE APPLICATION FIRMWARE.

** CAUTION **

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

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

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

1.2 HARDWARE INTRODUCTION

** CAUTION **

TO RUN THIS DIAGNOSTIC, NO LOOP CONNECTOR MUST BE PLUGGED

** CAUTION **

THIS DIAGNOSTIC, BY ITS LENGTH, IS OUT OF THE STANDARD AND, REQUIRES A MINIMUM OF 32K OF MEMORY.

** WARNING **

THIS DIAGNOSTIC IS USED TO TEST THE FIRMWARE FUNCTIONALITIES, IN CONSEQUENCE, IT CANNOT REPORT ERROR DUE TO THE HARDWARE FAILURES WHICH HAVE NO EFFECT ON PROCESSES. KMV11A0 MUST BE RUN PRIOR TO RUN THIS DIAGNOSTIC.

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2.0 HARDWARE REQUIREMENTS

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

PDP11/23(•)
32K MEMORY
CONSOLE TERMINAL
THE M7502 MODULE WITH EPROM'S AT PATCH LEVEL 1

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3.0 PRELIMINARY PROGRAM REQUIREMENTS

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

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

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4.0 GENERAL PROGRAM CONSIDERATIONS

4.1 DIAGNOSTIC SUPERVISOR

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

4.2 EXECUTION TIME

THE TOTAL TIME REQUIRED TO RUN THE KMV11-C FUNCTIONAL TESTS IS ABOUT 7 MINUTES PER PASS FOR EACH UNIT.

4.3 XXDP+

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

4.4 ACT

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

4.5 APT

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

4.6 MEMORY MANAGEMENT

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

4.7 MEMORY PARITY OPTION

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

4.8 ERROR LOGGING

THE NUMBER OF ERRORS WHICH HAVE OCCURRED ON EACH DEVICE

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SEQ 0009

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

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5.0 PROGRAM LOAD MEDIA

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

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6.0 OPERATING INSTRUCTIONS

6.1 LOADING AND STARTING PROCEDURES

6.1.1 LOADING PROCEDURES

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

6.1.2 STARTING PROCEDURES

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

6.1.3 STEPS FOR QUICK AND SIMPLE EXECUTION

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

- A) LOAD AND START DIAGNOSTIC USING RUN COMMAND
- B) RECEIVE DIAGNOSTIC SUPERVISOR PROMPT (DR>)
- C) ENTER START COMMAND(SEE 6.3.1)
- D) ANSWER HARDWARE AND SOFTWARE QUESTIONS
- E) GET END OF PASS MESSAGES OR ERROR MESSAGES
- F) TO END EXECUTION, ENTER CONTROL/C

6.2 INITIAL DIALOGUE

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

```
DIAG. RUN-TIME SERVICES -A-0  
CVKMJAO  
KMV11-C FUNCTIONAL DIAGNOSTIC  
UNIT IS M7502  
50 HZ (L) N? Y  
LSI (L) N? Y  
DR>...
```

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

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6.3 PROGRAM OPTIONS

6.3.1 START COMMAND

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

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

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

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

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

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

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

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

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

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

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

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

6.3.1.5 EFFECT OF START COMMAND

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

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

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

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

EXAMPLE:

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

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

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

6.3.2 RESTART COMMAND

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

6.3.2.1 TESTS, PASS, AND FLAGS SWITCHES

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

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

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

6.3.2.3 EFFECT OF RESTART COMMAND

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

6.3.3 CONTINUE COMMAND

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

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

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

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

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

6.3.3.3 EFFECT OF CONTINUE COMMAND

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

6.3.4 PROCEED COMMAND

PRO(CCEED)/FLAGS:<FLAG LIST>

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

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

6.3.4.2 EFFECT OF PROCEED COMMAND

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

6.3.5 ADD COMMAND

ADD/UNITS:<UNIT LIST>

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

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

6.3.5.2 EFFECT OF ADD COMMAND

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

6.3.6 DROP COMMAND

DRO(P)/UNITS:<UNIT LIST>

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

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

6.3.6.2 EFFECT OF DROP COMMAND

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

6.3.7 PRINT COMMAND

PRI(NT)

6.3.7.1 EFFECT OF PRINT COMMAND

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

6.3.8 DISPLAY COMMAND

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

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

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

6.3.8.2 EFFECT OF DISPLAY COMMAND

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

6.3.9 FLAGS COMMAND

FLA(GS)

6.3.9.1 EFFECT OF FLAGS COMMAND

THE CURRENT SETTINGS OF ALL FLAGS ARE PRINTED.

6.3.10 ZFLAGS COMMAND

ZFL(AGS)

6.3.10.1 EFFECT OF ZFLAGS COMMAND

ALL FLAGS ARE CLEARED.

6.3.11 CONTROL CHARACTERS

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

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

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

6.3.12 HARDWARE PARAMETERS

THE FOLLOWING 4 QUESTIONS WILL BE ASKED ON A START COMMAND.
THE VALUE LOCATED TO THE LEFT OF THE QUESTION MARK IS THE
DEFAULT VALUE THAT WILL BE TAKEN ON A CARRIAGE RETURN
RESPONSE.

1. DEVICE CSR ADDRESS : (0) 177000 ?

711 THIS IS THE ADDRESS AT WHICH THE CSR REGISTERS (SELO) RESIDE
712 ON THE QBUS. THE ALLOWABLE RANGE IS 160000-177776
713 (OCTAL), AND THE DEFAULT IS 177000.
714
715 2. DEVICE VECTOR ADDRESS : (0) 300 ?
716
717 THIS IS THE ADDRESS OF THE FIRST INPUT INTERRUPT VECTOR FOR
718 THIS DEVICE. THE ALLOWABLE RANGE IS 000-674 (OCTAL), AND THE
719 DEFAULT VALUE IS 300.
720
721 3. DEVICE PRIORITY LEVEL : (0) 4 ?
722
723 THIS IS THE CPU PRIORITY AT WHICH THE INTERRUPT HANDLERS OF
724 THIS DEVICE WILL BE EXECUTED. THE DEFAULT VALUE IS 4.
725
726 4. IS ANY LOOP CONNECTOR INSTALLED: 0=NO,1=YES : (0) 0 ?
727
728 THIS TELLS THE PROGRAM IF THE LOOP-BACK CONNECTOR IS PLUGGED
729 IN OR NOT. THE ALLOWABLE VALUES ARE 0 AND 1, AND THE DEFAULT
730 VALUE IS 0 (NOT PLUGGED IN).
731
732 5. IS THE HOST COMPUTER A PDP11/23. 0=NO,1=YES : (0) 1?
733
734 THIS TELLS THE PROGRAM IF IT CAN TEST OR NOT, THE NON EXISTANT
735 MEMORY STATUS FLAG. THE ALLOWABLE VALUES ARE 0 AND 1, AND THE
736 DEFAULT VALUE IS 1 (COMPUTER IS THE PDP11/23.)
737
738 6 3.13 SOFTWARE PARAMETERS
739
740 NO SOFTWARE PARAMETERS ARE REQUESTED BY THE FUNCTIONAL DIAG.
741
742
743 6.3.14 EXTENDED DISCUSSION OF P TABLE DIALOGUE
744
745 THE FULL CAPABILITY OF THE HARDWARE DIALOGUE IS REVEALED BY
746 THE FOLLOWING DISCUSSION OF WHAT HAPPENS INTERNALLY.
747
748 AFTER THE INITIAL DIALOGUE, THE SUPERVISOR ISSUES THE QUES
749 TION BELOW:
750
751 CHANGE HW (L) ?
752
753 IF YOUR RESPONSE IS Y (YES), THE SUPERVISOR ASKS FOR THE
754 NUMBER OF UNITS UNDER TEST:
755
756 # UNITS (0) ?
757
758 AS SOON AS THE QUESTION "# UNITS ?" IS ANSWERED (WITH THE
759 NUMBER N, SAY) SPACE IN CORE IS ALLOCATED FOR N P TABLES.
760 ALL OF THE P-TABLES ARE OF THE SAME FORMAT, AND THERE IS A
761 ONE TO ONE CORRESPONDENCE BETWEEN THE HARDWARE PARAMETER
762 QUESTIONS AND THE SLOTS IN THE P-TABLE FORMAT.
763
764 ON THE FIRST TRIP THRU THE QUESTIONS, ALL OF THE SLOTS IN
765 ALL OF THE P-TABLES ARE FILLED. IF THE OPERATOR TYPES IN
766 LESS THAN N EXPLICIT VALUES IN RESPONSE TO A PARTICULAR
767 QUESTION, THESE VALUES ARE PLACED IN THE P TABLES (ONE VALUE

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

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

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

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

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

THE FOLLOWING DIALOGUE WOULD ACCOMPLISH THIS GOAL:

0 UNITS (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 OPERATOR IN THE FORM "UNIT XX" AT THE BEGINNING OF EACH SERIES). QUESTION 1 IS RESPONDED TO

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BY A <CR>, SO SLOT ONE STAYS AT CONSTANT 75 IN TABLES 7 THRU 15, SINCE NO NEW EXPLICIT VALUES ARE TYPED IN. SLOT TWO GETS THE VALUES 7,8,9,10,11 IN TABLES 7 THRU 11, AND GETS A 11 IN SLOT 12, AND GETS THE VALUES 13,14,15 IN TABLES 13 THRU 15. SLOT THREE GETS THE VALUE 77 IN TABLES 7 THRU 15.

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

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7.0 TEST DESCRIPTIONS

*****TEST01*****

** - VERIFY THAT THE KMV11-C DEVICE CAN BE RESTARTED

THE HOST SETS SELO TO ENTER APPLICATION MODE AFTER A
MASTER CLEAR. UPON COMPLETION OF THE KMV11-C INITIALISA
TION, THE DEVICE ENTERS MODE 0 (APPLICATION MODE FOR THE
ROOT FIRMWARE: GREEN LED IS ON)

SELO = MASTER-CLEAR

MODE: APPLICATION MODE

REPORTS:

- ERROR 00000 TIMEOUT TRAP ON REFERENCING Q-BUS DEVICE AD-
DRESS
- ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR

*****TEST02*****

** - SELF-TEST RUNNING TEST

THE HOST SETS SELO TO ENTER APPLICATION MODE AFTER THE
SELF TEST WAS ENDED(ONE PASS).
SELF-TEST RUNNING MODE(MODE1) IS INDICA
TED BY THE YELLOW LED ON. IF THERE IS ANY ERROR, THE
YELLOW LED FLASHES.

SELO = MASTER-CLEAR + RUN

MODE: APPLICATION MODE

REPORTS:

- ERROR 00001 SELF TEST IS NOT CORRECTLY RUN
- ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR

*****TEST03*****

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

FIRST, THE HOST SETS SELO TO ENTER THE APPLICATION MODE
THEN IT COPIES ALL THE APPLICATION CODE INSIDE THE KMV

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RAM MEMORY. A CHECK BY COMPARISON IS MADE AFTER THAT.
IF THERE IS ANY ERROR ON THE KMV DURING THE WRITE OR
READ OR RUN PHASE, THE GREEN LED FLASHES.

MODE: APPLICATION MODE

REPORTS:

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

*****TEST04*****

** - TEST OF THE CSR HANDSHAKING WITHOUT INTERRUPT

FIRST, THE HOST LOADS THE APPLICATION CODE IF REQUIRED,
IT TESTS THE KMV PROM MEMORY ECO LEVEL, THEN IT RUNS
THE APPLICATION (THE GREEN LED FLASHES IF THERE IS A
RUN ERROR).

THE HOST SETS SEL0 BIT RQI TO OBTAIN CONTROL OVER CSR'S
AS SOON AS RDYI IS SETS BY THE KMV, THE HOST, LOADS THE
COMMAND KC\$STA(LINK STATE) AND WAIT FOR ANY RESPONSE BY
POLLING RDYO BIT IN SEL2. THE RESPONSE MUST BE:

SEL2 = 1*400(STATUS=SUCCESS)+KC\$STA+RDYO
SEL4 = OFF(CURRENT LINK STATE)

REPORTS:

- ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
- ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10004 DATA COMPARE ERROR
- ERROR 10008 UNEXPECTED EPROM'S ON KMV
- ERROR 10009 UNEXPECTED QIO RESPONSE
- ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
- ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

*****TEST05*****

** - TEST OF THE CSR HANDSHAKING WITH INTERRUPTS

FIRST, THE HOST LOADS THE APPLICATION CODE IF REQUIRED.

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IT TESTS THE KMV PROM MEMORY ECO LEVEL, THEN IT RUNS THE APPLICATION (THE GREEN LED FLASHES IF THERE IS A RUN ERROR).
THE HOST SETS SEL0 RQI,IEI AND IEO BITS TO OBTAIN CONTROL OVER CSR'S BY INTERRUPT,AS SOON AS THE INTERRUPT OCCURS, THE HOST, LOADS COMMAND KC#STA(LINK STATE) THEN IT WAITS FOR ANY INTERRUPT DRIVEN RESPONSE. THE RESPONSE MUST BE:

SEL2 = 1*400(STATUS=SUCCESS)+KC#STA+RDY0
SEL4 = OFF (CURRENT STATE)

REPORTS:

- ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
- ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10004 DATA COMPARE ERROR
- ERROR 10005 UNEXPECTED INTERRUPT IN
- ERROR 10006 UNEXPECTED INTERRUPT OUT
- ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING
- ERROR 10008 UNEXPECTED EPROM'S ON KMV
- ERROR 10009 UNEXPECTED QIO RESPONSE
- ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
- ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

*****TEST06*****

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

TO DO THIS TEST, THE KMV POOL IS ARTIFICIALLY EMPTIED BEFORE ANY TRANSACTIONS.
THEN THE HOST LOADS THE APPLICATION CODE AND RUN IT. THE HOST SET SEL0 RQI,IEI,IEO BITS TO PERMIT DATA EXCHANGE BETWEEN IT AND THE KMV THROUGH THE CSR'S.
THE HOST LOADS ALL THE COMMANDS FROM A QUEUE AND IN THE SAME TIME GETS RESPONSES IN A BUFFER AS THEY ARRIVE. THERE MUST HAVE NO RESPONSE FOR DUMMY COMMANDS AND THE COMMON STATUS FOR ALL OTHER COMMANDS MUST BE KMV RESOURCE ERROR(363).

REPORTS:

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

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ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

*****TEST07*****

** - TEST OF SET CHARACTERISTIC COMMAND AT LINK STATE "OFF"

THIS COMMAND GIVES THE LINK CHARACTERISTICS TO THE KMV (SENDS A KC&SCH TO THE KMV11-C DEVICE). IN PARTICULAR, IT GIVES THE LOOP-BACK CONDITIONS BY AS SERTING OR NOT L,C OR A PARAMETERS:
 L = 1 FOR INTERNAL LOOP
 C = 1 FOR INTERNAL CLOCK
 A = 1 FOR ADDRESS A AND B EQUALS(LOOP MODE)

THE COMMAND IS TESTED FOR STATUS RESPONSES:
 = KS.SUC FOR SUCCESS
 = KE.BAD FOR INVALID PARAMETER

IN THE LATTER CASE, A QUEUE OF 14 KC&SCH COMMANDS(EACH COMMAND WITH AN INVALID PARAMETER) IS SENT. PARAMETERS CONCERNED:
 50=<T1=<32767 MS RETRANSMISSION TIMER VALUE
 50=<T2=<32767 MS WAIT BEFORE SENDING RR
 5=<T3=<300 S MINIMUM LINE ACTIVITY TIME
 1=<K=<7 NUMBER OF OUTSTANDING I FRM
 1=<N2=<255 MAX NUMBER OF RETRANSMISSION
 1=<N1B=<32767 MAX I FRAME BYTE LENGTH

MOREOVER,
 T2<T1<T3

IN CASE OF INVALID PARAMETER STATUS, BSEL4 MUST CONTAIN A BIT MAP DESCRIBING WHICH PARAMETER IS WRONG:
 BIT0 SET FOR T1
 BIT1 SET FOR T2
 BIT2 SET FOR N2
 BIT3 SET FOR K
 BIT4 SET FOR N1B
 BIT5 SET FOR T3

MODE: APPLICATION MODE

REPORTS:

- ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
- ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10004 DATA COMPARE ERROR
- ERROR 10005 UNEXPECTED INTERRUPT IN
- ERROR 10006 UNEXPECTED INTERRUPT OUT
- ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING
- ERROR 10008 UNEXPECTED EPROM'S ON KMV
- ERROR 10009 UNEXPECTED QIO RESPONSE
- ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
- ERROR 10012 THIS TEST IS SKIPPED BECAUSE THERE IS AN EX TERNAL LOOP

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- ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

*****TEST08*****

** - TEST OF ALL LINK STATE TRANSACTIONS

FOUR COMMANDS CAN AFFECT THE LINK STATES:

- INIT LINK(KC#ENB) WHICH IS USED TO SET THE LINK IN A SPECIFIED STATE BY MEANS OF A PARAMETER IN BSEL4 AND WHICH IS EITHER,
"ON" IF BSEL4 = 0
"TRANSPARENT" IF BSEL4 = 1
"NOT READY" IF BSEL4 = 2
INIT LINK CAN BE SENT ONLY IF THE LINK STATE IS "OFF" OR "NOT READY". THIS COMMAND WILL BE TESTED FOR STATUS RESPONSES,
KS.SUC IF COMMAND IS CORRECTLY PERFORMED
KE.BAD IF INVALID PARAMETER. THAT IS, BSEL4 DIFFERENT FROM 0 AT LINK STATE "NOT READY"
FROM 0,1,2 AT LINK STATE "OFF"

- STOP LINK(KC#DIS) WHICH IS USED TO SET THE LINK IN THE "OFF" STATE AND THAT, STARTING WITH EVERY STATES. THIS COMMAND WILL BE TESTED FOR STATUS RESPONSE KE.SUC EXCEPT IF ALREADY IN "OFF" STATE

- OPEN(KC#STR) WHICH IS USED TO CONNECT THE LINK TO A DCE THIS COMMAND CAN BE ONLY SENT IF THE LINK STATE IS IN THE "ON" OR "NOT READY" STATE. STATE "SYNC" IS ENTERED. THIS COMMAND IS TESTED FOR STATUS RESPONSES,
KS.SUC IF OPERATION IS CORRECTLY PERFORMED. STATE "RUNNING" IS ENTERED
KE.N2T IF NO CONNECTION AFTER N2 RETRIES, THE STATE "ON" IS ENTERED.

- CLOSE(KC#STP) WHICH IS USED TO DISCONNECT THE LINK FROM A DCE. THIS COMMAND CAN BE SENT IF THE LINK STATE IS "SYNC" OR "RUNNING". THE "ON" STATE IS ENTERED. THIS COMMAND IS TESTED FOR STATUS RESPONSE KS.SUC (SUCCESS)

THE TEST IS COMPOSED OF 8 SUB-TESTS. FOR EACH SUB-TEST, THE LINK STATE COMMAND(KC#STA) IS USED TO SEE THE STATE TRANSACTIONS. IN RESPONSE, BSEL4 CONTAINS THE LINK STATE AS DESCRIBED BELOW;

BSEL4	STATE	DEFINITION
0	OFF	THE LINK IS NOT AVAILABLE
1	NOT READY	THE LINK IS AVAILABLE BUT CAN NOT ACCEPT A DCE CONNECTION
2	ON	THE LINK IS AVAILABLE BUT NOT CONNECTED TO THE DCE
3	SYNC	THE IS BEING CONNECTED TO DCE
4	RUNNING	THE LINK IS CONNECTED TO DCE
5	TRANSPARENT	THE LINK IS ACTIVE FOR MAINTENANCE

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ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
ERROR 10012 THIS TEST IS SKIPPED BECAUSE THERE IS AN EX
 TERNAL LOOP
ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

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.....TEST09.....

.. - TEST OF THE STATUS RESPONSE "SUCCESS"(KS.SUC)

HERE ARE ALL THE COMMANDS WHICH ARE NOT YET TESTED. THE
TEST IS COMPOSED OF 6 SUB-TESTS, ONE BY STATE. FIRST,
THE REQUIRED LINK STATE IS SELECTED THEN, TESTED WITH
THE LINK STATE COMMAND. * COMMANDS WHICH MUST BE TES
TED NOW, ARE DESCRIBED bLLOW:

GET CHARACTERISTIC(KCIGCH), THIS COMMAND IS USED TO READ
THE VALUES OF THE X25 LEVEL 2 PROTOCOL PARAMETERS STORED
IN THE KMV11-C'S INTERNAL TABLE. THESE PARAMETERS ARE
THE SAME THAN THAN THESE ONE SENT WITH THE SET CHARACTE
RISTIC COMMAND. THIS COMMAND CAN BE SENT AT ANY TIME.
READ PARAMETERS WILL HAVE TO BE IN THE SHAPE OF 5 CSR'S,
SUCH AS:
SEL4 = T1
SEL6 = T2
SEL10 = L.C.A.K.N2
SEL12 = N1B
SEL14 = T3

GET COUNTS(KCICNT), THIS COMMAND CAN BE USED TO OBTAIN
THE VALUES OF THE INTERNAL COUNTS MAINTAINED BY THE FRA
ME LEVEL MODULE AND, OPTIONALLY TO RESET THEM TO ZERO.
TESTING OF VALUES IS NOT THE GOAL OF THIS TEST AND WILL
BE TESTED FARER.
THIS COMMAND CAN BE SENT AT ANY TIME.
PARAMETER SENT WITH THIS COMMAND IS SUCH AS;
BSEL4 = 0 : RESET OF COUNTS NOT REQUIRED
READ PARAMETERS WILL HAVE TO BE IN THE SHAPE OF 13 CSR S
(SEL4 TO SEL34) NOT TESTED.

TRANSMIT(KCITRX), THIS COMMAND IS USED TO GIVE BUFFER AD
DRESS AND BYTE COUNT OF AN I FRAME TO TRANSMIT. THE BUF
SHOULD BE WORD ALIGNED IN THE HOST MEMORY. HERE THIS COM
MAND IS ONLY TESTED FOR SUCCESS AND, MUST BE ONLY SENT
IN CASE OF "RUNNING" OR "TRANSPARENT" STATE.
PARAMETERS TO SEND ARE;
- 22 BITS BUFFER ADDRESS ON THE WORD BOUNDARY, SUCH AS,
 BITS : 0-15 : IN SEL4
 BITS : 16-21 : IN BSEL3 (RIGHT JUSTIFIED)
- BYTE COUNT, IN SEL6, MUST BE =< N1B (GIVEN WITH THE
 SET CHARACTERISTIC)
READ PARAMETER WILL HAVE TO BE;
BSEL4 = 1 FOR ONE BUFFER CORRECTLY TRANSMITTED

RECEIVE(KCIRCV), THIS COMMAND IS USED TO GIVE BUFFER AD

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DRESS AND BYTE COUNT OF A RECEIVE I FRAME TO THE KMV. THE BUFFER MUST BE WORD ALIGNED IN THE HOST. HERE THIS COMMAND IS ONLY TESTED FOR SUCCESS AND, MUST BE ONLY SENT IN CASE OF "RUNNING" OR "TRANSPARENT" STATE. PARAMETERS TO SEND ARE;

22 BIT BUFFER ADDRESS ON A WORD BOUNDARY, SUCH AS
BITS : 0 - 15 : IN SEL4
BITS : 16 - 21: IN BSEL3(RIGHT JUSTIFIED)
- BYTE COUNT IN SEL6 WHICH MUST BE << NIB(GIVEN WITH THE SET CHARACTERISTIC)
READ PARAMETERS WILL HAVE TO BE;
SEL4 = BYTE COUNT OF I FRAME RECEIVED
SEL6 = THE FIRST TWO CHARACTERS IF "TRANSPARENT" MODE

TRACE ENABLE(KC#TRE), THIS COMMAND ENABLES THE LEVEL 2 FRAME HEADER TRACING. NORMALLY, THE RESPONSE IS OBTAINED WHEN ALL CSR'S FROM SEL4 TO SEL36 ARE FILLED OR TRACE IS LOST. HERE, ONLY ONE FRAME IS SENT/RECEIVED AND, TO OBTAIN RESPONSE, TRACE IS ENABLE BEFORE TRANSMISSION/RECEPTION THEN DISABLE SOME TIME AFTER; AN ASYNCHRONOUS TRACE RESPONSE IS RETURNED SUCH AS:
SEL4 = STATUS,CONTROL FIELDS FOR THE I FRAME SENT
SEL6 = STATUS,CONTROL FIELDS FOR THE I FRAME RECEIVED
SEL10= 0 FOR END OF TRACE

TRACE DISABLE(KC#TRD), THIS COMMAND IS USED TO DISABLE THE TRACE OPTION.

THE TEST IS COMPOSED OF 6 SUB-TESTS, ONE FOR EACH STATE. FIRST, THE REQUIRED STATE IS SELECTED THEN, TESTED WITH THE LINK STATE COMMAND
SUBTESTS ARE BRIEFLY DESCRIBED BELOW;

SUBTEST1 LINK STATE = "OFF"
TEST SUCCESS STATUS FOR;
- GET CHARACTERISTIC(KC#GCH)
- GET COUNT(KC#CNT)
- TRACE ENABLE(KC#TRE)
- TRACE DISABLE(KC#TRD)

SUBTEST2 LINK STATE = "TRANSPARENT"
TEST SUCCESS STATUS FOR;
- GET CHARACTERISTIC(KC#GCH)
- GET COUNT(KC#CNT)
- TRACE ENABLE(KC#TRE)
- TRACE DISABLE(KC#TRD)
- TRANSMIT(KC#TRX)
- RECEIVE(KC#RCV)

SUBTEST3 LINK STATE = "NOT READY"
TEST SUCCESS STATUS FOR;
- GET CHARACTERISTIC(KC#GCH)
- GET COUNT(KC#CNT)
- TRACE ENABLE(KC#TRE)
- TRACE DISABLE(KC#TRD)

SUBTEST4 LINK STATE = "ON"

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TEST SUCCESS STATUS FOR;
  GET CHARACTERISTIC(KC#GCM)
  GET COUNT(KC#CNT)
  TRACE ENABLE(KC#TRE)
  - TRACE DISABLE(KC#TRD)

SUBTEST5 LINK STATE = "RUNNING"
TEST SUCCESS STATUS FOR;
- GET CHARACTERISTIC(KC#GCM)
- GET COUNT(KC#CNT)
- TRACE ENABLE(KC#TRE)
- TRACE DISABLE(KC#TRD)
  TRANSMIT(KC#TRX)
- RECEIVE(KC#RCV)

SUBTEST6 LINK STATE = "SYNC"
FIRST, THE LOOP IS DISABLE
TEST SUCCESS STATUS FOR;
  GET CHARACTERISTIC(KC#GCM)
  - GET COUNT(KC#CNT)
  - TRACE ENABLE(KC#TRE)
  - TRACE DISABLE(KC#TRD)

MODE: APPLICATION MODE

REPORTS:
- ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
- ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10004 DATA COMPARE ERROR
- ERROR 10005 UNEXPECTED INTERRUPT IN
- ERROR 10006 UNEXPECTED INTERRUPT OUT
- ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING
- ERROR 10008 UNEXPECTED EPROM'S ON KMV
- ERROR 10009 UNEXPECTED QIO RESPONSE
- ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
- ERROR 10012 THIS TEST IS SKIPPED BECAUSE THERE IS AN EX
  TERNAL LOOP
- ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

*****

*****TEST10*****

** - TEST OF THE STATUS RESPONSE OUT OF SEQUENCE(KE.SEQ)

THIS TEST IS COMPOSED OF 6 SUB-TESTS, ONE BY LINK STATE
FIRST, THE REQUIRED STATE IS SELECTED THEN, TESTED WITH
THE LINK STATE COMMAND
SUBTESTS ARE BRIEFLY DESCRIBED BELOW;

SUBTEST1 LINK STATE = "OFF"
OUT OF SEQUENCE COMMANDS:
  STOP LINK(KC#DIS)
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- OPEN(KC#STR)
  CLOSE(KC#STP)
  TRANSMIT(KC#TRX)
  RECEIVE(KC#RCV)

SUBTEST2 LINK STATE = "TRANSPARENT"
OUT OF SEQUENCE COMMANDS:
- SET CHARACTERISTIC(KC#SCH)
  INIT LINK(KC#ENB)
- OPEN(KC#STR)
  CLOSE(KC#STP)

SUBTEST3 LINK STATE = "NOT READY"
OUT OF SEQUENCE COMMANDS:
- SET CHARACTERISTIC(KC#SCH)
  CLOSE(KC#STP)
  TRANSMIT(KC#TRX)
  RECEIVE(KC#RCV)

SUBTEST4 LINK STATE = "ON"
OUT OF SEQUENCE COMMANDS:
- SET CHARACTERISTIC(KC#SCH)
  INIT LINK(KC#ENB)
  CLOSE(KC#STP)
  TRANSMIT(KC#TRX)
  RECEIVE(KC#RCV)

SUBTEST5 LINK STATE = "RUNNING"
OUT OF SEQUENCE COMMANDS:
- SET CHARACTERISTIC(KC#SCH)
  INIT LINK(KC#ENB)
  OPEN(KC#STR)

SUBTEST6 LINK STATE = "SYNC"
THE LOOP IS REMOVED AND, TEST IS MADE WITHIN
THE TIME FOR N2 RETRIEFS.
OUT OF SEQUENCE COMMANDS:
- SET CHARACTERISTIC(KC#SCH)
  INIT LINK(KC#ENB)
  OPEN(KC#STR)
  TRANSMIT(KC#TRX)
  RECEIVE(KC#RCV)

```

MODE: APPLICATION MODE

REPORTS:

```

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

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ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
ERROR 10012 THIS TEST IS SKIPPED BECAUSE THERE IS AN EX
TERNAL LOOP
ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

*****TEST11*****

- ** - TEST OF TRANSMIT/RECEIVE COMMANDS FOR STATUS RESPONSES
- NON EXISTENT MEMORY
- BUFFER OVERFLOW
- BYTE COUNT EXCEEDED
- REJECTED: ODD ADDRESS

THE IS COMPOSED OF 4 SUB-TESTS, ONE BY STATUS CODE. THE
DIFFERENT SUBTESTS ARE BRIEFLY DESCRIBED BELOW;

SUBTEST1 TEST OF NON EXISTENT MEMORY ADDRESS(KE.NXM)
FIRST, THE HOST MEMORY IS SIZED. IF THE HOST
IS A PDP11/23 WITH 128K OF MEMORY, THIS SUB
TEST IS SKIPPED.
THE "RUNNING" STATE IS ACCESSED THEN ,
A QUEUE OF TWO RECEIVE BUFFERS IS CREATED, ONE
CORRECT, THE OTHER ONE WITH A NON EXISTENT
HOST MEMORY ADDRESS MINUS 10 BYTES
A QUEUE OF TWO TRANSMIT BUFFERS IS CREATED,
ONE CORRECT, THE OTHER ONE WITH A NON EXISTENT
HOST MEMORY ADDRESS MINUS 10 BYTES. FOR ALL
BUFFERS, BYTE COUNT = 20 BYTES.
EXPECTED RESPONSES ARE;
- SUCCESS FOR ONE TRANSMIT BUFFER
BSEL4 = 1 FOR ONE BUFFER CORRECTLY
TRANSMITTED
- NON EXISTENT MEMORY FOR ONE TRANSMIT AND RE-
CEIVE BUFFERS. THE FAULTED MEMORY ADDRESS IS
RETURNED IN SEL4 AND BSEL6

SUBTEST2 TEST OF BUFFER OVERFLOW(KE.OVF).THIS HAPPENS
WHEN THE RECEIVED I FRAME IS LONGER THAN THE
BUFFER SIZE.
WE ARE ALREADY IN THE "RUNNING" STATE.
A RECEIVE BUFFER IS CREATED OF 20 BYTES
A TRANSMIT BUFFER IS CREATED OF 100 BYTES
EXPECTED RESPONSES ARE:
- BUFFER CORRECTLY TRANSMITTED
- RECEIVE BUFFER OVERFLOW WITH SEL4 = 20 BYTES

SUBTEST3 TEST OF BYTE COUNT EXCEEDED(KE.N1B).THIS HAP-
PENS WHEN THE TRANSMIT AND/OR RECEIVE BUFFER
SIZE IS GREATER THAN N1B(DEFINED IN THE SET
CHARACTERISTIC)
WE ARE ALREADY IN THE "RUNNING" STATE
A RECEIVE BUFFER IS CREATED OF N1B+10 BYTES
A TRANSMIT BUFFER IS CREATED OF N1B+20 BYTES
EXPECTED RESPONSES ARE BYTE COUNT EXCEEDED

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FOR BOTH COMMANDS

SUBTEST4 TEST OF ODD ADDRESS(KE.ODD).THIS HAPPENS IF THE TRANSMIT AND/OR RECEIVE BUFFER START ADDRESS IS NOT ON A WORD BOUNDARY. WE ARE ALREADY IN THE "RUNNING" STATE A RECEIVE BUFFER IS CREATED WITH ODD ADDRESS A TRANSMIT BUFFER IS CREATED WITH ODD ADDRESS EXPECTED RESPONSES ARE ODD ADDRESS STATUS FOR BOTH COMMANDS

MODE: APPLICATION MODE

REPORTS:

- ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
- ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10004 DATA COMPARE ERROR
- ERROR 10005 UNEXPECTED INTERRUPT IN
- ERROR 10006 UNEXPECTED INTERRUPT OUT
- ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING
- ERROR 10008 UNEXPECTED EPROM'S ON KMV
- ERROR 10009 UNEXPECTED QIO RESPONSE
- ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
- ERROR 10012 THIS TEST IS SKIPPED BECAUSE THERE IS AN EXTERNAL LOOP
- ERROR 10013 LIST OF RESPC SES EXPECTED BUT NOT RECEIVED

*****TEST12*****

** - TEST OF TRANSMIT/RECEIVE COMMANDS WITH TRACING

THIS TEST IS COMPOSED OF TWO SUBTESTS;

SUBTEST1 TEST OF A COMPLETE TRACE RESPONSE.THE CSR'S FROM SEL4 TO SEL36 CONTAIN THE TRACED INFORMATIONS PER BLOCK, EACH BLOCK CORRSponds TO A TRANSMITTED OR RECEIVED FRAME. EACH BLOCK INCLUDES A STATUS AND A CONTROL FIELD. THE TRACING IS ENABLE THE "RUNNING" STATE IS ACCESSED. 4 RECEIVE BUFFERS ARE CREATED 4 TRANSMIT BUFFERS ARE CREATED A TRACE RESPONSE MUST BE RECEIVED WITH 8 BLOCKS CORRESPONDING TO 4 TRANSMITTED FRAMES AND 4 RECEIVED FRAMES IN A CHRONOLOGICAL ORDER.

SUBTEST2 TEST OF TRACED INFORMATIONS LOST(KE.TRA) 3 RECEIVE BUFFERS CREATED AND 11 TRANSMIT BUFFERS ARE CREATED. A TRACED INFORMATION LOST HAS TO BE OBTAINED BECAUSE THERE IS NO MORE POOL SPACE

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MODE: APPLICATION MODE

REPORTS:

- ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
- ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
- ERROR 10004 DATA COMPARE ERROR
- ERROR 10005 UNEXPECTED INTERRUPT IN
- ERROR 10006 UNEXPECTED INTERRUPT OUT
- ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING
- ERROR 10008 UNEXPECTED EPROM'S ON KMV
- ERROR 10009 UNEXPECTED QIO RESPONSE
- ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
- ERROR 10011 UNEXPECTED DATA FOUND IN THE RECEIVE BUFFER
- ERROR 10012 THIS TEST IS SKIPPED BECAUSE THERE IS AN EX
TERNAL LOOP
- ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

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8.0 ERROR INFORMATION

8.1 ERROR REPORTING

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

THE FOLLOWING EXAMPLE PROVIDE TYPICAL ERROR REPORT:

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

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

- ERROR REPORT LIST -

8.1.1 ERROR REPORTS NOTICED INSIDE SUB ROUTINES

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

	READ	EXPECTED
SELO	040000	000000

** - ERROR REPORT 10001
RUN FUNCTION NOT CORRECTLY PERFORM

	READ	EXPECTED
SELO	040000	000000

** - ERROR REPORT 10002
WRITE FUNCTION NOT CORRECTLY PERFORM

	READ	EXPECTED
SELO	040000	000000

** - ERROR REPORT 10003
READ FUNCTION NOT CORRECTLY PERFORM

	READ	EXPECTED
SELO	040000	000000

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

1602	ADDRESS	READ	EXPECTED
1603	34000	127000	C02737
1604			
1605	** - ERROR REPORT 10005		
1606	UNEXPECTED INTERRUPT IN		
1607			
1608	SEL0	READ = 000000	
1609	SEL2	READ = 000000	
1610			
1611	NUMBER OF PENDING INPUTS = 0		
1612	NUMBER OF RESPONSES = 10		
1613			
1614	** - ERROR REPORT 10006		
1615	UNEXPECTED INTERRUPT OUT		
1616			
1617	SEL0	READ = 000000	
1618	SEL2	READ = 000000	
1619			
1620	NUMBER OF PENDING INPUTS = 0		
1621	NUMBER OF RESPONSES = 6		
1622			
1623	** - ERROR REPORT 10007		
1624	NO MORE INTERRUPT IN WHILE INPUTS ARE PENDING		
1625			
1626	NUMBER OF PENDING INPUTS = 2		
1627	NUMBER OF RESPONSES = 8		
1628			
1629	** - ERROR REPORT 10008		
1630	UNEXPECTED EPROM'S ECO LEVEL		
1631			
1632	OBTAINED ECO LEVEL = 000001		
1633	EXPECTED ONE = 000002		
1634			
1635	** - ERROR REPORT 10009		
1636	UNEXPECTED RESPONSE RECEIVED		
1637			
1638	SEQUENCING NUMBER OF THE RESPONSE = 2		
1639			
1640	UNEXPECTED RESPONSE IS : KC#STA		
1641	FOR STATUS RESPONSE : KS.SUC		
1642			
1643	PARAMETERS :		
1644	SEL04	READ = 000000	
1645	SEL06	READ = 000000	
1646	SEL10	READ = 000000	
1647	SEL12	READ = 000000	
1648	SEL14	READ = 000000	
1649	SEL16	READ = 000000	
1650	SEL20	READ = 000000	
1651	SEL22	READ = 000000	
1652	SEL24	READ = 000000	
1653	SEL26	READ = 000000	
1654	SEL30	READ = 000000	
1655	SEL32	READ = 000000	
1656	SEL34	READ = 000000	
1657	SEL36	READ = 000000	
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** - ERROR REPORT 10010
UNEXPECTED NUMBER OF RESPONSES RECEIVED

EXPECTED NUMBER OF RESPONSES = 3
NUMBER OF RESPONSES RECEIVED = 1

** - ERROR REPORT 10011
UNEXPECTED DATA FOUND IN THE RECEIVE BUFFER

TRANSMIT BUFFER ADDRESS : 005512
RECEIVE BUFFER ADDRESS : 002512
RECORD SIZE : 100 (DECIMAL)
BYTES IN ERROR : 88 (DECIMAL)

	ADDRESS	DATA
TRANSMIT BUF:	005552	040
RECEIVE BUF:	002552	000
TRANSMIT BUF:	005553	041
RECEIVE BUF:	002553	000

.... UP TO 8 ERRORS ARE REPORTED ONLY

** - ERROR REPORT 10012
THIS TEST IS SKIPPED BECAUSE THERE IS AN EXTERNAL LOOP

** - ERROR REPORT 10013
LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

EXPECTED RESPONSE IS : KC#GCH
FOR STATUS RESPONSE : KS.SUC

PARAMETERS :
SEL04 EXPECTED = 000144
SEL06 EXPECTED = 000062
SEL10 EXPECTED = 161412
SEL12 EXPECTED = 000200
SEL14 EXPECTED = 000005

8.1.2 ERROR REPORT NOTICED INSIDE THE TEST:

** - ERROR REPORT 00000
TIMOUT TRAP ON REFERENCING Q-BUS DEVICE ADDRESS

ADDRESS = 177000 UNIT = 00

** - ERROR REPORT 00001
THE KMV11 FAILS TO RUN THE SELF TEST

SEL0 = 100000 EXPECTED VALUE = 000000

** - ERROR REPORT 00002
RDYI NOT ASSERTED BY THE KMV AFTER AN RQI

SEL02 = 000000 EXPECTED VALUE = 000400

** - ERROR REPORT 00003

CVKMJAO KVV11 C FCTNL DIAG
PROGRAM DOCUMENT

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RDYO NOT ASSERTED BY THE KVV FOR A VALID RESPONSE

SEL02 = 000000 EXPECTED VALUE = 000204

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9.0 HISTORY

- VERSION 01, REVISION 00 DECEMBER 1982

- VERSION 01, REVISION 01 JULY 1983

FROM C. LEBRAUD
CHANGE REPPORT WHEN A TEST IS SKIPPED
- CORRECT PRINTING OF PROM PART NUMBER

@

CVKMJAO KMV11 C FCTNL DIAG
PROGRAM DOCUMENT

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.TITLE VKMJAO KMV11 C FCTNL DIAG
.IDENT /V01.01/

CVKMJAO KMV11-C FCTNL DIAG
PROGRAM DOCUMENT

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```

16          .MLIST ME
17          002000          .=2000
18
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23          .MCALL SVC
24 002000          SVC          ; INITIALIZE SUPERVISOR MACROS
25
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30 002000          BGNMOD VKMJAO
31
32
33          177777          $LSTIN= -1
34          177777          $LSTTAG= -1
35          177777          SVCINS= -1          ; LIST INSTRUCTIONS, SHIFTED RIGHT
36          177777          SVCTST= -1          ; LIST TEST TAGS, SHIFTED RIGHT
37          177777          SVCSUB= -1          ; LIST SUBTEST TAGS, SHIFTED RIGHT
38          177777          SVCGBL= 1          ; LIST GLOBAL TAGS, SHIFTED RIGHT
39          177777          SVCTAG= -1          ; LIST OTHER TAGS, SHIFTED RIGHT
40
41          ;          CHANGE THE VALUES OF THE SVC... SYMBOLS TO BE ZERO IF YOU WISH
42          ;          TO ALIGN THE MACRO CALLS AND THEIR EXPANSIONS. CHANGE THE
43          ;          SYMBOLS TO BE MINUS-ONE TO NOT LIST THE EXPANSIONS. YOU MAY
44          ;          CHANGE THE SYMBOLS AT ANY POINT IN YOUR PROGRAM.
45
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```

CVKMJAO KHV11 C FCTM DIAG
PROGRAM HEADER

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

002000

POINTER BGNDJ,BGNSETUP

002000

HEADER VKMJAO,A,0,180.,0

CVKMJAO KMV11 C FCTNL DIAG
PROGRAMM HEADER

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002122 000000
002124 177777
002126 177777

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

BGNPROT

0 ;OFFSET INTO P TABLE FOR CSR ADDRESS
1 ;OFFSET INTO P-TABLE FOR MASSBUS ADDRESS
1 ;OFFSET INTO P TABLE FOR DRIVE NUMBER

ENDPROT

CVKMJAO KMV11 C FCTNL DIAG
DISPATCH TABLE

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.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 12

CVKMJAO KMV11 C FCTNL DIAG
DEFAULT HARDWARE P TABLE

MACRO M1200 22 AUG 83 14:46 PAGE 18

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163
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165
166
167
168
169
170

002162

002164 177000
002166 000300
002170 004000
002172 000000
002174 000001

002176

.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 CSR ADDRESS
.WORD 300 ;KMV11 VECTOR ADDRESS IN
.WORD 4000 ;INTERRUPT PRIORITY LEVEL
.WORD 0 ;TEST CONNECTOR INSTALLED FLAG
.WORD 1 ;WORD=1 FOR PDP11/23.

ENDHW

219
220
221
222
223
224
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242
243
244
245
246
247

```

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

```

```

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

```

.NLIST ME

```

;*****
; * PROGRAM DIRECT ASSIGNMENTS
;*****

```

```

; CSR OFFSETS DEFINITIONS
;
000000 SEL0 = 0
000002 SEL2 = SEL0+2
000004 SEL4 = SEL2+2
000006 SEL6 = SEL4+2
000010 SEL10 = SEL6+2
000012 SEL12 = SEL10+2
000014 SEL14 = SEL12+2
000016 SEL16 = SEL14+2
000020 SEL20 = SEL16+2
000022 SEL22 = SEL20+2
000024 SEL24 = SEL22+2
000026 SEL26 = SEL24+2
000030 SEL30 = SEL26+2
000032 SEL32 = SEL30+2
000034 SEL34 = SEL32+2
000036 SEL36 = SEL34+2

000000 BSEL0 = 0
000001 BSEL1 = BSEL0+1

```

CVKMJAO KMV11-C FCTNL DIAG
GLOBAL EQUATES SECTION

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```

248      000002      BSEL2   = BSEL1+1
249      000003      BSEL3   = BSEL2+1
250      000004      BSEL4   = BSEL3+1
251      000005      BSEL5   = BSEL4+1
252      000006      BSEL6   = BSEL5+1
253      000007      BSEL7   = BSEL6+1
254
255      000020      CSRLen   = 16.          ;LENGTH OF CSR IN WORDS
256
257      ;
258      ; M.M.U. REGISTERS
259      ;
260
261      172340      PAR0     = 172340      ;PAGE ADDRESS REGISTER 0
262      172356      PAR7     = 172356      ; " " " " " 7
263      172300      PDRO     = PAR0-40     ;PAGE DESCRIPTOR REGISTER 0
264      077406      PDDEF    = 77406      ;PLF=128 ED=UP ACF=R/W
265
266      177572      SRO      = 177572      ;STATUS REGISTER 0
267      172516      SR3      = 172516      ; " " " 3
268
269      ;
270      ; SELO BIT DEFINITIONS
271      ;
272
273      100000      RUN       = BIT15      ;TO RUN APPLICATION FIRMWARE OR, IF
274      ;MCLR SET, TO RUN SELF-TEST
275      040000      MCLR     = BIT14      ;MASTER CLEAR
276      020000      WRITE    = BIT13      ;TO LOAD APPLICATION CODE
277      002000      READ     = BIT10      ;TO UNLOAD APPLICATION CODE
278      000400      ERR      = BIT08      ;LOAD/UNLOAD ILLEGAL ADDRESS ERROR
279      000200      RQI      = BIT07      ;TO REQUEST CSR TRANSACTION
280      000020      IE0      = BIT04      ;INTERRUPT ENABLE OUT
281      000001      IEI      = BIT00      ;INTERRUPT ENABLE IN
282
283      ;
284      ; BSEL2 BIT DEFINITIONS
285      ;
286
287      000200      RDY0     = BIT07      ;READY OUT - SET BY KMV11
288      000020      RDYI    = BIT04      ;READY IN - SET BY KMV11
289
290      ;
291      ; COMMANDS AND RESPONSES CODES
292      ;
293
294      000001      KC#SCH   = 1          ;SET CHARACTERISTICS
295      000002      KC#GCH   = 2          ;GET CHARACTERISTICS
296      000003      KC#ENB   = 3          ;INIT LINK
297      000004      KC#DIS   = 4          ;STOP LINK
298      000005      KC#STA   = 5          ;LINK STATE
299      000006      KC#CNT   = 6          ;GET COUNTS
300      000007      KC#STR   = 7          ;OPEN
301      000010      KC#STP   = 10         ;CLOSE
302      000011      KC#TRX   = 11         ;TRANSMIT
303      000012      KC#RCV   = 12         ;RECEIVE
304      000013      KC#TRE   = 13         ;TRACE ENABLE

```

```

305      000014      KC:TRD   = 14      ;TRACE DISABLE
306
307      ;
308      ; POSSIBLE STATUS RETURNED TO THE HOST
309      ;
310
311      000400      KS.SUC   = 1*400      ;SUCCESS
312      177400      KE.TRA   = 377*400    ;TRACED INFORMATION LOST
313      177000      KE.BAD   = 376*400    ;INVALID PARAMETERS
314      176400      KE.NXM   = 375*400    ;NON EXISTENT MEMORY
315      176000      KE.OVF   = 374*400    ;BUFFER OVERFLOW
316      175400      KE.SEQ   = 373*400    ;OUT OF SEQUENCE
317      175000      KE.N2T   = 372*400    ;NO RESPONSE AFTER N2 RETRY
318      174400      KE.N1B   = 371*400    ;BYTE COUNT EXCEEDED
319      174000      KE.ODD   = 370*400    ;ODD ADDRESS
320      173400      KE.CON   = 367*400    ;CONNECT RECEIVED (ASYNC)
321      173000      KE.DIS   = 366*400    ;DISCONNECT RECEIVED (ASYNC)
322      172400      KE.MDM   = 365*400    ;MODEM DOWN (ASYNC)
323      172000      KE.RES   = 364*400    ;RESET (ASYNC)
324      171400      KE.RSE   = 363*400    ;RESOURCE ALLOCATION FAILURE
325      167400      KE.ABO   = 357*400    ;COMMAND ABORTED
326      166400      KE.NRD   = 355*400    ;LINE NOT READY
327
328      ;
329      ; DEFINITIONS FOR APPLICATION FIRMWARE LOADING
330      ;
331
332      045110      $START   = $$STR      ;START ADDRESS TO RUN FIRMWARE
333      045000      $RAM     = $BUFF     ;FIRST RAM ADDRESS TO LOAD FIRMWARE
334      160000      $$STR    = 160000    ;FIRST PROM ADDRESS IN KMV
335      160002      ECONB    = $$STR*2   ;KMV FIRMWARE ECO LEVEL ADDRESS
336      160004      PARTNB   = $$STR*4   ;KMV PROM NUMBER
337      000032      $RDBS    = 26.       ;LENGTH OF RDB'S
338      000005      $RD8C    = 5        ;NUMBER OF RDB'S
339      000034      $CCBS    = 28.       ;LENGTH OF CCB'S
340      000022      $CCBC    = 18.       ;NUMBER OF CCB'S
341

```

```

343
344      .SBTTL  GLOBAL DATA SECTION
345
346      ;////////////////////////////////////
347      ;/      THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
348      ;/      IN MORE THAN ONE TEST.
349      ;////////////////////////////////////
350
351
352
353
354
355
356
357
358      ;*****
359      ;* STORAGE FOR DEVICE REGISTERS
360      ;*****
361      DESCRIPT      <KMV11-C FUNCTIONAL  DIAGNOSTIC>
362
363
364
365
366
367
368      002236      ERRRTBL
369      002236      000000      ERRRTYP:      .WORD      0
370      002240      000000      ERRNBR:      .WORD      0
371      002242      000000      ERRMSG:      .WORD      0
372      002244      000000      ERRBLK:      .WORD      0
373
374
375
376
377
378
379
380      ;*****
381      ;* PROGRAM CONTROL DEFINITIONS
382      ;*****
383
384      002246      000000      LOGDEV: 0      ;LOGICAL DEVICE NUMBER
385      002250      000000      PSTACK: 0      ;BASE LEVEL PROGRAM STACK POINTER
386
387      002252      000000      SAVE4: 0
388      002254      000000      SAVE6: 0
389      002256      000000      FTIME: 0      ;FIRST PASS FLAG
390
391      002260      000000      LOCK: 0      ;ADDRESS FOR LOCK CURRENT DATA
392      002262      000005      MAXERR: 5      ;MAX ERROR BEFORE DROPPING THE UNIT
393      002264      000000      ERCNTR: 0      ;UNIT ERROR COUNTER
394      002266      000000      L1SW: 0
395      002270      000015      L1UIT: 15      ;MAX NUMBER OF UNIT
396      002272      000000      UNIT: 0
397
398      ;*****
399      ;* MISCELLANEOUS STORAGE
400      ;*****
401
402      002274      GOOD:      .BLKW      16.      ;POINT TO GOOD DATA
403      002334      BAD:      .BLKW      16.      ;POINT TO BAD DATA
404      002374      000000      DATA: 0      ;POINTER TO CURRENT PATTERN
405      002376      000000      OFFST: 0      ;OFFSET OF BYTE TO TEST IN RESPONSE
406      002400      000000      RATE: 0      ;POINT TO THE CURRENT LINE CLOCK RATE
407      002402      000000      LENGTH: 0      ;LENGTH OF BUFFER FOR DMA
408      002404      000000      REG0: 0      ;FOR GENERAL REGISTER SAVING
409      002406      000000      REG1: 0
410      002410      000000      REG2: 0
411      002412      000000      REG3: 0
412      002414      000000      REG4: 0

```

CVKMJAO KMV11-C FCTNL DIAG
GLOBAL DATA SECTION

MACRO M1200 22 AUG-83 14:46 PAGE 20 1

```

413 002416 000000 REG5: 0
414 002420 000000 REG6: 0
415 002422 000000 REG7: 0
416 002424 000000 ERRFLG: 0 ;ERROR FLAGGED UNDER IN/OUT INTERRUPTS
417 002426 000000 REQCNT: 0 ;INPUT COMMAND COUNT
418 002430 000000 000000 TEMP: 0,0 ;TEMPORARY STORAGE
419 002434 000000 LSTLGH: 0 ;EXPECTED RESPONSE LIST LENGTH
420 002436 000000 RSPCNT: 0 ;OUTPUT RESPONSE COUNT
421 002440 000000 TMOUT: 0 ;CURRENT TIME-OUT VALUE
422 002442 000001 TXCNTR: 1 ;TX SUCCESS COUNTER
423 002444 000000 INLST: 0 ;POINT TO THE CURRENT INPUT LIST
424 002446 000000 OUTLST: 0 ;POINT TO THE CURRENT OUTPUT LIST
425 002450 000000 S.LOAD: 0 ;STATUS FOR APPLICATION CODE LOADING
426 002452 000000 APPFLG: 0 ;LOADING STATE OF THE APPLICATION CODE
427 002454 000000 SELNUM: 0 ;LOAD WITH CSR OFFSET
428 002456 000000 XMTADD: 0 ;XMIT BUFFER ADDRESS UNDER TEST
429 002460 000000 RCVADD: 0 ;RECEIVE BUFFER ADDRESS UNDER TEST
430 002462 000000 XMTBUF: 0 ;XMIT BUFFER
431 002464 000000 RCVBUF: 0 ;RECEIVE BUFFER
432 002466 000000 ERRCNT: 0 ;BYTES IN ERROR
433 002470 BADLOC: .BLKW 18. ;LOAD WITH ADDRESS OF UN-CORRECT DATA
434 002534 000000 OUTNUM: 0 ;CURRENT BAD QIO RESPONSE
435 002536 000000 SUBPC: 0 ;ACTUAL PC FOR TEST IN ERROR
436 002540 000000 EXITST: 0 ;FLAG TO EXIT FROM TEST IN ERROR
437 002542 000000 COUNT: 0 ;RESPONSE COUNTER FOR TEST
438 002544 000000 RSPID: 0 ;UN-EXPECTED RESPONSE NUMBER
439 002546 000000 RSPST: 0 ;UN-EXPECTED RESPONSE STATUS
440
441 002550 000000 LSTAD: 0 ;LAST MEMORY ADDRESS(15-0)
442 002552 000000 LSTBK: 0 ;LAST MEMORY ADDRESS(21-16)
443
444 ;*****
445 ;* POINTERS TO KMV11 VECTORS AND REGISTERS
446 ;*****
447
448 002554 000000 KMVCSR: 0 ;CSR ADDRESS
449 002556 000000 INTIN: 0 ;POINTER TO INTERRUPT VECTOR XX0
450 002560 000000 INTOUT: 0 ;POINTER TO INTERRUPT VECTOR XX4
451 002562 000000 PRILEV: 0 ;INTERRUPT SERVICING RELATIVE LEVEL
452 002564 000000 LCLOOP: 0 ;LOCAL LOOP FLAG
453 002566 000000 PDPTYP: 0 ;PDP11/23+ FLAG
454
455 ;*****
456 ;* PROGRAM CONTROL FLAGS
457 ;*****
458
459 002570 000 INIFLG: .BYTE 0
460 .EVEN
461 002572 000 LOKFLG: .BYTE 0
462 002573 000 QV.FLG: .BYTE 0
463 .EVEN
464 002574 000000 UUT: .WORD 0
465
466 ;*****
467 ;* DATA STORAGE
468 ;*****
469

```

CVKMJAO KMV11-C FCTNL DIAG
GLOBAL DATA SECTION

MACRO M1200 22 AUG-83 14:46 PAGE 20-2

470	002576	045	116	045	MPNUML: .ASCIZ /#N#A LOW PROM PART NUMBER : #T/
	002601	101	040	114	
	002604	117	127	040	
	002607	040	120	122	
	002612	117	115	040	
	002615	120	101	122	
	002620	124	040	116	
	002623	125	115	102	
	002626	105	122	040	
	002631	072	040	045	
	002634	124	000		
471	002636	045	116	045	MPNUMH: .ASCIZ /#N#A HIGH PROM PART NUMBER : #T/
	002641	101	040	110	
	002644	111	107	110	
	002647	040	120	122	
	002652	117	115	040	
	002655	120	101	122	
	002660	124	040	116	
	002663	125	115	102	
	002666	105	122	040	
	002671	072	040	045	
	002674	124	000		

```

472                                     .EVEN
473
474 PROMNB: .BLKB 40.                   ;KMV PROM NUMBER TO PRINT /V01.01/
475
476 RXBUF0: .BLKB 128.                  ;RX BUFFERS FOR DMA
477 RXBUF1: .BLKB 128.
478 RXBUF2: .BLKB 128.
479 RXBUF3: .BLKB 128.
480 RXBUF4: .BLKB 128.
481 RXBUF5: .BLKB 128.
482 RXBUF6: .BLKB 128.
483 RXBUF7: .BLKB 128.
484
485 TXBUF0: .BLKB 128.                  ;TX BUFFERS FOR DMA
486 TXBUF1: .BLKB 128.
487 TXBUF2: .BLKB 128.
488 TXBUF3: .BLKB 128.
489 TXBUF4: .BLKB 128.
490 TXBUF5: .BLKB 128.
491 TXBUF6: .BLKB 128.
492 TXBUF7: .BLKB 128.
493
494 RSPOKE: .BLKW 20.                   ;UP TO 20. RESPONSES ARE POSSIBLE. RSPOKE
495                                     ;IS USED TO FLAG EXPECTED RESPONSES DURING
496                                     ;TEST
497
498 OUTBUF: .BLKW 15.*20.                ;TO SAVE QIO RESPONSES
499
500                                     ;*****
501                                     ;* PATTERN TABLE
502                                     ;*****
503
504 PATTAB: PATTRN                        ;TABLE OF DATA FOR TEST
505 PATTRN: 000000
506 010152 177777

```

CVKMJAO KMV11 C FCTNL DIAG
GLOBAL DATA SECTION

MACRO M1200 22 AUG-83 14:46 PAGE 20 3

507	010154	052525	052525
508	010156	125252	125252
509	010160	177776	177776
510	010162	177775	177775
511	010164	177773	177773
512	010166	177767	177767
513	010170	177757	177757
514	010172	177737	177737
515	010174	177677	177677
516	010176	177577	177577
517	010200	177377	177377
518	010202	176777	176777
519	010204	175777	175777
520	010206	173777	173777
521	010210	167777	167777
522	010212	157777	157777
523	010214	137777	137777
524	010216	077777	077777
525	010220	100000	100000
526	010222	040000	040000
527	010224	020000	020000
528	010226	010000	010000
529	010230	004000	004000
530	010232	002000	002000
531	010234	001000	001000
532	010236	000400	000400
533	010240	000200	000200
534	010242	000100	000100
535	010244	000040	000040
536	010246	000020	000020
537	010250	000010	000010
538	010252	000004	000004
539	010254	000002	000002
540	010256	000001	000001
541	010260	000000	000000
542	010262	000112	

PATLGH: .-PATRN

```

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

```

543			
544			
545			
546			
547			
548			
549	010264	000003	REVCOD: .WORD 3

CVKMJAO KMV11 C FCTNL DIAG
GLOBAL DATA SECTION

MACRO M1200 22 AUG 83 14:46 PAGE 21

551
552
553 010266
554
555
556
557
558
559 010266
560 010466

REGADR:

.....
; * STACK USED FOR SUBROUTINE LINKAGE
.....

.BLKW 100

SSTACK:

C'

CVKMJAO KMV11 C FCTNL DIAG
GLOBAL DATA SECTION

MACRO M1200 22 AUG 83 14:16 PAGE 22

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010466

.SBTTL GLOBAL TEXT SECTION

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

; *****
; * NAMES OF DEVICES SUPPORTED BY PROGRAM
; *****
DEV1P <M7502>
```

591
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630
672
673
674
675
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708

.SBTTL GLOBAL SUBROUTINES

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

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

710
711
712
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717
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719
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722
723
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726
727
728
729
730
731

```
***  
; MACRO TO EXIT FROM SUB TEST  
;  
; DESCRIPTION: PERMIT TO SKIP SUBSEQUENT SUB TESTS AFTER  
; AN ERROR  
;  
; CALLING SEQUENCE: EXSUB  
;  
; NO PARAMETER  
;
```

```
.MACRO EXSUB ?B  
TST EXITST  
BEQ B  
EXIT SUB  
B:  
.ENDM
```

CVKMJAO KMV11-C FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 22 AUG 83 14:46 PAGE 25

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751
752
753
754
755
756
757

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

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

CVKMJAO KMV11-C FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 22 AUG 83 14:46 PAGE 26

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762
763
764
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766
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768
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771
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775
776
777
778
779
780

```

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

```

```

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

```

CVKMJAO KVM11-C FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 22 AUG 83 14:46 PAGE 27

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792
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796
797
798
799
800
801

```
***  
; MACRO TO SHIFT N BITS ON THE LEFT  
;  
; CALLING SEQUENCE: ASHL A,N  
;  
; INPUT PARAMETERS:  
; N: COUNT OF BITS TO BE SHIFTED  
; A: ARGUMENT TO BE SHIFTED  
;  
;--
```

```
.MACRO ASHL A,N,B  
MOV @N,RO  
B: ASL A  
SOB RO,B  
.ENDM
```

CVKMJAO KMV11 C FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 22 AUG 83 14:46 PAGE 28

```
803  
804  
805 ; **  
806 ; MACRO TO SHIFT N BITS ON THE RIGHT  
807 ;  
808 ; CALLING SEQUENCE: ASHR A,N  
809 ;  
810 ; INPUT PARAMETERS:  
811 ; N: COUNT OF BITS TO BE SHIFTED  
812 ; A: ARGUMENT TO BE SHIFTED  
813 ; **  
814  
815  
816 .MACRO ASHR A,N,?B  
817 MOV @N,RO  
818 B: ASR A  
819 SOB RO,B  
820 .ENDM  
821  
822
```

CVKMJAO KMV11-C FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 22 AUG 83 14:46 PAGE 29

824
825
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827
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832
833
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836
837
838
839
840
841

```
***  
; MACRO TO FILL SPACE WITH NOP  
;  
; CALL ING SEQUENCE : CHECK  
;  
      .MACRO CHECK  
      .REPT 50000  
$$$ADD  = 0  
      .IF GT <45000 $$$ADD>  
      NOP  
      .IFF  
      .MEXIT  
      .ENOC  
      .ENDR  
      .ENDM
```

```

843
844
845      ;**
846      ; MACRO FOR SIMPLE WAIT
847
848      ; CALLING SEQUENCE : WAIT      N.
849      ;           WHERE N INDICATES THE TIME LENGTH
850      ;           (TIME UNIT IS 100 MICROS)
851
852      ; INPUTS: NONE
853
854      ; OUTPUTS: RC DESTROYED
855
856      ; -
857
858      .MACRO  WAIT      N
859      .CALL  .WAIT
860      .WORD  N
861
862      .ENDM
863
864 010474 .WAIT:  SAVE      12
865 010504 011601  MOV      (SP),R1      ;GET LENGTH
866 010506 012102  MOV      (R1),R2
867 010510 010116  MOV      R1,(SP)      ;UP DATE RETURN PC
868 010512
869 010512
870 010514 012701 000074  BREAK
871 010520 077101 2$:  MOV      #60.,R1      ;WAIT 100 MICROS
872
873 010522 077205  SOB      R1,2$
874
875 010524
876 010534 000207  SOB      R2,1$      ;WAIT FOR N*100
877
      GET      12
      RETURN

```

```

879
880 ; **
881 ; ROUTINE TO READ A DATA FROM KMV RAM
882 ;
883 ; INPUTS: R3 = RAM ADDRESS
884 ;         R5 = CSR BASE ADDRESS
885 ;
886 ; OUTPUTS: SEL6 = DATA
887 ;         CARRY SET IF ANY ERROR
888 ;
889 ; REPORT: ERROR 10003          KMV FAILS TO READ
890 ;
891 ; --
892
893 010536 RDATA:
894 010536      SAVE      1
895 010542 010365 000004      MOV      R3,SEL4(R5)      ;LOAD RAM ADDRESS
896 010546 052765 002000 000000  BIS      @READ,SELO(R5)  ;READ WORD
897 010554 012701 000012      MOV      @10.,R1        ;INIT TIME-OUT
898 010560      11$:
899 010560      WAIT     10.      ;WAIT FOR 1 MS
900 010566 032765 002400 000000  BIT      @READ!ERR,SELO(R5) ;READ CORRECTLY DONE?
901 010574 001417      BEQ     12$      ;YES, COMPARE
902 010576 077110      SOB     R1,11$      ;NOT, LOOP TILL TIME OUT
903
904 010600 005037 002274      CLR     GOOD      ;SET REPORT
905 010604 016537 000000 002334  MOV     SELO(R5),BAD
906 010612      ERRHRD 10003,E10003,PRSELO ;IF TIME-OUT
907 010622      WAIT     10000.
908 010630 000261      SEC
909 010632 C00401      BR     13$
910
911 010634 000241      12$: CLC
912 010636      13$: GET     1
913 010642 000207      RETURN
914

```

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```

916
917
918
919      ;**
920      ; ROUTINE TO WRITE DATA IN KMV RAM
921      ;
922      ; INPUTS: R3 = RAM ADDRESS
923      ;          R4 POINTS TO THE DATA
924      ;          R5 = CSR BASE ADDRESS
925      ;
926      ; OUTPUTS: CARRY SET IF ANY ERROR
927      ;
928      ; REPORT: ERROR 10002          KMV FAILS TO WRITE
929      ;
930      ;--
931
932      WDATA:
933      010644      SAVE      1
934      010644      MOV      R3,SEL4(R5)          ;LOAD RAM ADDRESS
935      010650      010365      000004      MOV      (R4),SEL6(R5)          ;LOAD WORD
936      010654      011465      000006      BIS      @WRITE,SELO(R5)      ;WRITE IT
937      010660      052765      020000      000000      MOV      @10.,R1          ;INIT TIME-OUT
938      010666      012701      000012
939      010672      3$:
940      010672      WAIT      10.          ;WAIT FOR 1 MS
941      010700      032765      020400      000000      BIT      @WRITE!ERR,SELO(R5)      ;IS IT CORRECTLY WRITE?
942      010706      001417      BEQ      20$          ;YES,NEXT WORD
943      010710      077110      SOB      R1,3$          ;NOT, LOOP TILL TIME OUT
944      010712      005037      002274      CLR      GOOD          ;SET REPORT
945      010716      016537      000000      002334      MOV      SELO(R5),BAD
946      010724      ERRHRD      10002,E10002,PRSELO      ;IF TIME-OUT
947      010734      WAIT      10000.
948      010742      000261      SEC
949      010744      000401      BR      21$
950
951      010746      000241      20$:      CLC
952      010750      000207      21$:      GET      1
953      010754      000207      RETURN

```

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```

955
956
957
958
959      ;**
960      ; ROUTINE TO SIZE MEMORY
961      ;
962      ; NOTE: THIS ROUTINE MUST RESIDE WITHIN THE
963      ;       FIRST 24K OF MEMORY.
964      ;
965      ; OUTPUTS:
966      ; LSTAD WILL CONTAIN THE LAST AVAILABLE MEMORY LOCATION (BITS 15-0)
967      ; LSTBK WILL CONTAIN THE LAST AVAILABLE MEMORY LOCATION (BITS 21-16)
968      ;
969      ; --
970
971
972
973 010756 011637 002536      ..SIZE: MOV      (SP),SUBPC      ;GET ACTUAL PC
974 010762      SAVE      0123
975 011002 010637 002420      MOV      SP,REG6      ;SAVE CURRENT SP
976 011006 012737 011146 000004  MOV      #6$,4      ;SET TIME-OUT TRAP
977 011014 106737 000006      MFPS      6      ;SAVE THE CURRENT PSW
978 011020 012701 003776      MOV      #3776,R1      ;INIT MEMORY ADDRESS POINTER
979
980      ; CHECK IF M.M.U. INSTALLED
981
982 011024 005737 177572      TST      SRO      ;IS IT?
983
984      ; YES, SIZE THE MEMORY BY USING THE M.M.
985
986 011030 005046      CLR      -(SP)      ;INITIALIZE FOR "PAR" LOADING
987 011032 012702 172340      MOV      #PAR0,R2      ;ADDRESS OF FIRST "PAR"
988 011036 012703 000010      MOV      #+D8,R3      ;LOAD EIGHT "PAR.'S" AND EIGHT "PDR.'S"
989 011042 012762 077406 177740 1$:  MOV      #PDDEF,-40(R2) ;SET PDR'S
990 011050 011622      MOV      (SP),(R2)+   ;SET PAR'S
991 011052 062716 000200      ADD      #200,(SP)    ;UPDATE FOR NEXT "PAR"
992 011056 077307      SOB      R3,1$      ;LOOP UNTIL ALL EIGHT ARE LOADED
993 011060 012742 177600      MOV      #177600,-(R2) ;SETUP PAR7 FOR I/O
994 011064 005042      CLR      -(R2)      ;SETUP PAR6 FOR TESTING
995 011066 012737 011104 000004  MOV      #2$,4      ;CATCH TIMEOUT IF NO SR3
996 011074 012737 000020 172516  MOV      #20,SR3     ;ENABLE 22 BIT MODE
997 011102 000401      BR      3$          ;THIS PDP-11 HAS A SR3 REGISTER
998
999 011104 022626      2$:  CMP      (SP)+,(SP)+ ;CLEAN OFF THE STACK--NO SR3
1000
1001 011106 005237 177572      3$:  INC      SRO      ;TURN ON MEMORY MANAGEMENT
1002 011112 012737 011136 000004  MOV      #5$,4      ;SET FOR TIME OUT
1003 011120 005737 143776      4$:  TST      143776    ;TRAP ON NON-EX-MEM
1004 011124 062712 000040      ADC      #40,(R2)   ;MAKE A 1K STEP
1005 011130 023712 172356      CMP      PAR7,(R2)  ;LAST ONE?
1006 011134 101371      BHI      4$          ;NO--TRY AGAIN
1007
1008 011136 011202      5$:  MOV      (R2),R2    ;GET LAST BANK+1
1009 011140 005037 177572      CLR      SRO      ;TURN OFF MEMORY MANAGEMENT
1010 011144 000416      BR      9$
1011

```

```

1012          ; SIZE MEMORY WITHOUT M.M.
1013
1014 011146 012737 011176 000004 68:  MOV    #81,4          ;SET FOR TIMEOUT
1015 011154 005002                CIR    R2          ;SET UP BANK
1016 011156 062701 004000 78:  ADD    #4000,R1      ;INCREMENT BY 1K
1017 011162 062702 000040        ADD    #40,R2      ;1K STEP
1018 011166 005711                TST    (R1)        ;TRAP ON TIME OUT
1019 011170 022701 177776        CMP    #177776,R1 ;LAST ONE
1020 011174 001370                BNE    78          ;NO TRY AGAIN
1021
1022          ; TERMINATE SIZING
1023
1024 011176 162701 004000 88:  SUB    #4000,R1
1025
1026 011202 162702 000040 98:  SUB    #40,R2      ;DROP BACK
1027 011206 013706 002420        MOV    REG6,SP     ;RESTORE SP
1028 011212 013737 002252 000004  MOV    SAVE4,4     ;RESTORE ERROR VECTOR
1029 011220 013737 002254 000006  MOV    SAVE6,6
1030 011226 010137 002550        MOV    R1,LSTAD   ;LAST ADDRESS (BITS 10 0)
1031 011232 000241                CLC
1032 011234 006002                ROR    R2          ;ROTATE BANK
1033 011236 006002                ROR    R2
1034 011240 150237 002551        BISB  R2,LSTAD+1  ;LAST ADDRESS (BITS 15 11)
1035 011244 105002                CLRB  R2          ;CLEAR BITS 15-11
1036 011246 000302                SWAB  R2          ;SWAP R2
1037 011250 010237 002552        MOV    R2,LSTBK   ;LAST ADDRESS (BITS 21 16)
1038 011254                GET    0123       ;RESTORE REGISTERS
1039 011274 000207                RETURN
1040
1041

```

(f)

```

1043
1044
1045 ; ROUTINE TO CHECK QIO RESPONSES
1046 ;
1047 ; DESCRIPTION: SUBSEQUENT RESPONSES(SEL2,SEL4,SEL6 AND SO ON) ARE
1048 ; COMPARED TO THE EXPECTED ONES
1049 ;
1050 ; INPUTS: R1 EXPECTED OUT LIST LENGTH
1051 ; R1.2 EXPECTED OUT LIST BASE ADDRESSES
1052 ; OUTBUF RECEIVED RESPONSE BUFFER
1053 ; RSPCNT NUMBER OF RESPONSES
1054 ;
1055 ; OUTPUTS: R0 TO R4 ARE DESTROYED
1056 ; CARRY BIT CLEARED IF TEST OKE
1057 ; CARRY SET IF NOT, IN THIS CASE,
1058 ; BAD REGISTERS GIVE UN-EXPECTED RESPONSES
1059 ; OUTNUM = THE SEQUENTIAL NUMBER OF UN-EXPECTED RESPONSE
1060 ;
1061 ; REPORTS: ERROR 10009 UNEXPECTED RESPONSE RECEIVED
1062 ; ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
1063 ; ERROR 10013 RESPONSE EXPECTED BUT NOT RECEIVED
1064 ;--
1065
1066
1067 011276 011637 002536 CHKRSP: MOV (SP),SUBPC ;GET ACTUAL PC
1068 011302 012137 002434 MOV (R1),LSTLGH ;GET OUT LIST LENGTH
1069 011306 SAVE 1 ;SAVE LIST POINTER
1070 011312 012703 007016 MOV @OUTBUF,R3 ;POINT TO OUTLIST
1071 011316 005037 002534 CLR OUTNUM ;CLEAR BAD RESPONSE NUMBER POINTER
1072 011322 005037 002542 CLR COUNT ;INIT RESPONSE COUNTER
1073
1074 011326 005737 002436 TST RSPCNT ;ANY RESPONSE?
1075 011332 001011 BNE 1$ ;YES
1076
1077 011334 013737 002434 002534 MOV LSTLGH,OUTNUM ;IF NOT, SET REPORT
1078 011342 ERRHRD 10010,E10010,PRBNUM
1079
1080 011352 000137 011770 JMP 25$
1081
1082 011356 1$: SAVE 3 ;SAVE RECEIVED RESPONSE POINTER
1083 011362 011304 MOV (R3),R4 ;GET SEL2 CONTENTS
1084 011364 042704 177760 BIC @177760,R4 ;KEEP FXX ONLY
1085 011370 000241 CLC
1086 011372 006304 ASL R4 ;ADJUST FOR WORD BOUNDARY
1087 011374 010437 002544 MOV R4,RSPID ;SAVE RESULT FOR REPORTING
1088 011400 016404 012124 MOV RSPLST(R4),R4 ;POINT TO THE RIGHT FUNCTION TEST
1089
1090 011404 011300 MOV (R3),R0 ;GET SEL2 CONTENTS
1091 011406 042700 000377 BIC @377,R0 ;KEEP STATUS ONLY
1092 011412 010037 002546 MOV R0,RSPST ;SAVE IT FOR REPORTING
1093 011416 022700 000400 CMP @KS.SUC,R0 ;THEN LOOK FOR THE RIGHT TEST
1094 011422 001450 BEQ 10$ ;ACCORDING TO THE EXPECTED STATUS
1095 011424 022700 177400 CMP @KE.TRA,R0
1096 011430 001444 BEQ 9$
1097 011432 022700 177000 CMP @KE.BAD,R0
1098 011436 001440 BEQ 8$
1099 011440 022700 176400 CMP @KE.NXM,R0

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1100 011444 001434          BEQ      7$
1101 011446 022700 176000  CMP      @KE.OVF,RO
1102 011452 001430          BEQ      6$
1103 011454 022700 175400  CMP      @KE.SEQ,RO
1104 011460 001424          BEQ      5$
1105 011462 022700 175000  CMP      @KE.N2T,RO
1106 011466 001420          BEQ      4$
1107 011470 022700 174400  CMP      @KE.N1B,RO
1108 011474 001414          BEQ      3$
1109 011476 022700 174000  CMP      @KE.ODD,RO
1110 011502 001410          BEQ      2$
1111 011504 022700 171400  CMP      @KE.RSE,RO
1112 011510 001404          BEQ      50$
1113 011512 022700 167400  CMP      @KE.ABO,RO
1114 011516 001076          BNE      21$                ; IF NOT EXPECTED RESPONSE
1115
1116 011520 005724          TST      (R4).
1117 011522 005724          50$:    TST      (R4).
1118 011524 005724          2$:    TST      (R4).
1119 011526 005724          3$:    TST      (R4).
1120 011530 005724          4$:    TST      (R4).
1121 011532 005724          5$:    TST      (R4).
1122 011534 005724          6$:    TST      (R4).
1123 011536 005724          7$:    TST      (R4).
1124 011540 005724          8$:    TST      (R4).
1125 011542 005724          9$:    TST      (R4).
1126 011544 005714          10$:   TST      (R4)                ; CHECK FOR ANY TEST TYPE?
1127 011546 001462          BEQ      21$                ; IF NOT, REPORT ERROR
1128
1129 011550 011404          MOV      (R4),R4                ; GET TEST TYPE ADDRESS IN R4
1130 011552          SAVE      4                ; SAVE IT
1131 011556          GET      1                ; RESTORE EXPECTED LIST POINTER
1132 011562 005037 002376  CLR      OFFST                ; CLEAR BYTE OFFSET
1133 011566 005000          CLR      RO
1134
1135 011570 122760 000077 006746 11$:    CMPB     @77,RSPOKE(RO)        ; SEE IF A RESPONSE ALREADY RECEIVED?
1136 011576 001437          BEQ      14$                ; IF YES, SEE THE NEXT ONE
1137
1138 011600 105714          12$:    TSTB    (R4)                ; IF NOT, LOOK FOR BYTE TEST TERMINATOR?
1139 011602 100022          BPL      13$                ; BRANCH IF IT IS NOT THE TERMINATOR
1140
1141          ; TEST IF SUCCESS FOR KC$TRX AND PROCESS
1142
1143 011604 005303          DEC      R3                ; POINT TO RESPONSE
1144 011606 022713 000611  CMP      @611,(R3)            ; IS IT?
1145 011612 001012          BNE      26$                ; IF NOT
1146 011614 005723          TST      (R3).              ; IF YES, POINT TO PARAMETER
1147 011616 013704 002442  MOV      TXCNTR,R4            ; GET MAX COUNT
1148 011622 161337 002442  SUB      (R3),TXCNTR          ; GET NEXT COUNT
1149 011626 020413          CMP      R4,(R3)            ; IS THERE ANY OTHER KC$TRX RESPONSES?
1150 011630 101044          BHI      22$                ; IF YES
1151 011632 012737 000001 002442  MOV      @1,TXCNTR            ; IF NOT, INIT COUNTER
1152
1153 011640 112760 000077 006746 26$:    MOVB     @77,RSPOKE(RO)        ; RESPONSE CORRECT, SET FLAG
1154 011646 000435          BR      22$                ; THEN SELECT NEXT RESPONSE
1155
1156 011650 011102          13$:    MOV      (R1),R2                ; GET ADDRESS OF EXPECTED RESPONSE

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1157 011652          GET      3          ;RESTORE RESPONSE BASE ADDRESS
1158 011656 112437 002376      MOVB   (R4),OFFST ;GET OFFSET OF BYTE TO TEST
1159 011662 063703 002376      ADD    OFFST,R3   ;GET ADDRESS OF RECEIVED BYTE
1160 011666 063702 002376      ADD    OFFST,R2   ;GET ADDRESS OF EXPECTED BYTE
1161 011672 121213          CMPB   (R2),(R3)   ;ARE THE SAME?
1162 011674 001741          BEQ    12$        ;IF YES, LOOP
1163
1164 011676          14$: GET      4          ;IF NOT, RESTORE TEST TYPE ADDRESS
1165 011702 005721          TST    (R1).      ;POINT TO NEXT EXPECTED RESPONSE ADD.
1166 011704 005200          INC    R0         ;UP-DATE CORRECT RESPONSE POINTER
1167 011706 020037 002434      CMP    R0,LSTLGH ;ANY-MORE EXPECTED RESPONSES?
1168 011712 001326          BNE    11$        ;IF YES
1169
1170          ; UNEXPECTED RESPONSES, REPORT
1171
1172 011714          21$: GET      3          ;RESTORE RESPONSE BASE ADDRESS
1173 011720 013737 002542 002534  MOV    COUNT,OUTNUM ;GET RESPONSE NUMBER
1174 011726 005237 002534      INC    OUTNUM
1175 011732          ERRHRD 10009,E10009,PBRSP ;REPORT
1176
1177 011742          22$: GET      3          ;RESTORE RESPONSE BASE ADDRESS
1178 011746 062703 000036      ADD    @15,*2,R3  ;POINT TO NEXT RECEIVED RESPONSE
1179 011752 005237 002542      INC    COUNT      ;INC RESPONSE COUNTER
1180 011756 005337 002436      DEC    RSPCNT     ;ANY MORE RESPONSE?
1181 011762 001402          BEQ    25$        ;IF NOT, EXIT
1182 011764 000137 011356      JMP    1$         ;IF YES, LOOP
1183
1184          ; BEFORE ANY EXIT, REPORT OF THE EXPECTED RESPONSE BUT NOT RECEIVED
1185
1186 011770          25$: GET      1          ;RESTORE EXPECTED RESPONSE POINTER
1187 011774 005003          CLR    R3         ;INIT OFFSET
1188 011776          23$: SAVE    3          ;SAVE CURRENT OFFSET
1189 012002 122763 000077 006746  CMPB   @77,RSPKE(R3) ;RESPONSE RECEIVED?
1190 012010 001424          BEQ    24$        ;IF YES, TEST THE NEXT ONE
1191 012012 011102          MOV    (R1),R2   ;GET BASE ADDRESS OF RESPONSE
1192 012014 011237 002544      MOV    (R2),RSPID ;GET RESPONSE NUMBER
1193 012020 042737 177760 002544  BIC    @177760,RSPID
1194 012026 000241          CLC
1195 012030 006337 002544      ASL    RSPID
1196 012034 011237 002546      MOV    (R2),RSPST ;GET RESPONSE STATUS
1197 012040 042737 000377 002546  BIC    @377,RSPST
1198
1199 012046          ERRHRD 10013,E10013,PEXPEC ;REPORT
1200 012056          GET      3
1201
1202 012062 005721          24$: TST    (R1). ;NEXT RESPONSE POINTER
1203 012064 005203          INC    R3        ;INC. OFFSET
1204 012066 020337 002434      CMP    R3,LSTLGH ;THE LAST ONE?
1205 012072 001341          BNE    23$        ;IF NOT
1206
1207          ; EXIT NOW
1208
1209 012074 005737 002534          TST    OUTNUM    ;TEST COMPLETELY OKE?
1210 012100 001002          BNE    40$        ;NOT, SET CARRY
1211 012102 000241          CLC              ;YES, CLEAR CARRY
1212 012104 000207          RETURN
1213

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1214 012106
1215 012114 005237 002540
1216 012120 000261
1217 012122 000207
1218
1219

401: WAIT 10000.
INC EXITSI
SEC
RETURN

IFLAGGED ERROR

1221
 1222
 1223
 1224
 1225
 1226 012124 012164
 1227 012126 012212
 1228 012130 012240
 1229 012132 012266
 1230 012134 012314
 1231 012136 012342
 1232 012140 012370
 1233 012142 012416
 1234 012144 012444
 1235 012146 012472
 1236 012150 012520
 1237 012152 012546
 1238 012154 012574
 1239 012156 012622
 1240 012160 012650
 1241 012162 012676

; POSSIBLE RESPONSE POINTER LIST

RSPLST: TSTF0	; DUMMY RESPONSE
TSTF1	; SET CHARACTERISTICS
TSTF2	; GET CHARACTERISTICS
TSTF3	; INIT LINK
TSTF4	; STOP LINK
TSTF5	; LINK STATE
TSTF6	; GET COUNTS
TSTF7	; OPEN
TSTF10	; CLOSE
TSTF11	; TRANSMIT
TSTF12	; RECEIVE
TSTF13	; TRACE ENABLE
TSTF14	; TRACE DISABLE
TSTF15	; DUMMY RESPONSE
TSTF16	; DUMMY RESPONSE
TSTF17	; DUMMY RESPONSE

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1243
1244      .MLIST BEX
1245
1246      ; RESPONSE TEST TABLE IN FUNCTION OF STATUS RECEIVED
1247      ;
1248      ;STAT.      1  377  376  375  374  373  372  371  370  363  357
1249
1250 012164 000000 000000 000000 TSTF0: 00000,00000,00000,00000,00000,00000,00000,00000,00000,00000,00000,00000
1251 012212 012724 000000 013052 TSTF1: TYP00,00000,TYP06,00000,00000,TYP00,00000,00000,00000,TYP00,00000
1252 012240 012743 000000 000000 TSTF2: TYP03,00000,00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
1253 012266 012724 000000 012724 TSTF3: TYP00,00000,TYP00,00000,00000,TYP00,00000,00000,00000,TYP00,00000
1254 012314 012724 000000 000000 TSTF4: TYP00,00000,00000,00000,00000,TYP00,00000,00000,00000,TYP00,00000
1255 012342 012727 000000 000000 TSTF5: TYP01,00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
1256 012370 012724 000000 000000 TSTF6: TYP00,00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
1257 012416 012724 000000 000000 TSTF7: TYP00,00000,00000,00000,00000,TYP00,TYP00,00000,00000,TYP00,TYP00
1258 012444 012724 000000 000000 TSTF10: TYP00,00000,00000,00000,00000,TYP00,TYP00,00000,00000,TYP00,00000
1259 012472 012724 000000 000000 TSTF11: TYP00,00000,00000,TYP00,00000,TYP00,TYP00,TYP00,TYP00,TYP00,00000
1260 012520 012727 000000 000000 TSTF12: TYP01,00000,00000,TYP00,TYP00,TYP00,00000,TYP00,TYP00,TYP00,00000
1261 012546 012727 012724 000000 TSTF13: TYP01,TYP00,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
1262 012574 012724 000000 000000 TSTF14: TYP00,00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
1263 012622 000000 000000 000000 TSTF15: 00000,00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
1264 012650 000000 000000 000000 TSTF16: 00000,00000,00000,00000,00000,00000,00000,00000,00000,00000,00000
1265 012676 000000 000000 000000 TSTF17: 00000,00000,00000,00000,00000,00000,00000,00000,00000,00000,00000
1266
1267      ; POSSIBLE TYPE OF TESTS
1268
1269 012724      000      001      TYP00: .BYTE 0,1      ;TEST OF SEL2
1270 012726      200      .BYTE 200
1271
1272 012727      000      001      002 TYP01: .BYTE 0,1,2,3      ;TEST OF SEL2 AND SEL4
1273 012733      200      .BYTE 200
1274
1275 012734      000      001      002 TYP02: .BYTE 0,1,2,3,4,5      ;TEST OF SEL2 TO SEL6
1276 012742      200      .BYTE 200
1277
1278 012743      000      001      002 TYP03: .BYTE 0,1,2,3,4,5,6,7,10      ;TEST OF SEL2 TO SEL14
1279 012754      011      012      013 .BYTE 11,12,13
1280 012757      200      .BYTE 200
1281
1282 012760      000      001      004 TYP04: .BYTE 0,1,4,5,6,7,10      ;TEST OF SEL2, SEL6 TO SEL34
1283 012767      011      012      013 .BYTE 11,12,13,14,15,16
1284 012775      017      020      021 .BYTE 17,20,21,22,23,24
1285 013003      025      026      027 .BYTE 25,26,27,30,31,32,33
1286 013012      200      .BYTE 200
1287
1288 013013      000      001      002 TYP05: .BYTE 0,1,2,3,4,5,6,7,10      ;TEST OF SEL2 TO SEL36
1289 013024      011      012      013 .BYTE 11,12,13,14,15,16
1290 013032      017      020      021 .BYTE 17,20,21,22,23,24
1291 013040      025      026      027 .BYTE 25,26,27,30,31,32,33
1292 013047      034      035      .BYTE 34,35
1293 013051      200      .BYTE 200
1294
1295 013052      000      001      002 TYP06: .BYTE 0,1,2      ;TEST OF SEL2 AND BSEL4
1296 013055      200      .BYTE 200
1297
1298      .EVEN

```

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1300
1301
1302
1303
1304      ;**
1305      ; ROUTINE TO COMPARE BLOCKS OF DATA
1306      ;
1307      ; DESCRIPTION: TWO BUFFERS ARE COMPARED BYTE BY BYTE
1308      ;
1309      ; INPUTS: R1 SOURCE BUFFER 1 ADDRESS
1310      ;          R2 SOURCE BUFFER 2 ADDRESS
1311      ;          LENGTH = BYTE COUNT
1312      ;
1313      ; OUTPUTS: R1,R2 POINT TO CURRENT LOCATIONS
1314      ;          XMTBUF = XMIT BUFFER ADDRESS
1315      ;          RCVBUF = RECV BUFFER ADDRESS
1316      ;          ERRCNT = TOTAL ERROR COUNT
1317      ;          BADLOC = ERROR TABLE BASE ADDRESS
1318      ;          CARRY SET IF A MISMATCH OCCURS
1319      ;          LENGTH = INITIAL BYTE COUNT
1320      ; REPORT:  ERROR 10011          NOT EXPECTED DATA RECEIVED
1321      ;
1322      ;--
1323
1324
1325 013056 011637 002536      COMPAR: MOV      (SP),SUBPC          ;GET ACTUAL PC
1326 013062                          SAVE      34
1327 013072 005037 002466      CLR      ERRCNT          ;INIT ERROR COUNTER
1328 013076 010137 002462      MOV      R1,XMTBUF      ;SAVE ADDRESSES
1329 013102 010237 002464      MOV      R2,RCVBUF
1330 013106 012704 002470      MOV      @BADLOC,R4      ;POINT TO ERROR TABLE
1331 013112 013703 002402      MOV      LENGTH,R3      ;GET NUMBER OF BYTE
1332
1333 013116 121112              1$:  CMPB     (R1),(R2)          ;THE SAME DATA?
1334 013120 001010              BNE     3$          ;IF NOT
1335
1336 013122 005201              2$:  INC     R1          ;NEXT LOCATION
1337 013124 005202              INC     R2
1338 013126 077305              SOB     R3,1$          ;DEC R3 AND CONTINUE IF NOT NULL
1339
1340 013130 005737 002466      TST     ERRCNT          ;ANY ERROR?
1341 013134 001013              BNE     4$          ;YES, SET CARRY
1342 013136 000241              CLC          ;NO, CLEAR CARRY
1343 013140 000423              BR     5$          ;TERMINATE
1344
1345 013142 005237 002466      3$:  INC     ERRCNT          ;INC ERROR COUNT
1346 013146 022737 000010 002466  CMP     @B.,ERRCNT      ;8 ERRORS ?
1347 013154 103762              BLO     2$          ;YES, JUST LOOP
1348
1349 013156 010124              MOV     R1,(R4)+        ;IF NOT, SAVE BAD ADDRESS
1350 013160 010224              MOV     R2,(R4)+
1351 013162 000757              BR     2$          ;THEN LOOP BACK
1352
1353 013164              4$:  ERRHRD 10011,E10011,PRBCOM ;REPORT
1354 013174              WAIT 10000.
1355 013202 005237 002540      INC     EXITST          ;FLAGGED ERROR
1356 013206 000261              SEC

```

J6

SEQ 0074

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1357
1358 013210
1359 013220 000207

S4: GET 34
RETURN

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```

1361
1362
1363      ;**
1364      ; ROUTINE TO CLEAR A SPECIFIED BUFFER
1365      ;
1366      ; INPUTS: R1 BUFFER ADDRESS
1367      ;           LENGTH = NUMBER OF WORDS
1368      ;
1369      ; OUTPUTS: R1 DESTROYED
1370      ;
1371      ;--

```

```

1373
1374 013222
1375 013226 013703 002402
1376 013232 005021
1377 013234 077302
1378 013236
1379 013242 000207

```

```

BUFCLR: SAVE      3
          MOV      LENGTH,R3          ;GET NUMBER OF WORDS
1$:      CLR      (R1).              ;CLEAR BUFFER
          SOB      R3,1$             ;DEC COUNTER AND CONTINUE IF NOT NULL
          GET      3
          RETURN

```

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```

1381
1382
1383      ;**
1384      ; ROUTINE TO COPY ONE BUFFER IN A SECOND ONE
1385      ;
1386      ; INPUTS: R1 SOURCE BUFFER ADDRESS
1387      ;           R2 DESTINATION BUFFER ADDRESS
1388      ;           LENGTH = BYTE COUNT
1389      ;
1390      ; OUTPUTS: R1,R2 DESTROYED
1391      ;
1392      ; -
1393
1394 013244 COPY:   SAVE   3
1395 013250      MOV   LENGTH,R3
1396 013254      013703 002402 1$:   MOVB  (R1)+,(R2)+
1397 013256      077302      S0B   R3,1$
1398 013260      GET   3
1399 013264      000207      RETURN
1400

```

```

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

```

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GLOBAL SUBROUTINES

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```

1402
1403
1404
1405      ;***
1406      ; ROUTINE TO ENTER THE APPLICATION MODE
1407      ;
1408      ; DESCRIPTION: RESET ON Q-BUS THEN WAIT FOR 5 MS
1409      ;                SET APPLICATION MODE AND MCLR BITS. THEN, CHECK
1410      ;                IF MCLR CLEARED BY THE KMV. IF NOT, REPORT ERROR 2
1411      ;
1412      ; INPUTS: NONE
1413      ;
1414      ; OUTPUTS: R5 = CSR BASE ADDRESS
1415      ;                CARRY BIT SET IN CASE OF ERROR
1416      ;
1417      ; ERROR REPORT: ERROR 10000                KMV11 FAILS TO RESET MCLR
1418      ;
1419      ;--
1420
1421 013266      MODE0:  SAVE      1
1422
1423 013272      011637  002536      MOV      (SP),SUBPC
1424 013276      005037  002540      CLR      EXITST
1425
1426 013302      013705  002554      MOV      KMVCSR,R5                ;GET CSR ADDRESS IN R5
1427
1428 013306      005065  000000      CLR      SELO(R5)                ;RESET SELO
1429 013312      012765  040000  000000      MOV      @MCLR,SELO(R5)          ;SET MODE 0 AND MCLR
1430 013320      012701  000012      MOV      @10.,R1                ;SET WAIT OF 10 MS
1431 013324
1432 013324      1:      WAIT      10.                ;WAIT 1 MS
1433 013332      032765  040000  000000      BIT      @MCLR,SELO(R5)          ;MCLR CLEARED?
1434 013340      001417      BEQ      2$                      ;IF YES
1435 013342      077110      SOB      R1,1$                  ;IF NOT, LOOP TILL TIME-OUT
1436
1437 013344      005037  002274      CLR      GOOD                    ;SET REPORT FOR TIME OUT
1438 013350      016537  000000  002334      MOV      SELO(R5),BAD
1439 013356      ERRMRD  10000,E10000,PRSELO ;REPORT
1440 013366      WAIT      10000.
1441 013374      000261      SEC
1442 013376      000401      BR      3$
1443
1444 013400      000241      2$:   CLC
1445 013402      3$:   GET      1
1446
1447 013406      000207      RETURN
1448

```

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1450
1451
1452 ;**
1453 ; ROUTINE TO TEST IF LOOP BACK CONNECTOR PLUGGED
1454 ; INPUT: LCLOOP = LOOP FLAG, LOADED FROM P.TABLE
1455 ;
1456 ; OUTPUT: CARRY SET IF IT IS INSERTED
1457 ;         CARRY CLEARED IF NOT
1458 ;
1459 ; REPORT: ERROR 10012           ONE LOOP CONNECTOR IS INSTALLED
1460 ;
1461 ;--
1462
1463
1464 013410 000241
1465 013412 005737 002564
1466 013416 001414
1467 013420
1468 013440
1469 013446 000261
1470 013450
1471 013450 000207
1472

LPBACK: CLC
        TST     LCLOOP           ;TEST IF PLUGGED?
        BEQ     1$              ;IF NOT
        PRINTF  @E10012         ; IF YES REPPORT /V01.01/
        WAIT   10000.
        SEC
        ;THEN SET CARRY
1$:
        RETURN
    
```

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1486 013452
1487 013462 013702 C02402
1488 013466 005003
1489 013470
1490 013470 110321
1491 013472 005203
1492 013474 077203
1493
1494 013476
1495 013506 000207
1496
1497

```

```

; **
; ROUTINE TO LOAD BUFFER WITH AND INCREMENTAL PATTERN
;
; INPUTS: R1 = BUFFER ADDRESS
;         LENGTH = BYTE COUNT
;
; OUTPUT: R1 DESTROYED
;
;
BUFLD:  SAVE    23
        MOV     LENGTH,R2
        CLR    R3
        ;READ LENGTH
        ;INIT PATTERN
1$:     MOVB   R3,(R1)+
        INC   R3
        SOB  R2,1$
        ;LOAD BYTE
        ;NEXT
        ;FOR ALL
        GET   23
        RETURN

```

```

1499
1500
1501 ; ROUTINE TO INIT IN/OUT HANDSHAKING
1502 ;
1503 ; INPUTS: INTIN = POINTS TO THE FIRST VECTOR ADDRESS
1504 ;          PRILEV = POINT TO THE KMV DEVICE PRIORITY LEVEL
1505 ;
1506 ; OUTPUTS: RSPCNT,REQCNT AND ERRFLG ARE RESET
1507 ;          XX0 AND XX4 VECTORS ARE SET
1508 ;          MOST PRIORITY LEVEL = (PRILEV)-1
1509 ;          OUTLST POINTS TO TOP OF OUT BUFFER
1510 ;          IN/OUT INTERRUPT ENABLE BITS SET
1511 ;          ALL SAVE BUFFERS ARE CLEARED
1512 ;          XMIT BUFFERS ARE FELT WITH INCREMENTAL BYTES
1513 ;
1514 ;
1515
1516 013510 011637 002536 INIQIO: MOV (SP),SUBPC
1517 013514 005037 002426 CLR REQCNT ;CLEAR INPUT COUNT
1518 013520 005037 002436 CLR RSPCNT ;CLEAR OUTPUT COUNT
1519 013524 005037 002424 CLR ERRFLG ;CLEAR ERROR FLAG REG
1520 013530 012737 007016 002446 MOV @OUTBUF,OUTLST ;POINT TO TOP OF OUT BUFFER
1521
1522 013536 012700 000020 MOV @CSRLEN,R0 ;CLEAR ALL CSR'S
1523 013542 013702 002554 MOV KMVCSR,R2
1524 013546 005022 1$: CLR (R2).
1525 013550 077002 SOB R0,1$
1526
1527 013552 012737 002524 002402 MOV @16.*20.*20.*1024.,LENGTH ;CLEAR BUFFERS
1528 013560 012701 002746 MOV @RXBUF0,R1
1529 013564 004737 013222 CALL BUFCLR
1530
1531 013570 012701 004746 MOV @TXBUF0,R1 ;POINT TO XMIT BUFFERS
1532 013574 012737 002000 002402 MOV @1024.,LENGTH ;SET BUFFER LENGTH
1533 013602 004737 013452 CALL BUFLD ;LOAD INCREMENTAL BYTES
1534
1535 013606 SAVE 1
1536 013612 013701 002556 MOV INTIN,R1 ;POINT TO XX0
1537 013616 012721 014504 MOV @ITIN,(R1). ;LOAD IN SERVICE ROUTINE
1538 013622 012721 000340 MOV @PRIO7,(R1). ;THEN HIGHEST PRIORITY
1539 013626 012721 014704 MOV @ITOUT,(R1). ;LOAD OUT SERVICE ROUTINE IN XX4
1540 013632 012711 000340 MOV @PRIO7,(R1) ;THEN HIGHEST PRIORITY
1541
1542 013636 013701 002562 MOV PRILEV,R1 ;GET DEVICE PRIORITY
1543 013642 ASHR R1,4 ;ADJUST
1544 013652 162701 000040 SUB @40,R1 ;ONE LESS
1545 013656 106401 MTPS R1 ;MODIFY MOST PRIORITY LEVEL
1546
1547 013660 GET 1
1548 013664 000207 RETURN
1549

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1584 013666
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1588 013706 005037 002450
1589 013712
1590 013712 012704 045000
1591 013716 013702 076742
1592 013722 000241
1593 013724 006202
1594 013726 005502
1595 013730 012703 045000
1596 013734
1597 013734 005737 002450
1598 013740 001004
1599
1600 013742 004737 010644
1601 013746 103436
1602 013750 000422
1603
1604
1605
1606 013752
1607 013752 004737 010536

```

***
; ROUTINE TO LOAD APPLICATION FIRMWARE
;
; DESCRIPTION: LOAD ALL THE FIRMWARE
;               TEST IF CORRECTLY LOADED
;               THEN SET FLAG
;
; INPUTS: $BUFF = APPLICATION CODE FILE
;          BUFLGH = APPLICATION FIRMWARE LENGTH
;          $RAM = KMV RAM LOAD ADDRESS
;          APPFLG = SET WHEN CODE IS CORRECTLY LOADED
;          S.LOAD = FLAG TO INDICATE LOAD(0) OR COMPARE(1)
;          R5 = CSR BASE ADDRESS
;
;          USING OF R1 TO R4,
;          R1 = TIME-OUT COUNTER
;          R2 = WORD LOADING COUNTER
;          R3 = RAM LOAD ADDRESS
;          R4 = BUFFER ADDRESS
;
; OUTPUTS: APPFLG = 1 IF CORRECTLY LOADED
;          CARRY SET IF ANY ERROR
;
; REPORT: ERROR 10002          WRITE FAILURE
;          ERROR 10003          READ FAILURE
;          ERROR 10004          DATA COMPARE ERROR
;
;--
LDAPPL: SAVE      1234
; WRITE PHASE
1$: CLR          S.LOAD          ;0 FOR LOAD
MOV            $BUFF,R4        ;POINT TO SOURCE BUFFER
MOV            BUFLGH,R2       ;SET LENGTH
CLC
ASR            R2              ;DIVIDE BY TWO
ADC            R2              ;ADJUST
MOV            $RAM,R3        ;POINT TO DESTINATION
2$: TST          S.LOAD          ;IS IT A LOAD?
BNE            10$           ;BR IF COMPARE
CALL           WDATA          ;WRITE DATA
BCS            30$           ;IF ERROR
BR             20$           ;IF OKE, WRITE NEXT DATA
; TO COMPARE
10$: CALL        RDATA          ;READ DATA

```

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1608 013756 103432          BCS      308
1609
1610 013760 021465 000006    128:    CMP      (R4),SEL6(R5)      ;THE SAME?
1611 013764 001414          BEQ      208      ;YES, NEXT WORD
1612
1613 013766 011437 002274    002334  MOV      (R4),GOOD      ;SET REPORT
1614 013772 016537 000006    MOV      SEL6(R5),BAD
1615 014000 010337 002470    MOV      R3,BADLOC
1616 014004          ERRHRD  10004,E10004,PRDAT ;IF NOT, REPORT
1617 014014 000413          BR       308
1618
1619 014016 062703 000002    208:    ADD      @2,R3      ;NEXT RAM ADDRESS
1620 014022 005724          TST      (R4)+      ;NEXT SOURCE ADDRESS
1621 014024 005302          DEC      R2      ;NEXT
1622 014026 001342          BNE      28      ;LOOP TILL BUFFER END
1623
1624          ; BUFFER END TEST IF COMPARE DONE
1625
1626 014030 005737 002450          TST      S.LOAD      ;IS IT?
1627 014034 001010          BNE      408      ;YES, LOAD COMPLETED
1628 014036 005237 002450          INC      S.LOAD      ;NOT, COMPARE RAM AND SOURCE BUFFER
1629 014042 000723          BR       18
1630
1631 014044          308:    WAIT      10000.
1632 014052 000261          SEC
1633 014054 000403          BR       508      ;SET CARRY IF ERROR
1634          ;THEN EXIT
1635 014056 000241          408:    CLC
1636 014060 005237 002452          INC      APPFLG      ;IF OKE, SET FLAG FOR LOADED
1637 014064          508:
1638 014064          GET      1234
1639 014104 000207          RETURN
1640

```

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1675 014106
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1677 014126 012703 160002
1678
1679 014132 004737 010536
1680 014136 103463
1681
1682 014140 016537 000006 002334
1683 014146 023737 002334 010264
1684 014154 001461
1685
1686 014156
1687
1688
1689
1690 014166 012703 160004
1691 014172 012704 002676
1692 014176
1693 014176 004737 010536
1694 014202 103441
1695
1696 014204 016524 000006
1697 014210 062703 000002
1698 014214 020427 002742

```

```

; **
; ROUTINE TO CHECK KMV PROM ECO LEVEL AND PRINT PART NUMBER
;
; DESCRIPTION: BEGIN
;               READ ACTUAL ECO LEVEL AT ADDRESS=ECONB
;               COMPARE TO GDLVL
;               IF NOT EQUAL THEN REPORT ERROR
;               FOR KMV ADDRESS=PARTNB TO LAST CHR DO
;                 READ ASCII CHR
;               NEXT
;               PRINT PART NUMBER
;               END
;
; INPUTS: R5 = CSR BASE ADDRESS
;         PARTNB IS THE KMV PROM PART NUMBER ADDRESS
;         PROMNB IS THE ADDRESS OF GOOD ONE
;         ECONB IS THE ADDRESS OF ACTUAL PROM ECO LEVEL
;         GDLVL IS THE LEVEL EXPECTED BY THE DIAG.
;
; USING OF R1 TO R4
;         R1=TIME-OUT COUNTER
;         R3=ROM LOAD ADDRESS
;         R4=GOOD CHR ADDRESS
;
; OUTPUTS: CARRY SET IF ANY ERROR
;
; REPORTS: ERROR 10003          READ FAILURE
;          ERROR 10008          BAD EPROM ECO LEVEL
;
; --

```

```

REVCHK: SAVE      1234
;
; PRINT PART NUMBER
1$:  MOV      #PARTNB,R3          ;INIT R3
     MOV      #PROMNB,R4        ;INIT R4
2$:  CALL     RDATA              ;READ CHR
     BCS     30$
     MOV     SEL6(R5),BAD        ;GET SEL6
     CMP     BAD,REVCOD         ;THE SAME LEVEL?
     BEQ     40$                ;IF YES
     ERRHRD  10008,E10008,PRBECO ;IF NOT, REPORT
;
; PRINT PART NUMBER

```

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```

1699 014220 001366          BNE      2$          ;LOOP IF NOT
1700
1701 014222 012737 002676 002274      MOV      @PROMNB,GOOD      ; LOAD LOW PROM PART NUMBER ADDRESS /V01.01/
1702 014230          PRINTF   @MPNUML,GOOD      ; PRINT OUT LOW PART NUMBER /V01.01/
1703 014254 012737 002720 002274      MOV      @PROMNB+18.,GOOD  ; LOAD HIGH PROM PART NUMBER ADDRESS /V01.01/
1704 014262          PRINTF   @MPNUMH,GOOD      ; PRINT OUT HIGH PART NUMBER /V01.01/
1705
1706 014306          30$:      WAIT      10000.          ;SET CARRY IF ERROR
1707 014314 000261          SEC
1708 014316 000401          BR       50$          ;THEN EXIT
1709
1710 014320 000241          40$:      CLC
1711
1712 014322          50$:      GET      1234
1713 014342 000207          RETURN
1714

```

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```

1716
1717
1718 ; **
1719 ; ROUTINE TO START APPLICATION FIRMWARE
1720 ;
1721 ; DESCRIPTION: FIRST, TEST IS DONE TO SEE IF APPLICATION CODE
1722 ;               CAN BE LOADED. IF YES, THE CODE IS LOADED.
1723 ;               THEN, THE PROGRAM IS STARTED.
1724 ;
1725 ; INPUTS: APPFLG INDICATES IF APPLICATION CODE LOADED(1) OR NOT(0)
1726 ;         $START POINT TO THE FIRMWARE START ADDRESS
1727 ;         R5 = KMV CSR ADDRESS
1728 ;
1729 ; OUTPUTS: APPFLG CLEARED IF ANY ERROR DURING LOAD OR START
1730 ;          CARRY SET IF ANY ERROR
1731 ;
1732 ; REPORTS: ERROR 10001          RUN FAILURE
1733 ;           ERROR 10002          WRITE FAILURE
1734 ;           ERROR 10003          READ FAILURE
1735 ;           ERROR 10004          COMPARE FAILURE
1736 ;           ERROR 10008          BAD PROM NUMBER
1737 ; --
1738
1739 014344 011637 002536 RUNAPP: MOV      (SP),SUBPC
1740 014350 005737 002452      TST      APPFLG          ;CODE ALREADY LOADED?
1741 014354 001006          BNE      1$          ;YES, START IT
1742
1743 014356 004737 014106          CALL     REVCHK          ;CHECK KMV PROM NUMBER
1744 014362 103434          BCS      20$          ;EXIT IF ERROR
1745
1746 014364 004737 013666          CALL     LDAPPL          ;NOT, LOAD IT
1747 014370 103431          BCS      20$          ;EXIT IF LOAD ERROR
1748
1749 014372 012765 045110 000004 1$: MOV      @($START,SEL4(R5)) ;OKE, LOAD START ADDRESS
1750 014400 012765 100000 000000      MOV      @RUN,SELO(R5)    ;START
1751 014406 012701 000012          MOV      @10.,R1         ;SET TIME-OUT
1752 014412
1753 014412          2$: WAIT     10.          ;WAIT FOR 1 MS
1754 014420 032765 100400 000000      BIT      @RUN!ERR,SELO(R5) ;IS CORRECTLY STARTED?
1755 014426 001421          BEQ      30$          ;YES, EXIT
1756 014430 077110          SOB      R1,2$        ;NOT, LOOP TILL TIME-OUT
1757
1758 014432 005037 002274          CLR      GOOD           ;SET REPORT
1759 014436 016537 000000 002334      MOV      SELO(R5),BAD
1760 014444          ERRHRD 10001,E10001,PRSELO ;IF TIME-OUT
1761 014454          20$:
1762 014454 005037 002452          CLR      APPFLG        ;CLEAR FLAG
1763 014460          WAIT     10000.
1764 014466 000261          SEC
1765 014470 000207          RETURN
1766
1767 014472          30$:
1768 014472          WAIT     100.          ;WAIT FOR FIRWARE INIT.
1769 014500 000241          CLC
1770 014502 000207          RETURN
1771

```

```

1773
1774
1775      ;**
1776      ; INPUT INTERRUPT SERVICE ROUTINE
1777      ;
1778      ; DESCRIPTION: BEGIN
1779      ;                 IF RQI NOT SET
1780      ;                   THEN REPORT ERROR
1781      ;                 IF RDYI NOT SET
1782      ;                   THEN REPORT ERROR
1783      ;                 IF NO QIO
1784      ;                   THEN INPUT DUMMY COMMAND
1785      ;                 POINT TO CURRENT COMMAND IN LIST
1786      ;                 INPUT PARAMETERS
1787      ;                 IF NO MORE COMMAND IN LIST
1788      ;                   THEN CLEAR RQI
1789      ;                 INPUT COMMAND NUMBER
1790      ;                 CLEAR RDYI
1791      ;                 END
1792      ;
1793      ; INPUTS: R5 = KHV CSR ADDRESS
1794      ;          INLIST POINT TO THE CURRENT COMMAND TO INPUT
1795      ;          REQCNT INDICATES THE NUMBER OF INPUT STILL TO DO
1796      ;          TMOUT INDICATES INTERRUPT TIME-OUT LENGTH
1797      ;
1798      ; OUTPUTS: ERRFLG SET SUCH AS,
1799      ;           BIT2 SET IF NO RQI OR RDYI
1800      ;
1801      ;--
1802
1803      ITIN:  MOV     R1, -(SP)           ;SAVE R1,R2,R3
1804             MOV     R2, -(SP)
1805             MOV     R3, -(SP)
1806
1807             BIT     #IEI, SEL0(R5)    ;INT. ENABLE?
1808             BEQ     1#                ;NOT, SET ERROR
1809             BIT     #RQI, SEL0(R5)    ;IS RQI SET?
1810             BEQ     1#                ;NOT, SET ERROR
1811             BIT     #RDYI, SEL2(R5)   ;IS RDYI SET?
1812             BNE     2#                ;YES, SERVE INT.
1813             1#:
1814             BIS     #BIT2, ERRFLG     ;SET ERROR FLAG
1815             BR      30#              ;THEN EXIT
1816
1817             2#:  TST     REQCNT        ;ANY-MORE COMMAND?
1818             BNE     3#                ;YES, PROCESS
1819             MOV     #0, R2            ;NOT, SET DUMMY COMMAND
1820             BR      20#              ;THEN CLEAR RDYI AND EXIT
1821
1822             3#:  MOV     INLIST, R1    ;POINT TO COMMAND PARAMETERS
1823             MOV     (R1), R2         ;READ COMMAND NUMBER
1824
1825             MOV     R2, R3           ;SAVE R2
1826             BIC     #177760, R3     ;KEEP COMMAND NUMBER ONLY
1827             CLR     R0               ;RESET R0
1828             MOVB   CMDLGH(R3), R0   ;GET COMMAND LENGTH IN WORDS
1829             BEQ     5#                ;JUMP IF NO PARAMETER

```

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GLOBAL SUBROUTINES

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1830 014612 010503          MOV    R5,R3          ;IF ANY ONE, POINT TO SEL0
1831 014614 062703 000004    ADD    #4,R3          ;POINT TO SEL4
1832 014620 012123          4$:   MOV    (R1)+,(R3)+  ;COPY PARAMETERS
1833 014622 077002          SOB    R0,4$         ;
1834
1835 014624 010137 002444    5$:   MOV    R1,INLST    ;SAVE NEW POINTER
1836
1837 014630 005337 002426    DEC    REQCNT         ;NEXT COMMAND?
1838 014634 001003          BNE    20$           ;ANY-MORE COMMAND, DON'T CLEAR RQI
1839 014636 042765 000200 000000 BIC    @RQI,SEL0(R5)  ;NO MORE COMMAND, CLEAR RQI
1840
1841 014644          20$:  MOV    R2,SEL2(R5)    ;SET SEL2 WITH COMMAND NUMBER
1842 014644 010265 000002
1843
1844 014650          30$:  MOV    TMOUT,R4       ;INIT AGAIN TIME-OUT
1845 014650 013704 002440    MOV    (SP)+,R3      ;RESTORE R1,R2,R3
1846 014654 012603          MOV    (SP)+,R2
1847 014656 012602          MOV    (SP)+,R1
1848 014660 012601          RTI
1849 014662 000002
1850
1851
1852          ;          COMMAND LENGTH TABLE(NUMBER OF WORDS STARTING WITH SEL4)
1853
1854 014664          000    CMDLGH: .BYTE 0          ;DUMMY
1855 014665          006    .BYTE 6          ;SET CHARACTERISTICS
1856 014666          000    .BYTE 0          ;GET CHARACTERISTICS
1857 014667          001    .BYTE 1          ;INIT LINK
1858 014670          000    .BYTE 0          ;STOP LINK
1859 014671          000    .BYTE 0          ;LINK STATE
1860 014672          001    .BYTE 1          ;GET COUNTS
1861 014673          000    .BYTE 0          ;OPEN
1862 014674          000    .BYTE 0          ;CLOSE
1863 014675          002    .BYTE 2          ;TRANSMIT
1864 014676          002    .BYTE 2          ;RECEIVE
1865 014677          000    .BYTE 0          ;TRACE ENABLE
1866 014700          000    .BYTE 0          ;TRACE DISABLE
1867 014701          000    .BYTE 0          ;DUMMY
1868 014702          000    .BYTE 0          ;DUMMY
1869 014703          000    .BYTE 0          ;DUMMY
1870          .EVEN

```

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1872
1873
1874      ; OUTPUT INTERRUPT SERVICE ROUTINE
1875      ;
1876      ; DESCRIPTION: BEGIN
1877      ;                   IF RDYO NOT SET
1878      ;                       THEN REPORT ERROR
1879      ;                   IF NO RESPONSE AWAITED
1880      ;                       THEN REPORT ERROR
1881      ;                   SAVE RESPONSE IN BUFFER
1882      ;                   UP-DATE RESPONSE COUNT
1883      ;                   CLEAR RDYO
1884      ;                   END
1885      ;
1886      ; INPUTS: R5 = KMV CSR ADDRESS
1887      ;          TMOUT INDICATES THE TIME-OUT VALUE FOR INT.
1888      ;          OUTLST POINTS TO THE CURRENT FREE BUFFER
1889      ;          RSPCNT CURRENT RESPONSE COUNT
1890      ;
1891      ; OUTPUTS: R4 = TMOUT
1892      ;          ERRFLG SET WITH BIT0 IF ANY ERROR
1893      ;
1894      ;
1895      ;
1896
1897 014704 010146      ITOUT:  MOV      R1, -(SP)          ;SAVE R1
1898 014706 010346      MOV      R3, -(SP)          ;SAVE R3
1899
1900 014710 032765 000020 000000      BIT      @IEO, SEL0(R5)      ;INT. ENABLE?
1901 014716 001404      BEQ      1$              ;NOT, SET ERROR
1902 014720 032765 000200 000002      BIT      @RDYO, SEL2(R5)    ;IS RDYO SET?
1903 014726 001004      BNE      2$              ;YES, SAVE
1904 014730 052737 000001 002424 1$:  BIS      @BIT0, ERRFLG      ;NOT, SET ERROR
1905 014736 000424      BR       30$              ;THEN EXIT
1906
1907 014740 022737 000024 002436 2$:  CMP      @20., RSPCNT        ;OUTBUF FULL?
1908 014746 001420      BEQ      30$              ;YES, TERMINATE
1909
1910 014750 013701 002446      MOV      OUTLST, R1          ;POINT TO FREE BUFFER
1911 014754 012700 000017      MOV      @15., R0          ;SAVE SEL2 TO SEL36
1912 014760 010503      MOV      R5, R3
1913 014762 062703 000002      ADD      @2, R3
1914 014766 012321 3$:  MOV      (R3)+, (R1)+
1915 014770 077002      SOB     R0, 3$
1916
1917 014772 010137 002446      MOV      R1, OUTLST        ;POINT TO NEXT FREE BUFFER
1918 014776 005237 002436      INC      RSPCNT           ;ONE RESPONSE MORE
1919 015002 042765 000200 000002      BIC      @RDYO, SEL2(R5)   ;CLEAR RDYO
1920
1921 015010 013704 002440 30$:  MOV      TMOUT, R4          ;INIT AGAIN TIME OUT
1922 015014 012603      MOV      (SP)+, R3        ;RESTORE R3
1923 015016 012601      MOV      (SP)+, R1        ;RESTORE R1
1924 015020 000002      RTI
1925

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1962 015022 011637 002536
1963 015026 012102
1964 015030 011137 002440
1965 015034 012237 002426
1966 015040 010237 002444
1967
1968 015044 013704 002440
1969 015050 052765 000221 000000
1970 015056
1971 015056
1972 015064 005737 002424
1973 015070 001011
1974
1975 015072 077407
1976
1977 015074 005737 002426
1978 015100 001450
1979 015102
1980 015112 000431
1981
1982 015114 016537 000000 002334 10#
1983 015122 016537 000002 002336

```

: **
: ROUTINE TO PROCESS QIO WITH INTERRUPTS
:
: DESCRIPTION: BEGIN
:               SET POINTERS
:               SET RQI
:               INIT INTERRUPT WATCH DOG
:               REPEAT
:                   WAIT FOR 500MICROS
:                   IF ERRFLG SET
:                       THEN REPORT ERROR
:                   IF REQCNT & RSPCNT = 0
:                       THEN END
:               UNTIL WATCH DOG DONE
:               IF WATCH DOG DONE
:                   THEN REPORT ERROR
:               END
:
: INPUTS: R5 = KMV CSR ADDRESS
:         ERRFLG INDICATES IN IT ERROR(BIT2) OR/AND OUT IT ERROR(BIT0)
:         R1 POINTS TO A TABLE WHICH CONTENTS:
:         REQCNT COMMAND BASE ADDRESS
:         TIME-OUT LENGTH
:
: OUTPUTS: CARRY SET IF ANY ERROR, EXCEPT IN CASE OF ONE OR MORE
:         RESPONSES WERE RECEIVED AND MUST BE TESTED
:
: REPORTS: ERROR 10005          UN-EXPECTED IN IT
:         ERROR 10006          UN-EXPECTED OUT IT
:         ERROR 10007          NO MORE IN/OUT IT WHILE QIO ARE PENDING
:
: --

```

```

QIOP:  MOV      (SP),SUBPC
      MOV      (R1)+,R2          ;GET BASE ADDRESS
      MOV      (R1),TMOUT        ;GET TIME OUT LENGTH
      MOV      (R2)+,REQCNT      ;GET IN LIST LENGTH
      MOV      R2,INLST         ;POINT TO IN LIST
      MOV      TMOUT,R4          ;SET TIME OUT
      BIS      @RQI!IEI!IEO,SEL0(R5) ;SET REQUEST AND ENABLE INT.
1#:   WAIT      10.              ;WAIT FOR 1 MS
      TST      ERRFLG           ;ANY ERROR?
      BNE      10#              ;YES, REPORT
      SOB      R4,1#            ;NOT, LOOP TILL TIME-OUT
      TST      REQCNT           ;NO-MORE REQUEST?
      BEQ      30#              ;YES, END OF QIO
      ERHRD    10007,E10007,PRQION ;REPORT
      BR       20#              ;SET CARRY AND EXIT
10#:  MOV      SEL0(R5),BAD       ;SET BADO
      MOV      SEL2(R5),BAD+2    ;SET BAD2

```


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GLOBAL SUBROUTINES

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2004
2005
2006      ;**
2007      ; ROUTINE TO SET LINK CHARACTERISTICS
2008      ;
2009      ; DESCRIPTION:  FIRST, TEST OF THE LINK STATE TO SEE IF "OFF" THEN
2010      ;                THE COMMAND KC$SCH IS SENT THEN TESTED FOR THE
2011      ;                RESPONSE.
2012      ;
2013      ; INPUT:        RO=POINTER TO KC$SCH PARAMETERS
2014      ;
2015      ; OUTPUT:       CARRY SETS IF ANY ERROR
2016      ;
2017      ;--
2018
2019 015226 011637 002536      SETCH:  MOV      (SP),SUBPC      ;GET ACTUAL PC
2020 015232 012701 015324      MOV      #10$,R1      ;POINT TO CHR TABLE
2021 015236 012021              MOV      (RO)+,(R1)+   ;COPY PARAMETER
2022 015240 012021              MOV      (RO)+,(R1)+   ;COPY PARAMETER
2023 015242 012021              MOV      (RO)+,(R1)+   ;COPY PARAMETER
2024 015244 012021              MOV      (RO)+,(R1)+   ;COPY PARAMETER
2025 015246 012021              MOV      (RO)+,(R1)+   ;COPY PARAMETER
2026 015250 012021              MOV      (RO)+,(R1)+   ;COPY PARAMETER
2027 015252 004737 013510      CALL     INIQIO      ;INIT QIO PROCESSING
2028 015256 012701 015312      MOV      #60$,R1     ;GET QIO PARAMETER ADDRESS IN R1
2029 015262 004737 015022      CALL     QIOP       ;PROCESS QIO
2030 015266 103002              BCC      3$          ;IF NO ERROR, EXIT
2031
2032 015270 000137 015362              JMP      20$         ;EXIT
2033
2034 015274 012701 015340      3$:     MOV      #5$,R1      ;GET RESPONSE LIST ADDRESS
2035 015300 004737 011276      CALL     CHKRSR      ;THEN CHECK RESPONSES
2036 015304 103024              BCC      8$          ;IF CORRECT, NORMAL EXIT
2037
2038 015306 000137 015362              JMP      20$         ;EXIT
2039
2040      ; PARAMETERS FOR QIO PROCESSING
2041
2042 015312 015316              60$:     4$          ;IN LIST TABLE BASE ADDRESS
2043 015314 000764              500.      ;TIME-OUT LENGTH(N*10 MS)
2044
2045      ; COMMAND LIST
2046
2047 015316              4$:
2048 015316 000002              2.
2049
2050 015320 000005              KC$STA     ;LINK STATE
2051
2052 015322 000001              KC$SCH     ;SET CHARACTERISTICS
2053 015324 000000              10$:     0          ; T1 = 100MS
2054 015326 000000              0          ; T2 = 50MS
2055 015330 000000              0          ; L,C,A = 1 * K = 3 * N2 = 10.
2056 015332 000000              0          ; N1 = 128. BYTES
2057 015334 000000              0          ; T3 = 5S
2058 015336 000000              0
2059
2060      ;EXPECTED RESPONSE LIST

```

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2061
2062 015340 000002      5#:      2
2063 015342 015350      6#:      6#
2064 015344 015354      7#:      7#
2065 015346 015356      8#:      8#
2066
2067 015350 000605 000000  6#:      KS.SUC.KC#STA.RD#0,0      ;LINK STATE = OFF
2068
2069 015354 000601      7#:      KS.SUC.KC#SCH.RD#0      ;SUCCESS FOR KC#SCH
2070
2071      ;NORMAL EXIT
2072
2073 015356      8#:
2074 015356 000241      C C
2075 015360 000207      RETURN
2076
2077      ;RETURN ON ERROR
2078
2079 015362      20#:
2080 015362 005237 002540      INC      EXITST
2081 015366 000261      SEC
2082 015370 000207      RETURN
2083

```

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2102 015372
2103 015374
2104
2105 015376 012700 100000
2106 015402 077001
2107
2108 015404
2109 015406 032700 000040
2110 015412 001026
2111
2112 015414 005237 002264
2113 015420 023737 002262 002264
2114 015426 003020
2115
2116 015430
2117 015460
2118
2119 015466
2120
2121 015470 000207
2122
2123
2124 015472 045 116 045 MERR: .ASCIZ /#N#A MORE THAN #D3#A ERRORS ON UNIT #D2#N/
2125 .EVEN
2126

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; **
; ROUTINE TO DROP UNIT AFTER 5 ERRORS
; BEFORE DROPPING, FLAGS ARE TESTED TO SEE IF 'LOOP ON ERROR' OR
; 'DROPPING INHIBITED' ARE SET.
; INPUT: ERCNTR = NUMBER OF ERRORS
;         MAXERR = MAXIMUM NUMBER OF ERROR
; OUTPUT: NONE
; -
CHKMAX: INLOOP
        BCOMPLETE      2#
; LOOP ON ERROR?
; IF YES, EXIT
        MOV      #100000,RO
; TAKE A BREAK
1$:     SOB      RO,1#
        RFLAGS   RO
        BIT      #IDU,RO
        BNE     2#
; READ OPERATOR FLAG
; DROPPING INHIBITED?
; IF YES, EXIT
        INC     ERCNTR
; UPDATE ERROR COUNTER
        CMP     MAXERR,ERCNTR
; TOO MANY ERRORS?
        BGT     2#
; IF NOT, EXIT
        PRINTF  #MERR,MAXERR,LOGDEV
; IF YES, REPORT
        DDDU   LOGDEV
; THEN DROP UNIT
        DOCLN
; END THE SUBPASS
2$:     RETURN

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2161

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; *
; ROUTINE TO PRINT TEST NUMBER
;
; DESCRIPTION: NONE
;
; CALLING SEQUENCE: BADHEAD
;
; INFUTS: L&TEST=TEST NUMBER
;
; OUTPUTS: NONE
;
; CAUTION: NONE
;

      .MACRO ED&CALL XY
      .LIST
;      ** TEST'XY **
      .NLIST
      .ENDM

      .MACRO BADHEAD
      .RADIX 10
      ED&CALL \T&TESTNUM.1
      .RADIX 8
      .ENDM

```

```

2163          .SBTTL  GLOBAL ERROR REPORT SECTION
2164
2165          ;////////////////////////////////////
2166          ;/      ERROR MESSAGE SECTION
2167          ;////////////////////////////////////
2168          .NLIST  BEX
2169
2170 015546      045      116      045  MNONEX: .ASCIZ  /#N#A  SUBTEST 4 IS SKIPPED/ ; /V01.01/
2171
2172 015602      045      116      045  MECO:   .ASCII  /#N#A  OBTAINED PATCH LEVEL = #06/
2173 015643      045      116      045          .ASCIZ  /#N#A  EXPECTED ONE           = #06#N/
2174
2175 015705      045      116      045  PCMSE: .ASCIZ  /#N#A  ACTUAL PC = #06#N/
2176
2177 015736      045      116      045  MSEL0: .ASCIZ  /#N#A  SEL0 = #06#A           EXPECTED VALUE = #06#N/
2178
2179 016020      045      116      045  MSEL:  .ASCIZ  /#N#A  SEL#02#A = #06#A           EXPECTED VALUE = #06#N/
2180
2181 016106      045      116      045  MQIO:  .ASCII  /#N#A  NUMBER OF PENDING COMMANDS = #02/
2182 016155      045      116      045          .ASCIZ  /#N#A  NUMBER OF RESPONSES = #02#N/
2183
2184 016220      045      116      045  MBNUM: .ASCII  /#N#A  EXPECTED NUMBER OF RESPONSES = #02/
2185 016267      045      116      045          .ASCIZ  /#N#A  NUMBER OF RESPONSES RECEIVED = #02#N/
2186
2187 016341      045      116      045  MCSR0: .ASCII  /#N#A  SEL0 READ = #06/
2188 016370      045      116      045  MCSR2: .ASCIZ  /#N#A  SEL2 READ = #06/
2189 016420      045      116      045  MCSR1: .ASCII  /#N#A  SEL4 READ = #06/
2190 016447      045      116      045          .ASCIZ  /#N#A  SEL6 READ = #06#N/
2191
2192 016501      045      116      045  MQION: .ASCIZ  /#N#A  SEQUENCING NUMBER OF THE RESPONSE = #02#N/
2193
2194 016562      045      116      045  MDATO: .ASCIZ  /#N#A  ADDRESS          RECEIVED          EXPECTED/
2195 016642      045      116      045  MDAT1: .ASCIZ  /#N#A  #06#A          #06#A          #06#N/
2196
2197 016715      045      116      045  MBBUF0: .ASCII  /#N#A  TRANSMIT BUFFER ADDRESS : #06/
2198 016757      045      116      045          .ASCIZ  /#N#A  RECEIVE BUFFER ADDRESS  : #06/
2199 017022      045      116      045  MBBUF1: .ASCII  /#N#A  RECORD SIZE          : #03/
2200 017064      045      116      045          .ASCIZ  /#N#A  BYTES IN ERROR          : #03#N/
2201 017131      045      116      045  CDBFER: .ASCIZ  /#N#A          ADDRESS          DATA#N/
2202
2203 017207      045      116      045  MXMTER: .ASCIZ  /#N#A  TRANSMIT BUF:   #06#A          #03/
2204 017261      045      116      045  MRCVER: .ASCIZ  /#N#A  RECEIVE  BUF:   #06#A          #03#N/
2205
2206 017335      045      116      045  TFM36:  .ASCIZ  /#N#A  ADDRESS = #06#A          UNIT = #02#N/
2207
2208 017406      104      125      115  RSP00:  .ASCIZ  /DUMMY/
2209 017414      113      103      044  RSP01:  .ASCIZ  /KC#SCH/
2210 017423      113      103      044  RSP02:  .ASCIZ  /KC#GCH/
2211 017432      113      103      044  RSP03:  .ASCIZ  /KC#ENB/
2212 017441      113      103      044  RSP04:  .ASCIZ  /KC#DIS/
2213 017450      113      103      044  RSP05:  .ASCIZ  /KC#STA/
2214 017457      113      103      044  RSP06:  .ASCIZ  /KC#CNT/
2215 017466      113      103      044  RSP07:  .ASCIZ  /KC#STR/
2216 017475      113      103      044  RSP10:  .ASCIZ  /KC#STP/
2217 017504      113      103      044  RSP11:  .ASCIZ  /KC#TRX/
2218 017513      113      103      044  RSP12:  .ASCIZ  /KC#RCV/
2219 017522      113      103      044  RSP13:  .ASCIZ  /KC#TRE/

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 GLOBAL ERROR REPORT SECTION

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2220	017531	113	103	044	RSP14:	.ASCIZ	/KC#TRD/			
2221	017540	104	125	115	RSP15:	.ASCIZ	/DUMMY/			
2222	017546	104	125	115	RSP16:	.ASCIZ	/DUMMY/			
2223	017554	104	125	115	RSP17:	.ASCIZ	/DUMMY/			
2224										
2225	017562	113	123	056	ST1:	.ASCIZ	/KS.SUC/			
2226	017571	113	105	056	ST377:	.ASCIZ	/KE.TRA/			
2227	017600	113	105	056	ST376:	.ASCIZ	/KE.BAD/			
2228	017607	113	105	056	ST375:	.ASCIZ	/KE.NXM/			
2229	017616	113	105	056	ST374:	.ASCIZ	/KE.OVF/			
2230	017625	113	105	056	ST373:	.ASCIZ	/KE.SEQ/			
2231	017634	113	105	056	ST372:	.ASCIZ	/KE.N2T/			
2232	017643	113	105	056	ST371:	.ASCIZ	/KE.N1B/			
2233	017652	113	105	056	ST370:	.ASCIZ	/KE.ODD/			
2234	017661	113	105	056	ST367:	.ASCIZ	/KE.CON/			
2235	017670	113	105	056	ST366:	.ASCIZ	/KE.DIS/			
2236	017677	113	105	056	ST365:	.ASCIZ	/KE.MDM/			
2237	017706	113	105	056	ST364:	.ASCIZ	/KE.RES/			
2238	017715	113	105	056	ST363:	.ASCIZ	/KE.RSE/			
2239	017724	113	105	056	ST355:	.ASCIZ	/KE.NRD/			
2240	017733	113	105	056	ST357:	.ASCIZ	/KE.ABO/			
2241										
2242	017742	045	116	045	MCSREX:	.ASCIZ	/#N#A	SEL#02#A	EXPECTED = #06/	
2243										
2244	020007	045	116	045	MCSRX:	.ASCIZ	/#N#A	SEL#02#A	RECEIVED = #06/	
2245										
2246	020054	045	116	045	RSPTYP:	.ASCIZ	/#N#A	UNEXPECTED RESPONSE IS :	#T/	
2247										
2248	020120	045	116	045	RSPEXP:	.ASCIZ	/#N#A	EXPECTED RESPONSE IS :	#T/	
2249										
2250	020164	045	116	045	RSPSTA:	.ASCIZ	/#N#A	FOR STATUS RESPONSE :	#T#N/	
2251										
2252	020230	045	116	045	RSPSTX:	.ASCIZ	/#N#A	UNKNOWN STATUS RECEIVED:	#03#N/	
2253										
2254	020301	045	116	045	MALLP:	.ASCIZ	/#N#A	PARAMETERS :/		
2255	020330	045	116	045	E10012:	.ASCIZ	/#N#A	THIS TEST IS SKIPPED AS THERE IS A LOOPBACK CONNECTOR INSERTED/		
2256										
2257	020434	113	115	126	E10000:	.ASCIZ	/KMV11 FAILS TO RESET MASTER CLEAR/			
2258	020476	101	120	120	E10001:	.ASCIZ	/APPLICATION MODE RUN FUNCTION NOT CORRECTLY PERFORMED/			
2259	020564	101	120	120	E10002:	.ASCIZ	/APPLICATION MODE READ FUNCTION NOT CORRECTLY PERFORMED/			
2260	020653	101	120	120	E10003:	.ASCIZ	/APPLICATION MODE WRITE FUNCTION NOT CORRECTLY PERFORMED/			
2261	020743	104	101	124	E10004:	.ASCIZ	/DATA COMPARE ERROR DURING APPLICATION CODE LOADING/			
2262	021026	125	116	105	E10005:	.ASCIZ	/UNEXPECTED INTERRUPT "IN" OCCURS/			
2263	021067	125	116	105	E10006:	.ASCIZ	/UNEXPECTED INTERRUPT "OUT" OCCURS/			
2264	021131	106	101	111	E10007:	.ASCIZ	/FAILURE TO INTERRUPT WHILE THERE IS A PENDING INPUT/			
2265	021215	125	116	105	E10008:	.ASCIZ	/UNEXPECTED EPROM'S PATCH LEVEL/			
2266	021254	125	116	105	E10009:	.ASCIZ	/UNEXPECTED RESPONSE RECEIVED/			
2267	021311	125	116	105	E10010:	.ASCIZ	/UNEXPECTED NUMBER OF RESPONSES RECEIVED/			
2268	021361	125	116	105	E10011:	.ASCIZ	/UNEXPECTED DATA FOUND IN THE RECEIVED BUFFER/			
2269	021436	114	111	123	E10013:	.ASCIZ	/LIST OF RESPONSE EXPECTED BUT NOT RECEIVED/			
2270										
2271	021511	124	111	115	E00000:	.ASCIZ	/TIME-OUT TRAP ON REFERENCING Q-BUS DEVICE REGISTER/			
2272	021574	123	105	114	E00001:	.ASCIZ	/SELF-TEST DOES NOT PASS/			
2273	021624	122	104	131	E00002:	.ASCIZ	/RDYI NOT ASSERTED BY THE KMV AFTER AN INPUT REQUEST/			
2274	021710	122	104	131	E00003:	.ASCIZ	/RDYO NOT ASSERTED BY THE KMV IN RESPONSE TO A VALID COMMAND/			
2275	022004	125	116	105	E00004:	.ASCIZ	/UNEXPECTED INTERRUPT OCCURS WHEN IEI AND IEO CLEARED/			
2276						.EVEN				

2278
2279
2280
2281
2282
2283
2284
2285
2286
2287 022072
2288 022072
2289 022122 004737 015372
2290 022126
2291
2292 022130
2293 022130
2294 022160 004737 015372
2295 022164
2296
2297 022166
2298 022166
2299 022216 004737 015372
2300 022222
2301
2302 022224
2303 022224
2304 022244
2305 022300 004737 015372
2306 022304
2307
2308 022306
2309 022306
2310 022336
2311 022366 004737 015372
2312 022372
2313
2314 022374
2315 022374
2316 022430 004737 015372
2317 022434
2318
2319 022436
2320 022436
2321 022462
2322 022512 004737 015372
2323 022516
2324
2325 022520
2326 022520
2327 022544
2328 022570 013702 002544
2329 022574 016237 023736 002334
2330 022602
2331 022626 005002
2332 022630 022737 000400 002546
2333 022636 001513
2334 022640 022737 177400 002546

```
;/
; ERROR REPORT SECTION
; /
```

```
; **
; ERROR REPORT FOR KMV11 CSR TEST
; --
```

```
BGNMSG  BADAD
PRINTB  @TFM36,BADLOC,UNIT
CALL    CHKMAX
```

```
ENDMSG
```

```
BGNMSG  PRSELO
PRINTB  @MSELO,BAD,GOOD
CALL    CHKMAX
```

```
ENDMSG
```

```
BGNMSG  PRBECO
PRINTB  @MECO,BAD,REVCOD
CALL    CHKMAX
```

```
ENDMSG
```

```
BGNMSG  PRDAT
PRINTB  @MDATO
PRINTB  @MDAT1,BADLOC,BAD,GOOD
CALL    CHKMAX
```

```
ENDMSG
```

```
BGNMSG  PRSTAT
PRINTB  @MCSRO,BAD,BAD*2
PRINTB  @MQIO,REQCNT,RSPCNT
CALL    CHKMAX
```

```
ENDMSG
```

```
BGNMSG  PRSEL
PRINTB  @MSEL,SELNUM,BAD,GOOD
CALL    CHKMAX
```

```
ENDMSG
```

```
BGNMSG  PRQION
PRINTB  @PCMSE,SUBPC
PRINTB  @MQIO,REQCNT,RSPCNT
CALL    CHKMAX
```

```
ENDMSG
```

```
BGNMSG  PBRSP
PRINTB  @PCMSE,SUBPC
PRINTB  @MQION,OUTNUM
MOV     RSPID,R2
MOV     RSPTB(R2),BAD
PRINTB  @RSPTYP,BAD
CLR     R2
CMP     @KS.SUC,RSPST
BEQ     15#
CMP     @KE.TRA,RSPST
```

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 GLOBAL ERROR REPORT SECTION

2335	022646	001506				BEQ	14#
2336	022650	022737	177000	002546		CMP	#KE.BAD,RSPST
2337	022656	001501				BEQ	13#
2338	022660	022737	176400	002546		CMP	#KE.NXM,RSPST
2339	022666	001474				BEQ	12#
2340	022670	022737	176000	002546		CMP	#KE.OVF,RSPST
2341	022676	001467				BEQ	11#
2342	022700	022737	175400	002546		CMP	#KE.SEN,RSPST
2343	022706	001462				BEQ	10#
2344	022710	022737	175000	002546		CMP	#KE.N2T,RSPST
2345	022716	001455				BEQ	9#
2346	022720	022737	174400	002546		CMP	#KE.N1B,RSPST
2347	022726	001450				BEQ	8#
2348	022730	022737	174000	002546		CMP	#KE.ODD,RSPST
2349	022736	001443				BEQ	7#
2350	022740	022737	173400	002546		CMP	#KE.CON,RSPST
2351	022746	001436				BEQ	6#
2352	022750	022737	173000	002546		CMP	#KE.DIS,RSPST
2353	022756	001431				BEQ	5#
2354	022760	022737	172400	002546		CMP	#KE.MDM,RSPST
2355	022766	001424				BEQ	4#
2356	022770	022737	172000	002546		CMP	#KE.RES,RSPST
2357	022776	001417				BEQ	3#
2358	023000	022737	171400	002546		CMP	#KE.RSE,RSPST
2359	023006	001412				BEQ	2#
2360	023010	022737	166400	002546		CMP	#KE.NRD,RSPST
2361	023016	001405				BEQ	1#
2362	023020	022737	167400	002546		CMP	#KE.ABO,RSPST
2363	023026	001035				BNE	16#
2364							
2365	023030	005722				TST	(R2)+
2366	023032	005722			1#:	TST	(R2)+
2367	023034	005722			2#:	TST	(R2)+
2368	023036	005722			3#:	TST	(R2)+
2369	023040	005722			4#:	TST	(R2)+
2370	023042	005722			5#:	TST	(R2)+
2371	023044	005722			6#:	TST	(R2)+
2372	023046	005722			7#:	TST	(R2)+
2373	023050	005722			8#:	TST	(R2)+
2374	023052	005722			9#:	TST	(R2)+
2375	023054	005722			10#:	TST	(R2)+
2376	023056	005722			11#:	TST	(R2)+
2377	023060	005722			12#:	TST	(R2)+
2378	023062	005722			13#:	TST	(R2)+
2379	023064	005722			14#:	TST	(R2)+
2380							
2381	023066	016237	023776	002334	15#:	MOV	STLIST(R2),BAD
2382	023074					PRINTB	#RSPSTA,BAD
2383	023120	000414				BR	17#
2384							
2385	023122	000337	002546		16#:	SWAB	RSPST
2386	023126					PRINTB	#RSPSTX,RSPST
2387							
2388	023152				17#:	PRINTX	#MALLP
2389	023172	010302				MOV	R3,R2
2390	023174	005722				TST	(R2)+
2391	023176	012701	000002			MOV	#2,R1

CVKMJAO KMV11-C FCTNL DIAG
GLOBAL ERROR REPORT SECTION

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2392	023202	005721			18:	TST	(R1).
2393	023204	012237	002334			MOV	(R2).,BAD
2394	023210					PRINTX	#MCSRX,R1,BAD
2395	023236	022701	000036			CMP	#15.*2,R1
2396	023242	001357				BNE	18:
2397	023244	004737	015372			CALL	CHKMAX
2398	023250					ENDMSG	
2399							
2400	023252					BGNMSG	PEXPEC
2401	023252	013702	002544			MOV	RSPID,R2
2402	023256	016237	023736	002334		MOV	RSPTB(R2),BAD
2403	023264					PRINTB	#RSPEXP,BAD
2404	023310	005002				CLR	R2
2405	023312	022737	000400	002546		CMP	#KS.SUC,RSPST
2406	023320	001513				BEQ	15:
2407	023322	022737	177400	002546		CMP	#KE.TRA,RSPST
2408	023330	001506				BEQ	14:
2409	023332	022737	177000	002546		CMP	#KE.BAD,RSPST
2410	023340	001501				BEQ	13:
2411	023342	022737	176400	002546		CMP	#KE.NXM,RSPST
2412	023350	001474				BEQ	12:
2413	023352	022737	176000	002546		CMP	#KE.OVF,RSPST
2414	023360	001467				BEQ	11:
2415	023362	022737	175400	002546		CMP	#KE.SEQ,RSPST
2416	023370	001462				BEQ	10:
2417	023372	022737	175000	002546		CMP	#KE.N2T,RSPST
2418	023400	001455				BEQ	9:
2419	023402	022737	174400	002546		CMP	#KE.N1B,RSPST
2420	023410	001450				BEQ	8:
2421	023412	022737	174000	002546		CMP	#KE.ODD,RSPST
2422	023420	001443				BEQ	7:
2423	023422	022737	173400	002546		CMP	#KE.CON,RSPST
2424	023430	001436				BEQ	6:
2425	023432	022737	173000	002546		CMP	#KE.DIS,RSPST
2426	023440	001431				BEQ	5:
2427	023442	022737	172400	002546		CMP	#KE.MDM,RSPST
2428	023450	001424				BEQ	4:
2429	023452	022737	172000	002546		CMP	#KE.RES,RSPST
2430	023460	001417				BEQ	3:
2431	023462	022737	171400	002546		CMP	#KE.RSE,RSPST
2432	023470	001412				BEQ	2:
2433	023472	022737	166400	002546		CMP	#KE.NRD,RSPST
2434	023500	001405				BEQ	1:
2435	023502	022737	167400	002546		CMP	#KE.ABO,RSPST
2436	023510	001035				BNE	16:
2437							
2438	023512	005722				TST	(R2).
2439	023514	005722			1:	TST	(R2).
2440	023516	005722			2:	TST	(R2).
2441	023520	005722			3:	TST	(R2).
2442	023522	005722			4:	TST	(R2).
2443	023524	005722			5:	TST	(R2).
2444	023526	005722			6:	TST	(R2).
2445	023530	005722			7:	TST	(R2).
2446	023532	005722			8:	TST	(R2).
2447	023534	005722			9:	TST	(R2).
2448	023536	005722			10:	TST	(R2).

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 GLOBAL ERROR REPORT SECTION

2449	023540	005722		11:	TST	(R2).
2450	023542	005722		12:	TST	(R2).
2451	023544	005722		13:	TST	(R2).
2452	023546	005722		14:	TST	(R2).
2453						
2454	023550	016237	023776	002334	15:	MOV STLST(R2),BAD
2455	023556					PRINTB @RSPSTA,BAD
2456	023602	000414				BR 17:
2457						
2458	023604	000337	002546		16:	SWAB RSPST
2459	023610					PRINTB @RSPSTλ,RSPST
2460						
2461	023634				17:	PRINTX @MALLP
2462	023654	012102				MOV (R1),R2
2463	023656	005722				TST (R2).
2464	023660	012703	000002			MOV #2,R3
2465	023664	005723			18:	TST (R3).
2466	023666	021102				CMP (R1),R2
2467	023670	001416				BEQ 19:
2468	023672	012237	002334			MOV (R2),BAD
2469	023676					PRINTX @MCSREX,R3,BAD
2470	023724	000757				BR 18:
2471	023726	005741			19:	TST -(R1)
2472	023730	004737	015372			CALL CHKMAX
2473	023734					ENDMSG
2474						
2475	023736	017406			RSPTB:	RSP00
2476	023740	017414				RSP01
2477	023742	017423				RSP02
2478	023744	017432				RSP03
2479	023746	017441				RSP04
2480	023750	017450				RSP05
2481	023752	017457				RSP06
2482	023754	017466				RSP 7
2483	023756	017475				RSP 0
2484	023760	017504				RSP11
2485	023762	017513				RSP12
2486	023764	017522				RSP13
2487	023766	017531				RSP14
2488	023770	017540				RSP15
2489	023772	017546				RSP16
2490	023774	017554				RSP17
2491						
2492	023776	017562			STLIST:	ST1
2493	024000	017571				ST377
2494	024002	017600				ST376
2495	024004	017607				ST375
2496	024006	017616				ST374
2497	024010	017625				ST373
2498	024012	017634				ST372
2499	024014	017643				ST371
2500	024016	017652				ST370
2501	024020	017661				ST367
2502	024022	017670				ST366
2503	024024	017677				ST365
2504	024026	017706				ST364
2505	024030	017715				ST363

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GLOBAL ERROR REPORT SECTION

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2506	024032	017724			ST355
2507	024034	017733			ST357
2508					
2509	024036			BGNMSG	PRBCOM
2510	024036				PRINTB #PCMSE,SUBPC
2511	024062	005037	002274		CLR GOOD
2512	024066	005037	002334		CLR BAD
2513	024072	013704	002466		MOV ERRCNT,R4
2514	024076	012703	002470		MOV #BADLOC,R3
2515	024102				PRINTB #MBBUF0,XMTBUF,RCVBUF
2516	024132				PRINTB #MBBUF1,LENGTH,ERRCNT
2517	024162				PRINTB #CDBFER
2518					
2519	024202	012702	000010		MOV #8.,R2
2520	024206			1\$:	
2521	024206	012337	002456		MOV (R3)+,XMTADD
2522	024212	012337	002460		MOV (R3)+,RCVADD
2523	024216	117737	156234	002274	MOVB #XMTADD,GOOD
2524	024224	117737	156230	002334	MOVB #RCVADD,BAD
2525	024232				PRINTB #MXMTER,XMTADD,GOOD
2526	024262				PRINTB #MRCVER,RCVADD,BAD
2527	024312	005304			DEC R4
2528	024314	001401			BEQ 2\$
2529	024316	077245			SQB R2,1\$
2530	024320	004737	015372	2\$:	CALL CHKMAX
2531	024324			ENDMSG	
2532					
2533	024326			BGNMSG	PRBNUM
2534	024326				PRINTB #PCMSE,SUBPC
2535	024352				PRINTB #BNUM,OUTNUM,RSPCNT
2536	024402	004737	015372		CALL CHKMAX
2537	024406			ENDMSG	

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REPORT CODING SECTION

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2539
2540
2541
2542
2543
2544
2545
2546 024410
2547
2548 024410
2549
2550 024414
2551

.SBTTL REPORT CODING SECTION
:
: THE REPORT CODING SECTION CONTAINS THE
: 'PRINTS" CALLS THAT GENERATE STATISTICAL REPORTS.
:
:
BGNRPT
EXIT RPT
ENDRPT

CVKMJAO KMV11-C FCTML DIAG
INITIALIZE SECTION

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```

2553      .SBTTL  INITIALIZE SECTION
2554
2555      ;**
2556      ; THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
2557      ; AT THE BEGINNING OF EACH PASS.
2558      ;--
2559
2560 024416      BGNINIT
2561
2562
2597
2598      .EVEN
2599
2600
2601
2602 024416 012705 010466      MOV      #SSTACK,R5      ;INITIALIZE STACK
2603 024422 010637 002250      MOV      SP,PSTACK      ;STORE STACK POINTER
2604
2605 024426 005037 002452      CLR      APPFLG          ;CLEAR FLAG TO REQUEST LOAD OF THE
2606                                     ;APPLICATION FIRMWARE
2607
2608 024432 005737 002256      TST      FTIME          ;IS THE FIRST PASS?
2609 024436 001011              BNE      1$             ;IF NOT
2610 024440 013737 000004 002252      MOV      @04,SAVE4      ;SAVE TIME OUT TRAP VECTOR IF YES
2611 024446 013737 000006 002254      MOV      @06,SAVE6
2612 024454 012737 000001 002256      MOV      @1,FTIME       ;THEN SET FIRST PASS FLAG
2613
2614 024462 013737 002252 000004 1$:  MOV      SAVE4,@04      ;RESTORE TRAP VECTOR
2615 024470 013737 002254 000006      MOV      SAVE6,@06
2616
2617      ;SEE IF PROGRAM JUST STARTED, BR IF YES
2618 024476      READEF  #EF.START
2619 024504      BCOMPLETE      SETUP
2620
2621      ;SEE IF PROGRAM WAS JUST CONTINUED
2622 024506      READEF  #EF.CONTINUE
2623 024514      BCOMPLETE      END
2624
2625      ;SEE IF THIS IS A NEW PASS, BR IF NOT
2626 024516      READEF  #EF.NEW
2627 024524      BNCOMPLETE      NEXT
2628
2629 024526      SETUP:
2630 024526 012737 177777 002574      MOV      #-1,UUT          ;SET LOGICAL DEVICE TO -1

```

CVKMJAO KMV11 C FCTNL DIAG
INITIALIZE SECTION

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```

2632
2633
2634 024534          NEXT:
2635
2636          ;TEST IF ALL UNITS TESTED
2637
2638 024534 005237 002574          INC      UUT
2639 024540 023737 002574 002270  CMP      UUT,L#UIT
2640 024546 001463          BEQ      ABORT          ;YES ABORT THE PASS
2641
2642 024550 013701 002574          MOV      UUT,R1
2643 024554          PRINTF  #RUNNING,R1
2644          .EVEN
2645 024576          PRINTF  #MARK0
2646          .EVEN
2647 024616          PRINTF  #MARK1
2648          .EVEN
2649
2650          ;GET P-TABLE IF AVAILABLE FOR THIS UNIT
2651 024636          GPHARD  UUT,R1
2652 024646          BNCOMPLETE      NEXT          ;IF NOT, TRY THE NEXT ONE
2653
2654          ;GET KMV11-C CSR ADDRESS
2655 024650 012137 002554          MOV      (R1)+,KMVCSR          ;LOAD CSR ADDRESS
2656
2657          ;GET KMV11 INTERRUPT VECTORS
2658 024654 011137 002556          MOV      (R1),INTIN
2659 024660 012137 002560          MOV      (R1)+,INTOUT
2660 024664 062737 000004 002560  ADD      #4,INTOUT
2661
2662          ;GET KMV11 PRIORITY
2663 024672 012137 002562          MOV      (R1)+,PRILEV
2664
2665          ;GET LOOP INDICATOR
2666 024676 012137 002564          MOV      (R1)+,LCLOOP
2667
2668          ;GET PDP11/23 TYPE
2669 024702 012137 002566          MOV      (R1)+,PDPTYP
2670
2671          ;RESET ERROR COUNTER
2672 024706 005037 002264          CLR      ERCNTR
2673
2674 024712          EXIT      INIT
2675
2676 024716          ABORT:  DOCLN
2677 024720          EXIT      INIT          ;CLEAN UP THEN ABORT PASS
2678

```

CVKMJAO KMV11 C FCTNL DIAG
INITIALIZE SECTION

MACRO M1200 22 AUG 83 14:46 PAGE 57-1

2679	024724	000506			END:	BR	END1	
2680	024726	045	116	045	RUNNING:		.ASCIZ	/#N#A RUNNING ON UNIT #D2#A (FOR < 8 MINUTES)/
2681	025004	045	116	045	RMARK0:		.ASCIZ	/#N#A SUBTEST 4 OF TEST 11 IS SKIPPED IF THE SYSTEM/
2682	025067	045	116	045	RMARK1:		.ASCIZ	/#N#A IS A PDP11-23A WITH 128K OF MEMORY#N/
2683						.EVEN		
2684								
2685								
2686	025142				END1:	ENDINIT		
2687								
2688								
2689								
2690								
2691								

```

2693 .SBTTL AUTODROP SECTION
2694
2695
2696 ;**
2697 ; THIS CODE IS EXECUTED IMMEDIATELY AFTER THE INITIALIZE CODE IF
2698 ; THE "ADR" FLAG WAS SET. THE UNIT(S) UNDER TEST ARE CHECKED TO
2699 ; SEE IF THEY WILL RESPOND. THOSE THAT DON'T ARE IMMEDIATELY
2700 ; DROPPED FROM TESTING.
2701 ;**
2702 .EVEN
2703
2704
2705
2706
2707
2708
2709
2710
2711
2712
2713 ;DEVICE DOES NOT HAVE A "READY"
2714
2715 025144 013701 002554 MOV KMVCSR,R1 ;R1 CONTAINS BASE KMV11 ADDRESS
2716 025150 012705 000020 MOV #CSRLEN,R5 ;NUMBER OF REGISTERS TO BE TESTED
2717 025154 012737 025204 000004 MOV #21,4 ;SET OUT TIMEOUT TRAP
2718 025162 012737 000340 000006 MOV #340,6 ;LEVEL 7
2719 025170 005711 18: TST (R1) ;REFERENCE DEVICE REGISTERS
2720 025172 062701 000002 NOP
2721 025174 062701 000002 ADD #2,R1 ;NEXT REGISTER
2722 025200 077505 SOB R5,18 ;LOOP TILL ALL ADDRESSED
2723 025202 000405 BR 38
2724
2725 025204 062706 000004 28: ADD #4,SP
2726 025210 DODU LOGDEV
2727
2728 025216 013737 002252 000004 38: MOV SAVE4,4
2729 025224 013737 002254 000006 MOV SAVE6,6
2730 025232 ENDAUTO
2731
2732
2733
2734

```

CVKMJAO KHV11-C FCTNL DIAG
CLEANUP CODING SECTION

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2736
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2770
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2772
2773
2774
2775

025234

025234

025236

```
.SBTTL  CLEANUP CODING SECTION
;/////////////////////////////////////////////////////////////////
; THE CLEANUP CODING SECTION CONTAINS THE CODING THAT IS PERFORMED
; AT THE END OF EACH PASS.
;/////////////////////////////////////////////////////////////////

      BGNCLN

      BPESET

      ENDCLN
```

{ ')

CVKMJAG KMV11-C FCTM DIAG
DROP UNIT SECTION

MACRO M1200 22 AUG 83 14:46 PAGE 60

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2819

025240

025240

025262

025266

025320

045

116

045

.SBTTL DROP UNIT SECTION

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

BGNDU

PRINTF @MDROP,RO ;UNIT DROPPED
EXIT DU

MDROP: .ASCIZ /%N% A UNIT %D2% A DROPPED%N/
.FVEN

ENDDU

CVKMJAO KMV11 C FCTML DIAG
ADD UNIT SECTION

MACRO M1200 22 AUG 83 14:46 PAGE 61

2821
2822
2823
2824
2825
2826
2827
2828
2829
2830
2839
2840 025322
2841 025322
2842
2843

.SBTTL ADD UNIT SECTION

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

BGNAU
ENDAU

CVKMJAO KMV11-C FCTNL DIAG
ADD UNIT SECTION

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2845
2846
2850
2859
2893
2894
2895 025324

BADHEAD

;; ** TEST1 **

;; ** - VERIFY THAT THE KMV11-C DEVICE CAN BE RESTARTED

;; THE MOST SETS SELO TO ENTER APPLICATION MODE AFTER A
;; MASTER CLEAR. UPON COMPLETION OF THE KMV11-C INITIALISA
;; TION, THE DEVICE ENTERS MODE 0 (APPLICATION MODE FOR THE
;; ROOT FIRMWARE: GREEN LED IS ON)

;; SELO = MASTER-CLEAR

;; MODE: APPLICATION MODE

;; REPORTS:

;; - ERROR 00000 TIMEOUT TRAP ON REFERENCING Q-BUS DEVICE AD-
;; DRESS
;; - ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR

BADHEAD

;; ** TEST1 **

2896
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2900
2901
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2907
2908
2909
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2912
2913
2914 025324

BGNTST

MOV KMVCSR,R1 ;R1 CONTAINS BASE KMV11 ADDRESS
MOV #CSRLEN,R5 ;GET NUMBER OF CSR'S
MOV #2,R4 ;SET OUT TIMEOUT TRAP
MOV #340,R6 ;LEVEL 7
1\$: TST (R1) ;REFERENCE DEVICE REGISTERS
NOP
ADD #2,R1 ;NEXT CSR
SOB R5,1\$;LOOP TILL ALL CSR'S ARE ACCESSED
BR 3\$;IF ADDRESS EXISTS

2\$:

ADD #4,SP ;ELSE, REPORT
MOV R1,BADLOC ;ADDRESS LOCATION
MOV UUT,UNIT ;UNIT NUMBER
ERRHRD 0,E00000,BADAD ;BUS TIMEOUT, ADDRESS PROBLEM
MOV SAVE4,4 ;THEN RESTORE VECTOR AND EXIT
MOV SAVE6,6
EXIT TST

3\$:

MOV SAVE4,4
MOV SAVE6,6

2915
2916 025324
2917 025324 013701 002554
2918 025330 012705 000020
2919 025334 012737 025364 000004
2920 025342 012737 000340 000006
2921 025350 005711
2922 025352 000240
2923 025354 062701 000002
2924 025360 077505
2925 025362 000423
2926
2927 025364 062706 000004
2928 025370 010137 002470
2929 025374 013737 002574 002272
2930 025402
2931 025412 013737 002252 000004
2932 025420 013737 002254 000006
2933 025426
2934
2935 025432 013737 002252 000004
2936 025440 013737 002254 000006
2937
2938
2939 025446 004737 013266
2940
2941
2942 025452
2943 025460

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

WAIT 10000.

ENDTST

CVKMJAO KMV11-C FCTNL DIAG
HARDWARE TESTS

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2945 025462

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2964 025462

```
BADHEAD
;
; ** TEST2 **
;
; ** - SELF-TEST RUNNING TEST
;
; THE HOST SETS SELO TO ENTER APPLICATION MODE AFTER THE
; SELF TEST WAS ENDED(ONE PASS). KMV ON BOARD SWITCH SW1
; MUST BE OFF. SELF-TEST RUNNING MODE(MODE1) IS INDICA
; TED BY THE YELLOW LED ON. IF THERE IS ANY ERROR, THE
; YELLOW LED FLASHES.
;
; SELO = MASTER-CLEAR * RUN
;
;MODE:          APPLICATION MODE
;
;REPORTS:
;
; ERROR 00001 SELF TEST FAILS
;- ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
```

BADHEAD

** TEST2 **

2965

2966 025462
2967 025462 004737 013266
2968 025466 103002

BGNTST

```
CALL MODE0 ;SET APPLICATION MODE
BCC 1# ;IF NO ERROR, JUMP
EXIT TST ;ELSE, REPORT ERROR
```

2970 025470

2971
2972
2973

; RUN SELF TEST

2974 025474 005065 000000
2975 025500 052765 140000 000000
2976 025506 012701 000014

```
1#: CLR SELO(R5) ;RESET SELO
BIS #MCLR!RUN,SELO(R5) ;RUN IT
MOV #12.,R1 ;INIT TIME OUT(20 S)
```

2977 025512

2978 025512
2979 025520 032765 140000 000000
2980 025526 001422
2981 025530 077110

```
2#: WAIT 10000. ;WAIT FOR 1S
BIT #MCLR!RUN,SELO(R5) ;TEST FOR SELO CLEARED?
BEQ 3# ;IF YES
SOB R1,2# ;IF NOT, LOOP TILL TIME-OUT
```

2982

2983 025532 005037 002274
2984 025536 016537 000000 002334
2985 025544

```
CLR GOOD
MOV SELO(R5),BAD
ERRMRD 1,E00001,PRSELO ;IF TIME OUT
```

2986

2987 025554
2988 025556 032700 000040
2989 025562 001004

```
RFLAGS R0 ;IDU FLAG SET?
BIT #IDU,R0 ;
BNE 3# ;YES, THE UNIT CANNOT BE DROPPED
```

2990

2991 025564
2992 025572

```
DODU LOGDEV ;NO, DROP
DOCLN
```

2993

2994 025574
2995 025574

```
3#: WAIT 10000.
```

2996 025602

ENDTST

2998 025604

BADHEAD

;; TEST3 ;;

2999

;; - TEST IF APPLICATION PROGRAM CAN BE LOADED AND STARTED

3000

3001

;; FIRST, THE HOST SETS SEL0 TO ENTER THE APPLICATION MODE
;; THEN IT COPIES ALL THE APPLICATION CODE TO THE KMV
;; RAM MEMORY. A COMPARISON CHECK IS MADE AFTER LOADING THE
;; RAM.

3002

3003

3004

3005

3006

3007

3008

;; IF THERE IS ANY ERROR ON THE KMV DURING THE WRITE OR
;; READ OR RJN PHASE, THE GREEN LED FLASHES.

3009

;;MODE: APPLICATION MODE

3010

3011

;;REPORTS:

3012

3013

;; - ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR

3014

;; - ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED

3015

;; - ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED

3016

;; - ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED

3017

;; - ERROR 10004 DATA COMPARE ERROR

3018

;; - ERROR 10008 UNEXPECTED EPROM'S ON KMV

3019

;;BADHEAD

3020 025604

;; TEST3 ;;

3021

3022

BGNTST

3023 025604

CALL MODE0

;;SET APPLICATION MODE

3024 025604 004737 013266

BCC 18

;;IF CORRECTLY DONE

3025 025610 103002

3026

EXIT TST

;;IF NOT, REPORT

3027 025612

3028

18: CALL RUNAPP

;;LOAD AND RUN APPLICATION

3029 025616 004737 014344

3030

3031 025622

ENDTST

3033 025624

BADHEAD

;; TEST4 ;;

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;;
;; ** - TEST OF THE CSR HANDSHAKING WITHOUT INTERRUPT
;;
;; FIRST, THE MOST LOADS THE APPLICATION CODE AFTER HAVING
;; TESTED THE KMV PROM MEMORY PATCH LEVEL, THEN IT RUNS
;; THE APPLICATION (THE GREEN LED FLASHES IF THERE IS A
;; RUN ERROR).
;; THE MOST SETS SEL0 BIT RQI TO OBTAIN CONTROL OVER CSR S
;; AS SOON AS RDYI IS SETS BY THE KMV, THE MOST, LOADS THE
;; COMMAND KC#STA(LINK STATE) AND WAIT FOR ANY RESPONSE BY
;; POLLING RDYO BIT IN SEL2. THE RESPONSE MUST BE:
;; SEL2 = 1#400(STATUS=SUCCESS).KC#STA.RDYO
;; SEL4 = OFF(CURRENT LINK STATE)

;; REPORTS:

;; - ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
;; - ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
;; - ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
;; - ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
;; - ERROR 10004 DATA COMPARE ERROR
;; - ERROR 10008 UNEXPECTED EPROM'S ON KMV
;; - ERROR 10009 UNEXPECTED QIO RESPONSE
;; - ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
;; - ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED
;;
;; - ERROR 00002 RDYI NOT ASSERTED BY THE KMV AFTER AFTER A
;; MOST REQUEST
;; - ERROR 00003 RDYO NOT ASSERTED BY THE KMV IN RESPONSE

3064 025624

BADHEAD

;; TEST4 ;;

3065
3066
3067 025624
3068 025624 004737 013266
3069 025630 103002
3070
3071 025632
3072
3073 025636 004737 014344
3074 025642 103002
3075
3076 025644
3077
3078 025650 004737 013510
3079 025654 012704 000005
3080 025660 012765 000200 000000
3081 025666
3082 025666
3083 025674 032765 000020 000002
3084 025702 001020
3085 025704 077410
3086
3087 025706 012737 000002 002454

BGNTST

CALL MODE0 ;SET APPLICATION MODE
BCC 1# ;IF CORRECTLY DONE

EXIT TST

1#: CALL RUNAPP ;LOAD AND RUN APPLICATION
BCC 2# ;IF CORRECTLY DONE

EXIT TST

2#: CALL INIQIO ;INIT QIO PROCESSING
MOV #5,R4 ;SET WATCH DOG
MOV #RQI,SEL0(R5) ;REQUEST CSR TRANSACTION

3#: WAIT 100. ;WAIT FOR 1MS
BIT #RDYI,SEL2(R5) ;IS RDYI SET BY KMV?
BNE 4# ;IF YES
SOB R4,3# ;NOT, LOOP TILL TIME OUT

MOV #2,SELNUM ;RDYI NEVER SET, REPORT

```

3088 025714 016537 000002 002334      MOV      SEL2(R5),BAD
3089 025722 C12737 000020 002274      MOV      @RDYI,GOOD
3090 025730                      ERRMRD   2,E00002,PRSEL
3091
3092 025740                      EXIT      TST
3093
3094 025744 012701 026102      4$:     MOV      @7$.2,R1                ;RDYI SET, POINT TO COMMAND
3095 025750 042765 000200 000000      BIC      @RQI,SELO(R5)           ;THEN CLEAR RQI
3096 025756 011165 000002      MOV      (R1),SEL2(R5)          ;AND SET SEL2
3097
3098 025762 012704 C00005      MOV      @5,R4                  ;SET WATCH DOG
3099 025766      5$:
3100 025766                      WAIT     100.                    ;WAIT 1MS
3101 025774 032765 000200 000002      BIT      @RDY0,SEL2(R5)         ;IS RDY0 SET BY KMV?
3102 026002 001020                      BNE     6$                      ;IF YES
3103 026004 077410                      SOB     R4,5$                  ;NOT, LOOP TILL TIME OUT
3104
3105 026006 012737 000002 002454      MOV      @2,SELNUM              ;RDY0 NEVER SET, REPORT
3106 026014 016537 000002 002334      MOV      SEL2(R5),BAD
3107 026022 012737 000200 002274      MOV      @RDY0,GOOD
3108 026030                      ERRMRD   3,E00003,PRSEL
3109 026040                      EXIT      TST
3110
3111 026044 016537 000002 007016      6$:     MOV      SEL2(R5),OUTBUF     ;RDY0 SET, SAVE RESPONSE
3112 026052 016537 000004 007020      MOV      SEL4(R5),OUTBUF+2
3113 026060 005237 002436                      INC      RSPCNT
3114
3115 026064 012701 026104      MOV      @8$,R1                ;LOAD CORRECT RESPONSE FOR TEST
3116 026070 004737 011276      CALL    CHKRSP                 ;THEN CHECK RESPONSE
3117
3118 026074                      EXIT      TST
3119
3120                      ; COMMAND LIST
3121
3122 026100      7$:
3123 026100 000001                      1
3124 026102 000005                      KC$STA                ;LINK STATE
3125
3126                      ; RESPONSE LIST
3127
3128 026104 000001      8$:     1
3129 026106 026112                      9$
3130 026110 026116                      10$
3131
3132 026112 000605 000000      9$:     KS.SUC+KC$STA+RDY0,0    ;LINK STATE = OFF
3133
3134 026116      10$:
3135 026116      ENDIST

```

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HARDWARE TESTS

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3137 026120

3138
3139
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3141
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3158
3159
3160
3161
3162
3163
3164
3165
3166
3167
3168 026120

BADHEAD

```

:
:                               ** TEST5 **
:
: ** - TEST OF THE CSR HANDSHAKING WITH INTERRUPTS
:
: FIRST, THE HOST LOADS THE APPLICATION CODE AFTER HAVING
: TESTED THE KMV PROM MEMORY PATCH LEVEL, THEN IT RUNS
: THE APPLICATION (THE GREEN LED FLASHES IF THERE IS A
: RUN ERROR).
: THE HOST SETS SEL0 RQI,IEI AND IEO BITS TO OBTAIN CONTROL
: OVER CSR'S BY INTERRUPT.AS SOON AS THE INTERRUPT IN
: OCCURS, THE HOST, LOADS COMMAND KC$STA(LINK STATE) THEN
: IT WAITS FOR ANY INTERRUPT DRIVEN RESPONSE. THE RESPONSE
: MUST BE:
:                               SEL2 = 1*400(STATUS=SUCCESS)+KC$STA+RDY0
:                               SEL4 = OFF (CURRENT STATE)
:
: REPORTS:
: - ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
: - ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
: - ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
: - ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
: - ERROR 10004 DATA COMPARE ERROR
: - ERROR 10005 UNEXPECTED INTERRUPT IN
: - ERROR 10006 UNEXPECTED INTERRUPT OUT
: - ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING
: - ERROR 10008 UNEXPECTED EPROM'S ON KMV
: - ERROR 10009 UNEXPECTED QIO RESPONSE
: - ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
: - ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

```

BADHEAD

** TEST5 **

3169
3170 026120
3171 026120 004737 013266
3172 026124 103002
3173
3174 026126
3175
3176 026132 004737 014344
3177 026136 103002
3178
3179 026140
3180
3181 026144 004737 013510
3182
3183 026150 012701 026202
3184 026154 004737 015022
3185 026160 103002
3186
3187 026162
3188
3189 026166 012701 026212
3190 026172 004737 011276
3191

BGNTST

```

:
:                               ** TEST5 **
:
:                               BGNTST
:                               CALL   MODE0
:                               BCC    1$
:                               ;SET APPLICATION MODE
:                               ;IF CORRECTLY DONE
:
:                               EXIT   TST
:
:                               1$:   CALL   RUNAPP
:                               BCC    2$
:                               ;LOAD AND RUN APPLICATION
:                               ;IF CORRECTLY DONE
:
:                               EXIT   TST
:
:                               2$:   CALL   INIQIO
:                               ;INIT QIO PROCESSING
:
:                               MOV    #60$,R1
:                               CALL   QIOP
:                               BCC    3$
:                               ;TABLE ADDRESS IN R1
:                               ;PROCESS QIO
:                               ;IF CORRECTLY DONE
:
:                               EXIT   TST
:
:                               3$:   MOV    #5$,R1
:                               CALL   CHKRSP
:                               ;SAVE RESPONSE LIST ADDRESS
:                               ;THEN CHECK RESPONSE

```

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HARDWARE TESTS

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```

3192 026176          EXIT   TST
3193
3194                ; PARAMETERS FOR QIO PROCESSING
3195
3196 026202 026206    60$:   4$           ; IN LIST TABLE BASE ADDRESS
3197 026204 000062    50.           ; TIME-OUT LENGTH(N*10 MS)
3198
3199                ; COMMAND LIST
3200
3201 026206          4$:           ;
3202 026206 000001    1             ;
3203 026210 000005    KC$STA       ; LINK STATE
3204
3205                ; RESPONSE LIST
3206
3207 026212 000001    5$:   1             ;
3208 026214 026220    6$:   6$           ;
3209 026216 026224    7$:   7$           ;
3210
3211 026220 000605 000000 6$:   KS.SUC+KC$STA+RDY0,0 ; LINK STATE = OFF
3212
3213 026224          7$:           ;
3214 026224          ENDTST

```

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HARDWARE TESTS

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3216 026226

BADHEAD

;; ** TEST6 **

3217

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

3218

3219

3220

3221

3222

3223

3224

3225

3226

3227

3228

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3231

3232

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3234

3235

3236

3237

3238

3239

3240

3241

3242

3243

3244

3245

3246 026226

;; REPORTS:

;; - ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
;; - ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
;; - ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
;; - ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
;; - ERROR 10004 DATA COMPARE ERROR
;; - ERROR 10005 UNEXPECTED INTERRUPT IN
;; - ERROR 10006 UNEXPECTED INTERRUPT OUT
;; - ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING
;; - ERROR 10008 UNEXPECTED EPROM'S ON KMV
;; - ERROR 10009 UNEXPECTED QIO RESPONSE
;; - ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
;; - ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

BADHEAD

;; ** TEST6 **

3247

3248

3249 026226

3250 026226 004737 013266

3251 026232 103437

3252

3253

3254

3255 026234 013737 046032 002430

3256 026242 013737 045774 002432

3257 026250 012737 000207 046032

3258 026256 012737 000207 045774

3259

3260 026264 005037 002452

3261 026270 004737 014344

3262 026274 103416

3263

3264 026276 004737 013510

3265

3266 026302 012701 026356

3267 026306 004737 015022

3268 026312 103407

3269

3270 026314 012701 026454

BGNTST

CALL MODE0 ;SET APPLICATION MODE
BCS 4\$;IF NOT CORRECTLY DONE

;; EMPTIED KMV POOL

MOV \$RDBIN,TEMP ;SAVE THIS LOCATION
MOV \$CCBIN,TEMP+2 ;SAVE IT TOO
MOV #207,\$RDBIN ;SET RETURN INSTEAD OF IT
MOV #207,\$CCBIN

CLR APPFLG ;CLEAR FLAG
CALL RUNAPP ;LOAD APPLI. CODE
BCS 4\$;EXIT IF ANY ERROR

3\$: CALL INIQIO ;INIT QIO PROCESSING

MOV #60\$,R1 ;TABLE ADDRESS IN R1
CALL QIOP ;PROCESS QIO
BCS 4\$;EXIT IF ANY ERROR

MOV #6\$,R1 ;SAVE RESPONSE LIST ADDRESS

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 HARDWARE TESTS

```

3271 026320 012737 012727 012546      MOV    @TYP01,TSTF13
3272 026326 004737 011276                CALL   CHKRSP
3273
3274
3275 026332 005037 002452      48:    CLR    APPFLG
3276 026336 013737 002430 046032      MOV    TEMP,%RDBIN
3277 026344 013737 002432 045774      MOV    TEMP+2,%CCBIN
3278
3279 026352                EXIT   TST
3280
3281                ; PARAMETERS FOR QIO PROCESSING
3282
3283 026356 026362      608:    58
3284 026360 001274                700.
3285
3286                ; COMMAND LIST
3287
3288 026362      58:
3289 026362 000020                16.
3290
3291 026364 000015                15
3292 026366 000016                16
3293 026370 000017                17
3294 026372 000000                0
3295
3296 026374 000001      KC%SCH
3297 026376 000100                100
3298 026400 000050                50
3299 026402 161412      BIT15*BIT14*BIT13*«3*400»*10.
3300 026404 000200                128.
3301 026406 000005                5
3302 026410 000000                0
3303
3304 026412 000002      KC%GCH
3305
3306 026414 000003      KC%ENB
3307 026416 000000                0
3308
3309 026420 000004      KC%DIS
3310
3311 026422 000005      KC%STA
3312
3313 026424 000006      KC%CNT
3314 026426 000000                0
3315
3316 026430 000007      KC%STR
3317
3318 026432 000010      KC%STP
3319
3320 026434 000011      KC%TRX
3321 026436 004746      TXBUFO
3322 026440 000024                20.
3323
3324 026442 000012      KC%RCV
3325 026444 002746      RXBUFO
3326 026446 000036                30.
3327
;GET TYPE OF RESPONSE TEST FOR %CSTRF
;THEN CHECK RESPONSES
;TO LOAD AGAIN CODE
;RESTORE INITIAL CONTENTS
;IN LIST TABLE BASE ADDRESS
;TIME-OUT LENGTH(N*10 MS)
; DUMMY
; DUMMY
; DUMMY
; DUMMY
; SET CHARACTERISTICS
; T1 = 100MS
; T2 = 50MS
; L,C,A = 1 * K = 3 * N2 = 10.
; N1 = 128. BYTES
; T3 = 55
;
; GET CHARACTERISTICS
; INIT LINK
; STATE = ON
; STOP LINK
; LINK STATE
; GET COUNTS
; RESET COUNT NOT REQUIRED
; OPEN
; CLOSE
; TRANSMIT
; BUFFER ADDRESS
; BYTE COUNT = 20.
; RECEIVE
; BUFFER ADDRESS
; BYTE COUNT = 30.

```

CVKMJAO KMV11-C FCTNL DIAG
HARDWARE TESTS

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3328 026450 000013

KC\$TRE

;TRACE ENABLE

3329

3330 026452 000014

KC\$TRD

;TRACE DISABLE

3331

3332

3333

; RESPONSE LIST

3334 026454

6\$:

3335 026454 000014

12.

3336 026456 026510

7\$

3337 026460 026512

8\$

3338 026462 026514

9\$

3339 026464 026516

10\$

3340 026466 026520

11\$

3341 026470 026522

12\$

3342 026472 026524

13\$

3343 026474 026526

14\$

3344 026476 026530

15\$

3345 026500 026532

16\$

3346 026502 026534

17\$

3347 026504 026536

18\$

3348 026506 026540

19\$

3349

3350 026510 171601

7\$: KE.RSE.KC\$SCH.RDY0

;RESOURCE ERROR FOR ALL

3351 026512 171602

8\$: KE.RSE.KC\$GCH.RDY0

3352 026514 171603

9\$: KE.RSE.KC\$ENB.RDY0

3353 026516 171604

10\$: KE.RSE.KC\$DIS.RDY0

3354 026520 171605

11\$: KE.RSE.KC\$STA.RDY0

3355 026522 171606

12\$: KE.RSE.KC\$CNT.RDY0

3356 026524 171607

13\$: KE.RSE.KC\$STR.RDY0

3357 026526 171610

14\$: KE.RSE.KC\$STP.RDY0

3358 026530 171611

15\$: KE.RSE.KC\$TRX.RDY0

3359 026532 171612

16\$: KE.RSE.KC\$RCV.RDY0

3360 026534 171613

17\$: KE.RSE.KC\$TRE.RDY0

3361 026536 171614

18\$: KE.RSE.KC\$TRD.RDY0

3362

3363 026540

19\$:

3364 026540

ENDTST

CVKMJAO KMV11 C FCTM DIAG
HARDWARE TESTS

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3366 026542

BADHEAD

3367
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3420 026542

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;
;          ** TEST7 **
;
; ** - TEST OF SET CHARACTERISTIC COMMAND AT LINK STATE 'OFF'
;
; THIS COMMAND GIVES THE LINK CHARACTERISTICS TO THE KMV
; (SENDS A KC&SCH TO THE KMV11-C DEVICE).
; IN PARTICULAR, IT GIVES THE LOOP-BACK CONDITIONS BY
; ASSERTING OR NOT L,C OR A PARAMETERS:
;          L = 1 FOR INTERNAL LOOP
;          C = 1 FOR INTERNAL CLOCK
;          A = 1 FOR ADDRESS A AND B EQUALS(LOOP MODE)
;
; THE COMMAND IS TESTED FOR STATUS RESPONSES:
;          * KS.SUC FOR SUCCESS
;          * KE.BAD FOR INVALID PARAMETER
; IN THE LATTER CASE, A QUEUE OF 14 KC&SCH COMMANDS(EACH
; COMMAND WITH AN INVALID PARAMETER) IS SENT. PARAMETERS
; CONCERNED:
;          50<T1<32767 MS      RETRANSMISSION TIMER VALUE
;          50<T2<32767 MS      WAIT BEFORE SENDING RR
;          5<T3<300 S          MINIMUM LINE ACTIVITY TIME
;          1<K<7                NUMBER OF OUTSTANDING I FRM
;          1<N2<255            MAX NUMBER OF RETRANSMISSION
;          1<N1B<32767         MAX I FRAME BYTE LENGTH
; MOREOVER,
;          T2<T1<T3
; IN CASE OF INVALID PARAMETER STATUS, BSEL4 MUST CONTAIN
; A BIT MAP DESCRIBING WHICH PARAMETER IS WRCNG:
;          BIT0 SET FOR T1
;          BIT1 SET FOR T2
;          BIT2 SET FOR N2
;          BIT3 SET FOR K
;          BIT4 SET FOR N1B
;          BIT5 SET FOR T3
;
; MODE:          APPLICATION MODE
;
; REPORTS:
; - ERROR 10000  KMV11 FAILS TO RESET MASTER CLEAR
; - ERROR 10001  RUN FUNCTION NOT CORRECTLY PERFORMED
; - ERROR 10002  WRITE FUNCTION NOT CORRECTLY PERFORMED
; - ERROR 10003  READ FUNCTION NOT CORRECTLY PERFORMED
; - ERROR 10004  DATA COMPARE ERROR
; - ERROR 10005  UNEXPECTED INTERRUPT IN
; - ERROR 10006  UNEXPECTED INTERRUPT OUT
; - ERROR 10007  NO MORE INTERRUPT WHILE QIO PENDING
; - ERROR 10008  UNEXPECTED EPROM'S ON KMV
; - ERROR 10009  UNEXPECTED QIO RESPONSE
; - ERROR 10010  UNEXPECTED NUMBER OF RESPONSES RECEIVED
; - ERROR 10012  THIS TEST IS SKIPPED BECAUSE THERE IS AN EX
;                TERNAL LOOP
; - ERROR 10013  LIST OF RESPONSES EXPECTED BUT NOT RECEIVED
;
; BADHEAD
;          ** TEST7 **
;

```

```

3421
3422
3423 026542          BGNTST
3424 026542 004737 013266      CALL  MODE0      ;SET APPLICATION MODE
3425 026546 103406          BCS    1#         ;IF NOT CORRECTLY DONE
3426
3427 026550 004737 013410      CALL  LPBACK     ;CHECK LOOP BACK
3428 026554 103403          BCS    1#         ;IF NOT
3429
3430 026556 004737 014344      CALL  RUNAPP     ;LOAD AND RUN APPLICATION
3431 026562 103002          BCC    2#         ;IF CORRECTLY DONE
3432
3433 026564          1#:      EXIT  TST
3434
3435 026570          2#:
3436 026570          BGNSUB
3437 026572          EXSUB
3438 026604 004737 013510      CALL  INIQIO     ;INIT QIO PROCESSING
3439
3440 026610 012701 026642      MOV   #60#,R1   ;TABLE ADDRESS IN R1
3441 026614 004737 015022      CALL  QIOP      ;PROCESS QIO
3442 026620 103002          BCC    3#         ;IF CORRECTLY DONE
3443
3444 026622          EXIT  SUB
3445
3446 026626 012701 026670      3#:      MOV   #5#,R1   ;GET BASE ADDRESS
3447 026632 004737 011276      CALL  CHKRSP   ;THEN CHECK RESPONSES
3448
3449 026636          EXIT  SUB
3450
3451          ; PARAMETERS FOR QIO PROCESSING
3452
3453 026642 026646          60#:      4#         ;IN LIST TABLE BASE ADDRESS
3454 026644 000764                   500.      ;TIME OUT LENGTH(N*10 MS)
3455
3456          ; COMMAND LIST
3457
3458 026646          4#:
3459 026646 000002                   2.
3460
3461 026650 000005          KC#STA      ;LINK STATE
3462
3463 026652 000001          KC#SCH      ;SET CHARACTERISTICS
3464 026654 000144          100.      ; T1 = 100MS
3465 026656 000062          50.        ; T2 = 50MS
3466 026660 161412          BIT15*BIT14*BIT13*«3*400»*10. ; L.C.A = 1 * K = 3 * N2 = 10.
3467 026662 000200          128.      ; N1 = 128. BYTES
3468 026664 000005          5         ; T3 = 5S
3469 026666 000000          0         ;
3470
3471          ; RESPONSE LIST
3472
3473 026670 000002          5#:      2
3474 026672 026700                   6#
3475 026674 026704                   7#
3476 026676 026706                   8#
3477

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HARDWARE TESTS

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```

3478 026700 000605 000000      6:      KS.SUC.KC$STA.RDYD,0      ;LINK STATE = OFF
3479
3480 026704 000601              7:      KS.SUC.KC$SCH.RDYD      ;SUCCESS FOR KC$SCH
3481
3482 026706                      8:
3483 026706                      ENDSUB
3484
3485 026710                      BGNSUB
3486 026712                      EXSUB
3487 026724 004737 013510      CALL    INIQIO                  ;INIT QIO PROCESSING
3488
3489 026730 012701 026762      MOV     #60,R1                  ;TABLE ADDRESS IN R1
3490 026734 004737 015022      CALL    QIOP                    ;PROCESS QIO
3491 026740 103002              BCC     1:                      ;IF CORRECTLY DONE
3492
3493 026742                      EXIT    SUB
3494
3495 026746 012701 027276      1:      MOV     #4,R1                ;GET BASE ADDRESS
3496 026752 004737 011276      CALL    CHKRSP                  ;THEN CHECK RESPONSES
3497
3498 026756                      EXIT    SUB
3499
3500                      ; PARAMETERS FOR QIO PROCESSING
3501
3502 026762 026766              60:     3:                      ;IN LIST TABLE BASE ADDRESS
3503 026764 000764              500.    ;TIME-OUT LENGTH(N*10 MS)
3504
3505                      ; COMMAND LIST
3506
3507 026766                      3:
3508 026766 000017              15.
3509
3510 026770 000002              KC$GCH      ;GET PREVIOUS CHARACTERISTICS
3511
3512 026772 000001              KC$SCH      ;SET CHARACTERISTICS
3513 026774 000061              49.        ; T1 = 49MS
3514 026776 000062              50.        ; T2 = 50MS
3515 027000 161412              BIT15*BIT14*BIT13.<3*400>.10. ; L,C,A = 1 . K = 3 . N2 = 10.
3516 027002 000200              128.      ; N1 = 128. BYTES
3517 027004 000005              5         ; T3 = 5S
3518 027006 000000              0         ;
3519
3520 027010 000001              KC$SCH      ;SET CHARACTERISTICS
3521 027012 100002              32770.    ; T1 = 32770MS
3522 027014 000062              50.        ; T2 = 50MS
3523 027016 161412              BIT15*BIT14*BIT13.<3*400>.10. ; L,C,A = 1 . K = 3 . N2 = 10.
3524 027020 000200              128.      ; N1 = 128. BYTES
3525 027022 000005              5         ; T3 = 5S
3526 027024 000000              0         ;
3527
3528 027026 000001              KC$SCH      ;SET CHARACTERISTICS
3529 027030 000144              100.      ; T1 = 100MS
3530 027032 000061              49.        ; T2 = 49MS
3531 027034 161412              BIT15*BIT14*BIT13.<3*400>.10. ; L,C,A = 1 . K = 3 . N2 = 10.
3532 027036 000200              128.      ; N1 = 128. BYTES
3533 027040 000005              5         ; T3 = 5S
3534 027042 000000              0         ;

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HARDWARE TESTS

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3535				
3536	027044	000001	KC#SCH	;SET CHARACTERISTICS
3537	027046	000144	100.	; T1 = 100MS
3538	027050	100002	32770.	; T2 = 32770MS
3539	027052	161412	BIT15*BIT14*BIT13*<3*400>*10.	; L,C,A = 1 * K = 3 * N2 = 10.
3540	027054	000200	128.	; N1 = 128. BYTES
3541	027056	000005	5	; T3 = 5S
3542	027060	000000	0	;
3543				
3544	027062	000001	KC#SCH	;SET CHARACTERISTICS
3545	027064	000144	100.	; T1 = 100MS
3546	027066	000062	50.	; T2 = 50MS
3547	027070	161400	BIT15*BIT14*BIT13*<3*400>*0	; L,C,A = 1 * K = 3 * N2 = 0
3548	027072	000200	128.	; N1 = 128. BYTES
3549	027074	000005	5	; T3 = 5S
3550	027076	000000	0	;
3551				
3552	027100	000001	KC#SCH	;SET CHARACTERISTICS
3553	027102	000144	100.	; T1 = 100MS
3554	027104	000062	50.	; T2 = 50MS
3555	027106	162000	BIT15*BIT14*BIT13*<3*400>*256.	; L,C,A = 1 * K = 3 * N2 = 256.
3556	027110	000200	128.	; N1 = 128. BYTES
3557	027112	000005	5	; T3 = 5S
3558	027114	000000	0	;
3559				
3560	027116	000001	KC#SCH	;SET CHARACTERISTICS
3561	027120	000144	100.	; T1 = 100MS
3562	027122	000062	50.	; T2 = 50MS
3563	027124	160012	BIT15*BIT14*BIT13*<0*400>*10.	; L,C,A = 1 * K = 0 * N2 = 10.
3564	027126	000200	128.	; N1 = 128. BYTES
3565	027130	000005	5	; T3 = 5S
3566	027132	000000	0	;
3567				
3568	027134	000001	KC#SCH	;SET CHARACTERISTICS
3569	027136	000144	100.	; T1 = 100MS
3570	027140	000062	50.	; T2 = 50MS
3571	027142	164012	BIT15*BIT14*BIT13*<8*400>*10.	; L,C,A = 1 * K = 8 * N2 = 10.
3572	027144	000200	128.	; N1 = 128. BYTES
3573	027146	000005	5	; T3 = 5S
3574	027150	000000	0	;
3575				
3576	027152	000001	KC#SCH	;SET CHARACTERISTICS
3577	027154	000144	100.	; T1 = 100MS
3578	027156	000062	50.	; T2 = 50MS
3579	027160	161412	BIT15*BIT14*BIT13*<3*400>*10.	; L,C,A = 1 * K = 3 * N2 = 10.
3580	027162	000000	0	; N1 = 0 BYTES
3581	027164	000005	5	; T3 = 5S
3582	027166	000000	0	;
3583				
3584	027170	000001	KC#SCH	;SET CHARACTERISTICS
3585	027172	000144	100.	; T1 = 100MS
3586	027174	000062	50.	; T2 = 50MS
3587	027176	161412	BIT15*BIT14*BIT13*<3*400>*10.	; L,C,A = 1 * K = 3 * N2 = 10.
3588	027200	100002	32770.	; N1 = 32770. BYTES
3589	027202	000005	5	; T3 = 5S
3590	027204	000000	0	;
3591				

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HARDWARE TESTS

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3592 027206 000001      KC#SCH      ;SET CHARACTERISTICS
3593 027210 000144      100.        ; T1 = 100MS
3594 027212 000062      50.         ; T2 = 50MS
3595 027214 161412      BIT15*BIT14*BIT13.<3*400>*10. ; L,C,A = 1 * K = 3 * N2 = 10.
3596 027216 000200      128.        ; N1 = 128. BYTES
3597 027220 000004      4           ; T3 = 4S
3598 027222 000000      0           ;
3599
3600 027224 000001      KC#SCH      ;SET CHARACTERISTICS
3601 027226 000144      100.        ; T1 = 100MS
3602 027230 000062      50.         ; T2 = 50MS
3603 027232 161412      BIT15*BIT14*BIT13.<3*400>*10. ; L,C,A = 1 * K = 3 * N2 = 10.
3604 027234 000200      128.        ; N1 = 128. BYTES
3605 027236 000455      301.        ; T3 = 301S
3606 027240 000000      0           ;
3607
3608 027242 000001      KC#SCH      ;SET CHARACTERISTICS
3609 027244 000036      30.         ; T1 = 30MS
3610 027246 000062      50.         ; T2 = 50MS
3611 027250 161412      BIT15*BIT14*BIT13.<3*400>*10. ; L,C,A = 1 * K = 3 * N2 = 10.
3612 027252 000200      128.        ; N1 = 128. BYTES
3613 027254 000001      1           ; T3 = 1S
3614 027256 000000      0           ;
3615
3616 027260 000001      KC#SCH      ;SET CHARACTERISTICS
3617 027262 000144      100.        ; T1 = 100MS
3618 027264 000060      48.         ; T2 = 48MS
3619 027266 164000      BIT15*BIT14*BIT13.<8.*400>*0 ; L,C,A = 1 * K = 8 * N2 = 0
3620 027270 000000      0           ; N1 = 0 BYTES
3621 027272 000454      300.        ; T3 = 300S
3622 027274 000000      0           ;
3623      ; RESPONSE LIST
3624
3625 027276      4#:
3626 027276 000017      15.
3627 027300 027340      5#
3628 027302 027356      6#
3629 027304 027362      7#
3630 027306 027366      8#
3631 027310 027372      9#
3632 027312 027376     10#
3633 027314 027402     11#
3634 027316 027406     12#
3635 027320 027412     13#
3636 027322 027416     14#
3637 027324 027422     15#
3638 027326 027426     16#
3639 027330 027432     17#
3640 027332 027436     18#
3641 027334 027442     19#
3642 027336 027446     20#
3643
3644 027340 000602      5#:      KS.SUC*KC#GCH*RDYO      ;GET CHARACTERISTICS
3645 027342 000144      100.        ; T1 = 49MS
3646 027344 000062      50.         ; T2 = 50MS
3647 027346 161412      BIT15*BIT14*BIT13.<3*400>*10. ; L,C,A = 1 * K = 3 * N2 = 10.
3648 027350 000200      128.        ; N1 = 128. BYTES

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```

3649 027352 000005          5          ; T3 = 55
3650 027354 000000          0          ;
3651
3652 027356 177201      6#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3653 027360 000003      BIT00.BIT01      ; T1 INVALID AND T2>T1
3654
3655 027362 177201      7#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3656 027364 000001      BIT00          ; T1 INVALID
3657
3658 027366 177201      8#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3659 027370 000002      BIT01          ; T2 INVALID
3660
3661 027372 177201      9#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3662 027374 000002      BIT01          ; T2 INVALID
3663
3664 027376 177201     10#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3665 027400 000004      BIT02          ; N2 INVALID
3666
3667 027402 177201     11#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3668 027404 000004      BIT02          ; N2 INVALID
3669
3670 027406 177201     12#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3671 027410 000010      BIT03          ; K INVALID
3672
3673 027412 177201     13#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3674 027414 000010      BIT03          ; K INVALID
3675
3676 027416 177201     14#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3677 027420 000020      BIT04          ; N1 INVALID
3678
3679 027422 177201     15#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3680 027424 000020      BIT04          ; N1 INVALID
3681
3682 027426 177201     16#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3683 027430 000040      BIT05          ; T3 INVALID
3684
3685 027432 177201     17#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3686 027434 000040      BIT05          ; T3 INVALID
3687
3688 027436 177201     18#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3689 027440 000043      BIT00.BIT05.BIT01      ; T1,T3 INVALID AND T2>T1
3690
3691 027442 177201     19#:  KE.BAD.KC#SCH.RDYO      ;INVALID PARAMETER FOR KC#SCH
3692 027444 000036      BIT01.BIT02.BIT03.BIT04      ; T2,N2,K,N1 INVALID
3693
3694 027446
3695 027446
3696
3697 027450
20#:
ENDSUB
ENDTST

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3699 027452

BADHEAD

.. TEST8 ..

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:
:
: .. - TEST OF ALL LINK STATE TRANSACTIONS
:
: FOUR COMMANDS CAN AFFECT THE LINK STATES:
: - INIT LINK(KC#ENB) WHICH IS USED TO SET THE LINK IN A
:   SPECIFIED STATE BY MEANS OF A PARAMETER IN BSEL4 AND
:   WHICH IS EITHER,
:   "ON" IF BSEL4 = 0
:   "TRANSPARENT" IF BSEL4 = 1
:   "NOT READY" IF BSEL4 = 2
: INIT LINK CAN BE SENT ONLY IF THE LINK STATE IS "OFF"
: OR "NOT READY". THIS COMMAND WILL BE TESTED FOR STATUS
: RESPONSES.
: KS.SUC IF COMMAND IS CORRECTLY PERFORMED
: KE.BAD IF INVALID PARAMETER, THAT IS, BSEL4 DIFFERENT
: FROM 0 AT LINK STATE "NOT READY"
: FROM 0,1,2 AT LINK STATE "OFF"
:
: - STOP LINK(KC#DIS) WHICH IS USED TO SET THE LINK IN
:   THE "OFF" STATE AND THAT, STARTING WITH EVERY STATES.
:   THIS COMMAND WILL BE TESTED FOR STATUS RESPONSE KE.SUC
:   EXCEPT IF ALREADY IN "OFF" STATE
:   A NEW KC#SCH MUST BE ISSUED AFTER EACH KC#DIS TO RESTORE
:   THE RIGHT CHARACTERISTICS
:
: - OPEN(KC#STR) WHICH IS USED TO CONNECT THE LINK TO A DCE
:   THIS COMMAND CAN BE ONLY SENT IF THE LINK STATE IS IN
:   THE "ON" OR "NOT READY" STATE. STATE "SYNC" IS ENTERED.
:   THERE IS NO RESPONSE UNTIL THE RUNNING STATE IS ENTERED
:   OR N2 RETRIES ARE DONE. IF A KC#DIS OR A KC#STP IS MADE
:   BEFORE THE RESPONSE, THE KC#STR IS ABORTED.
:   THIS COMMAND IS TESTED FOR STATUS RESPONSES.
:   KS.SUC IF OPERATION IS CORRECTLY PERFORMED, STATE "RUN
:   NING" IS ENTERED
:   KE.N2T IF NO CONNECTION AFTER N2 RETRIES, THE STATE
:   "ON" IS ENTERED.
:   KE.ABO IF THE COMMAND IS ABORTED
:
: - CLOSE(KC#STP) WHICH IS USED TO DISCONNECT THE LINK
:   FROM A DCE. THIS COMMAND CAN BE SENT IF THE LINK STATE
:   IS "SYNC" OR "RUNNING", THE "NOT READY" STATE IS ENTERED.
:   THIS COMMAND IS TESTED FOR STATUS RESPONSE KS.SUC (SUC
:   CESS)
:
: THE TEST IS COMPOSED OF 8 SUB-TESTS. FOR EACH SUB-TEST,
: THE LINK STATE COMMAND(KC#STA) IS USED TO SEE THE STATE
: TRANSACTIONS. IN RESPONSE, BSEL4 CONTAINS THE LINK STATE
: AS DESCRIBED BELOW:
: BSEL4 STATE DEFINITION
: 0 OFF THE LINK IS NOT AVAILABLE
: 1 NOT READY THE LINK IS AVAILABLE BUT CAN
: NOT ACCEPT A DCE CONNECTION
: 2 ON THE LINK IS AVAILABLE BUT NOT
: CONNECTED TO THE DCE
: 3 SYNC THE IS BEING CONNECTED TO DCE

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3755 : 4 RUNNING THE LINK IS CONNECTED TO DCE
3756 : 5 TRANSPARENT THE LINK IS ACTIVE FOR MAINTENANCE TESTING
3757 :
3758 :
3759 : BRIEF DESCRIPTION OF THE SUB-TESTS;
3760 :
3761 : SUBTEST1 TEST OF THE STATE TRANSACTION,
3762 : "OFF" - - "TRANSPARENT" - - "OFF"
3763 :
3764 : SUBTEST2 TEST OF THE STATE TRANSACTION,
3765 : "OFF" - - - "NOT READY"
3766 : THEN THE INIT LINK COMMAND IS SENT WITH A
3767 : VALID PARAMETER OTHER THAN O(TRANSPARENT),
3768 : FOR A KE.BAD STATUS RESPONSE
3769 : THEN TEST OF THE STATE TRANSACTION,
3770 : "NOT READY" - - - "OFF"
3771 :
3772 : SUBTEST3 TEST OF THE STATE TRANSACTIONS,
3773 : "OFF" - - - "NOT READY" - - - "ON" - - - "OFF"
3774 :
3775 : SUBTEST4 TEST OF THE STATE TRANSACTIONS,
3776 : "OFF" - - - "NOT READY" - "RUNNING" - - - "OFF"
3777 :
3778 : - SUBTEST5 TEST OF THE STATE TRANSACTIONS,
3779 : "OFF" - - "ON" - - - "RUNNING" - - - "NOT READY"
3780 : )
3781 : "OFF"
3782 :
3783 : SUBTEST6 FIRST, THE LINK IS SET WITH NO LOOP-BACK THEN
3784 : TEST OF THE STATE TRANSACTIONS,
3785 : "OFF" - - - "ON" - - - "SYNC" - - - "OFF"
3786 : OPEN LOOP AND DISABLE MODEM SIGNALS TO TEST
3787 :
3788 : - SUBTEST7 TEST OF THE STATE TRANSACTIONS,
3789 : "OFF" - - - "ON" - - "SYNC" - - - "NOT READY" - - "OFF"
3790 :
3791 : - SUBTEST8 TEST OF THE STATE TRANSACTIONS,
3792 : "OFF" - - - "NOT READY"
3793 : BEFORE SETTING "NOT READY" STATE, KC#ENB IS TESTED FOR STATUS KE.BAD(INVALID PARAMETER) THEN,
3794 : "NOT READY" - - - "SYNC" - - - "ON"
3795 : THEN, A WAIT IS ISSUED FOR MORE THAN N2 RETRIES
3796 : AND STATE "ON" MUST BE SEEN AGAIN WITH KE.N2T
3797 : RESPONSE FOR THE OPEN COMMAND
3798 :
3799 :
3800 : ;MODE: APPLICATION MODE
3801 :
3802 : ;REPORTS:
3803 :
3804 : ; - ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
3805 : ; - ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
3806 : ; - ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
3807 : ; - ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
3808 : ; - ERROR 10004 DATA COMPARE ERROR
3809 : ; - ERROR 10005 UNEXPECTED INTERRUPT IN
3810 : ; - ERROR 10006 UNEXPECTED INTERRUPT OUT
3811 : ; - ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING

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```

3812      ; - ERROR 10008 UNEXPECTED EPROM'S ON KMV
3813      ; ERROR 10009 UNEXPECTED QIO RESPONSE
3814      ; ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
3815      ; ERROR 10012 THIS TEST IS SKIPPED BECAUSE THERE IS AN EX
3816      ;                TERNAL LOOP
3817      ; ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED
3818      ;
3819 027452 ; BADHEAD
;
;                ** TEST8 **
3820      ;
3821 027452 ; BGNTST
3822 027452 004737 013266 ; CALL MODE0 ;SET APPLICATION MODE
3823 027456 103406 ; BCS 1$ ;IF NOT CORRECTLY DONE
3824      ;
3825 027460 004737 013410 ; CALL LPBACK ;CHECK LOOP BACK
3826 027464 103403 ; BCS 1$ ;IF NOT
3827      ;
3828 027466 004737 014344 ; CALL RUNAPP ;LOAD AND RUN APPI CATION
3829 027472 103002 ; BCC 2$ ;IF CORRECTLY DONE
3830      ;
3831 027474 1$: EXIT TST
3832      ;
3833 027500 2$:
3834 027500 ; BGNSUB
3835 027502 ; EXSUB
3836      ;
3837      ;
3838      ; TEST OF STATE TRANSACTIONS "OFF" "TRANSPARENT" "OFF"
3839 027514 012700 027532 ; MOV #1$,R0 ;SET POINTER
3840 027520 004737 015226 ; CALL SETCH ;SET CHARACTERISTICS
3841 027524 103010 ; BCC CHSET0 ;IF NO EPROR,CONTINUE
3842      ;
3843 027526 ; EXIT SUB
3844      ;
3845 027532 1$: ;PARAMETER LIST
3846 027532 000144 ; 100. ;T1
3847 027534 000062 ; 50. ;T2
3848 027536 161412 ; BIT15*BIT14*BIT13*(<3*400>*10. ;L,C,A=1 K=3 N2=10
3849 027540 000200 ; 128. ;N1
3850 027542 000005 ; 5 ;T3
3851 027544 000000 ; 0 ;
3852      ;
3853 027546 ; CHSET0:
3854      ;
3855 027546 ; T8.11:
3856 027546 004737 013510 ; CALL INIQIO ;INIT QIO PROCESSING
3857 027552 012701 027606 ; MOV #60$,R1 ;GET QIO PARAMETER ADDRESS IN R1
3858 027556 004737 015022 ; CALL QIOP ;PROCESS QIO
3859 027562 103002 ; BCC 1$ ;IF NO ERROR, EXIT
3860      ;
3861 027564 ; EXIT SUB
3862      ;
3863 027570 012701 027622 1$: MOV #4$,R1 ;GET RESPONSE LIST ADDRESS
3864 027574 004737 011276 ; CALL CHKRSP ;THEN CHECK RESPONSES
3865 027600 103017 ; BCC T8.12 ;IF CORRECT, PROCESS NEXT COMMAND
3866      ;
3867 027602 ; EXIT SUB

```

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```

3868
3869           ; PARAMETERS FOR QIO PROCESSING
3870
3871 027606 027612 60$: 3$           ;IN LIST TABLE BASE ADDRESS
3872 027610 000764           500.           ;TIME OUT LENGTH(N*10 MS)
3873
3874           ; COMMAND LIST
3875
3876 027612 3$:
3877 027612 000002           2.
3878
3879 027614 000005           KC$STA           ;LINK STATE
3880
3881 027616 000003           KC$ENB           ;INIT LINK FOR
3882 027620 000001           1           ; STATE = TRANSPARENT
3883
3884           ; RESPONSE LIST
3885
3886 027622 000002 4$: 2
3887 027624 027632           5$
3888 027626 027636           6$
3889 027630 027640           T8.12
3890
3891 027632 000605 000000 5$: KS.SUC+KC$STA+RDYO,0           ;LINK STATE = OFF
3892
3893 027636 000603 6$: KS.SUC+KC$ENB+RDYO           ;SUCCESS FOR KC$ENB
3894
3895 027640 T8.12:
3896 027640 004737 013510 CALL INIQIO           ;INIT QIO PROCESSING
3897 027644 012701 027700 MOV #60$,R1           ;GET QIO PARAMETER ADDRESS IN R1
3898 027650 004737 015022 CALL QIOP           ;PROCESS QIO
3899 027654 103002 BCC 1$           ;IF NO ERROR, EXIT
3900
3901 027656 EXIT SUB
3902
3903 027662 012701 027712 1$: MOV #4$,R1           ;GET RESPONSE LIST ADDRESS
3904 027666 004737 011276 CALL CHKRSP           ;THEN CHECK RESPONSES
3905 027672 103016 BCC T8.13           ;IF CORRECT, PROCESS NEXT COMMAND
3906
3907 027674 EXIT SUB
3908
3909           ; PARAMETERS FOR QIO PROCESSING
3910
3911 027700 027704 60$: 3$           ;IN LIST TABLE BASE ADDRESS
3912 027702 000764           500.           ;TIME-OUT LENGTH(N*10 MS)
3913
3914           ; COMMAND LIST
3915
3916 027704 3$:
3917 027704 000002           2.
3918
3919 027706 000005           KC$STA           ;LINK STATE
3920
3921 027710 000004           KC$DIS           ;STOP LINK
3922
3923           ; RESPONSE LIST
3924

```

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```

3925 027712 000002      4$:      2
3926 027714 027722      5$
3927 027716 027726      6$
3928 027720 027730      T8.13
3929
3930 027722 000605 000005      5$:      KS.SUC.KC$STA.RDY0,5      ;LINK STATE = TRANSPARENT
3931
3932 027726 000604      6$:      KS.SUC.KC$DIS.RDY0      ;SUCCESS FOR KC$DIS
3933
3934 027730      T8.13:
3935 027730      ENDSUB
3936
3937      ;      TEST OF THE STATE TRANSACTIONS "OFF"  "NOT READY"  'OFF"
3938
3939 027732      BGNSUB
3940 027734      EXSUB
3941 027746 012700 027764      MOV      #1$,R0      ;SET POINTER
3942 027752 004737 015226      CALL     SETCH      ;SET CHARACTERISTICS
3943 027756 103010      BCC      CHSET1     ;IF NO ERROR,CONTINUE
3944
3945 027760      EXIT      SUB
3946
3947 027764      1$:      ;PARAMETER LIST
3948 027764 000144      100.      ;T1
3949 027766 000062      50.      ;T2
3950 027770 161412      BIT15.BIT14.BIT13.<3*400>.10. ;L,C,A=1 K=3 N2=10
3951 027772 000200      128.     ;N1
3952 027774 000005      5        ;T3
3953 027776 000000      0        ;
3954
3955 030000      CHSET1:
3956
3957 030000 004737 013510      CALL     INIQIO     ;INIT QIO PROCESSING
3958 030004 012701 030040      MOV      #60$,R1   ;GET QIO PARAMETER ADDRESS IN R1
3959 030010 004737 015022      CALL     QIOP      ;PROCESS QIO
3960 030014 103002      BCC      1$        ;IF NO ERROR, EXIT
3961
3962 030016      EXIT      SUB
3963
3964 030022 012701 030054      1$:      MOV      #4$,R1   ;GET RESPONSE LIST ADDRESS
3965 030026 004737 011276      CALL     CHKRSP    ;THEN CHECK RESPONSES
3966 030032 103017      BCC      T8.21    ;IF CORRECT, PROCESS NEXT COMMAND
3967
3968 030034      EXIT      SUB
3969
3970      ; PARAMETERS FOR QIO PROCESSING
3971
3972 030040 030044      60$:      3$      ;IN LIST TABLE BASE ADDRESS
3973 030042 000764      500.     ;TIME-OUT LENGTH(N*10 MS)
3974
3975      ; COMMAND LIST
3976
3977 030044      3$:
3978 030044 000002      2.
3979
3980 030046 000005      KC$STA     ;LINK STATE
3981

```

```

3982 030050 000003          KC#ENB
3983 030052 000002          2
3984
3985          ; RESPONSE LIST
3986
3987 030054 000002          4# : 2
3988 030056 030064          5#
3989 030060 030070          6#
3990 030062 030072          T8.21
3991
3992 030064 000605 000000          5# : KS.SUC.KC#STA.RDY0,0          ;LINK STATE - OFF
3993
3994 030070 000603          6# : KS.SUC.KC#ENB.RDY0          ;SUCCESS FOR KC#ENB
3995
3996 030072          T8.21:
3997 030072 004737 013510          CALL      INIQIO          ;INIT QIO PROCESSING
3998 030076 012701 030132          MOV       #60#,R1          ;GET QIO PARAMETER ADDRESS IN R1
3999 030102 004737 015022          CALL      QIOP          ;PROCESS QIO
4000 030106 103002          BCC      1#          ;IF NO ERROR, EXIT
4001
4002 030110          EXIT      SUB
4003
4004 030114 012701 030146          1# : MOV       #4#,R1          ;GET RESPONSE LIST ADDRESS
4005 030120 004737 011276          CALL      CHKRSR          ;THEN CHECK RESPONSES
4006 030124 103017          BCC      T8.22          ;IF CORRECT, PROCESS NEXT COMMAND
4007
4008 030126          EXIT      SUB
4009
4010          ; PARAMETERS FOR QIO PROCESSING
4011
4012 030132 030136          60# : 3#          ;IN LIST TABLE BASE ADDRESS
4013 030134 000764          500.          ;TIME OUT LENGTH(N*10 MS)
4014
4015          ; COMMAND LIST
4016
4017 030136          3# :
4018 030136 000002          2.
4019
4020 030140 000005          KC#STA          ;LINK STATE
4021
4022 030142 000003          KC#ENB          ;INIT LINK FOR
4023 030144 000001          1          ; STATE - TRANSPARENT
4024
4025          ; RESPONSE LIST
4026
4027 030146 000002          4# : 2
4028 030150 030156          5#
4029 030152 030162          6#
4030 030154 030164          T8.22
4031
4032 030156 000605 000001          5# : KS.SUC.KC#STA.RDY0,1          ;LINK STATE - NOT READY
4033
4034 030162 177203          6# : KE.BAD.KC#ENB.RDY0          ;INVALID PARAMETER FOR KC#ENB
4035
4036          ; DO THE STATE TRANSACTION "NOT READY" TO "OFF"
4037
4038 030164          T8.22:

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4039 030164 004737 013510      CALL    INIQIO      ;INIT QIO PROCESSING
4040 030170 012701 030224      MOV     #408,R1    ;GET QIO PARAMETER ADDRESS IN R1
4041 030174 004737 015022      CALL   QIOP        ;PROCESS QIO
4042 030200 103002              BCC     18         ;IF NO ERROR, EXIT
4043
4044 030202              EXIT    SUB
4045
4046 030206 012701 030236      18:    MOV     #48,R1    ;GET RESPONSE LIST ADDRESS
4047 030212 004737 011276      CALL   CHKRSP      ;THEN CHECK RESPONSES
4048 030216 103016              BCC     T8.23      ;IF CORRECT, PROCESS NEXT COMMAND
4049
4050 030220              EXIT    SUB
4051
4052              ; PARAMETERS FOR QIO PROCESSING
4053
4054 030224 030230      608:   38         ;IN LIST TABLE BASE ADDRESS
4055 030226 000764              500.         ;TIME OUT LENGTH(N*10 MS)
4056
4057              ; COMMAND LIST
4058
4059 030230      38:    2.         ;
4060 030230 000002              KC#STA      ;LINK STATE
4061
4062 030232 000005              KC#DIS      ;STOP LINK
4063
4064 030234 000004              ;
4065
4066              ; RESPONSE LIST
4067
4068 030236 000002      48:    2         ;
4069 030240 030246              58         ;
4070 030242 030252              68         ;
4071 030244 030254              T8.23      ;
4072
4073 030246 000605 000001      58:    KS.SUC+KC#STA+RDY0,1 ;LINK STATE = NOT READY
4074
4075 030252 000604              68:    KS.SUC+KC#DIS+RDY0   ;SUCCESS FOR KC#DIS
4076
4077 030254      T8.23:    ;
4078 030254      ENDS:JB    ;
4079
4080              ; TEST OF STATE TRANSACTIONS 'OFF' - "NOT READY" 'ON' OFF
4081
4082 030256      BGNSUB    ;
4083 030260      EXSUB     ;
4084 030272 012700 030310      MOV     #18,R0     ;SET POINTER
4085 030276 004737 015226      CALL   SETCH       ;SET CHARACTERISTICS
4086 030302 103010              BCC     CHSET2     ;IF NO ERROR,CONTINUE
4087
4088 030304              EXIT    SUB
4089
4090 030310      18:    ;PARAMETER LIST
4091 030310 000144              100.        ;T1
4092 030312 000062              50.         ;T2
4093 030314 161412              BIT15+8+14+BIT13+<3*400>+10. ;L,C,A=1 K=3 N2=10
4094 030316 000200              128.       ;N1
4095 030320 000005              5          ;T3

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```

4096 030322 000000          0          ;
4097
4098 030324          CMSET2:
4099
4100 030324 004737 013510      CALL    INIQIO          ;INIT QIO PROCESSING
4101 030330 012701 030364      MOV     #60,R1         ;GET QIO PARAMETER ADDRESS IN R1
4102 030334 004737 015022      CALL    QTOP           ;PROCESS QIO
4103 030340 103002          BCC    1#             ;IF NO ERROR, EXIT
4104
4105 030342          EXIT    SUB
4106
4107 030346 012701 030400      1#:    MOV     #4,R1         ;GET RESPONSE LIST ADDRESS
4108 030352 004737 011276      CALL    CHKRSP        ;THEN CHECK RESPONSES
4109 030356 103017          BCC    T8.31         ;IF CORRECT, PROCESS NEXT COMMAND
4110
4111 030360          EXIT    SUB
4112
4113          ; PARAMETERS FOR QIO PROCESSING
4114
4115 030364 030370      60#:    3#             ;IN LIST TABLE BASE ADDRESS
4116 030366 000764          500.           ;TIME-OUT LENGTH(N*10 MS)
4117
4118          ; COMMAND LIST
4119
4120 030370          3#:
4121 030370 000002          2.
4122
4123 030372 000005          KC#STA          ;LINK STATE
4124
4125 030374 000003          KC#ENB          ;INIT LINK FOR
4126 030376 000002          2             ; STATE = NOT READY
4127
4128          ; RESPONSE LIST
4129
4130 030400 000002      4#:    2
4131 030402 030410          5#
4132 030404 030414          6#
4133 030406 030416          T8.31
4134
4135 030410 000605 000000      5#:    KS.SUC+KC#STA+RDY0,0 ;LINK STATE = OFF
4136
4137 030414 000603          6#:    KS.SUC+KC#ENB+RDY0 ;SUCCESS FOR KC#ENB
4138
4139 030416          T8.31:
4140 030416 004737 013510      CALL    INIQIO          ;INIT QIO PROCESSING
4141 030422 012701 030456      MOV     #60,R1         ;GET QIO PARAMETER ADDRESS IN R1
4142 030426 004737 015022      CALL    QIOP           ;PROCESS QIO
4143 030432 103002          BCC    1#             ;IF NO ERROR, EXIT
4144
4145 030434          EXIT    SUB
4146
4147 030440 012701 030472      1#:    MOV     #4,R1         ;GET RESPONSE LIST ADDRESS
4148 030444 004737 011276      CALL    CHKRSP        ;THEN CHECK RESPONSES
4149 030450 103017          BCC    T8.32         ;IF CORRECT, PROCESS NEXT COMMAND
4150
4151 030452          EXIT    SUB
4152

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```

4153          ; PARAMETERS FOR QIO PROCESSING
4154
4155 030456 030462 60$: 3$          ; IN LIST TABLE BASE ADDRESS
4156 030460 000764          500.          ; TIME-OUT LENGTH(N*10 MS)
4157
4158          ; COMMAND LIST
4159
4160 030462 3$:
4161 030462 000002          2.
4162
4163 030464 000005          KC$STA          ; LINK STATE
4164
4165 030466 000003          KC$ENB          ; INIT LINK FOR
4166 030470 000000          0          ; STATE = ON
4167
4168          ; RESPONSE LIST
4169
4170 030472 000002 4$: 2
4171 030474 030502          5$
4172 030476 030506          6$
4173 030500 030510          T8.32
4174
4175 030502 000605 000001 5$: KS.SUC*KC$STA*RDY0,1          ; LINK STATE = NOT READY
4176
4177 030506 000603 6$: KS.SUC*KC$ENB*RDY0          ; SUCCESS FOR KC$ENB
4178
4179 030510 T8.32:
4180 030510 004737 013510 CALL INIQIO          ; INIT QIO PROCESSING
4181 030514 012701 030550 MOV #60$,R1          ; GET QIO PARAMETER ADDRESS IN R1
4182 030520 004737 015022 CALL QIOP          ; PROCESS QIO
4183 030524 103002 BCC 1$          ; IF NO ERROR, EXIT
4184
4185 030526 EXIT SUB
4186
4187 030532 012701 030562 1$: MOV #4$,R1          ; GET RESPONSE LIST ADDRESS
4188 030536 004737 011276 CALL CHKRSP          ; THEN CHECK RESPONSES
4189 030542 103016 BCC T8.33          ; IF CORRECT, PROCESS NEXT COMMAND
4190
4191 030544 EXIT SUB
4192
4193          ; PARAMETERS FOR QIO PROCESSING
4194
4195 030550 030'54 60$: 3$          ; IN LIST TABLE BASE ADDRESS
4196 030552 000'64          500.          ; TIME-OUT LENGTH(N*10 MS)
4197
4198          ; COMMAND LIST
4199
4200 030554 3$:
4201 030554 000002          2.
4202
4203 030556 000005          KC$STA          ; LINK STATE
4204
4205 030560 000004          KC$DIS          ; STOP LINK
4206
4207          ; RESPONSE LIST
4208
4209 030562 000002 4$: 2

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```

4210 030564 030572          5:
4211 030566 030576          6:
4212 030570 030600          T8.33
4213
4214 030572 000605 000002    5:      KS.SUC.KC#STA.RDY0,2      ;LINK STATE = ON
4215
4216 030576 060604          6:      KS.SUC.KC#DIS.RDY0      ;SUCCESS FOR KC#DIS
4217
4218 030600          T8.33:
4219 030600          ENDSUB
4220
4221          ;      TEST OF STATE TRANSACTIONS 'OFF'  "NOT READY" - "RUNNING"  OFF'
4222
4223 030602          BGNSUB
4224 030604          EXSUB
4225 030616 0127C0 030634    MOV      #1,R0      ;SET POINTER
4226 030622 004737 015226    CALL     SETCH      ;SET CHARACTERISTICS
4227 030626 103010          BCC     CHSET3      ;IF NO ERROR,CONTINUE
4228
4229 030630          EXIT   SUB
4230
4231 030634          1:      ;PARAMETER LIST
4232 030634 000144          100.      ;T1
4233 030636 000062          50.      ;T2
4234 030640 161412          BIT15.BIT14.BIT13.<<3*400>>.10. ;L,C,A=1 K=3 N2=10
4235 030642 000200          128.     ;N1
4236 030644 000005          5        ;T3
4237 030646 000000          0        ;
4238
4239 030650          CHSET3:
4240
4241 030650 004737 013510    CALL     INIQIO     ;INIT QIO PROCESSING
4242 030654 012701 030710    MOV      #60,R1    ;GET QIO PARAMETER ADDRESS IN R1
4243 030660 004737 015022    CALL     QIOP      ;PROCESS QIO
4244 030664 103002          BCC     1:         ;IF NO ERROR, EXIT
4245
4246 030666          EXIT   SUB
4247
4248 030672 012701 030724    1:      MOV      #4,R1    ;GET RESPONSE LIST ADDRESS
4249 030676 004737 011276    CALL     CHKRSP    ;THEN CHECK RESPONSES
4250 030702 103017          BCC     T8.41     ;IF CORRECT, PROCESS NEXT COMMAND
4251
4252 030704          EXIT   SUB
4253
4254          ; PARAMETERS FOR QIO PROCESSING
4255
4256 030710 030714          60:      3:         ;IN LIST TABLE BASE ADDRESS
4257 030712 000764          500.     ;TIME-OUT LENGTH(N*10 MS)
4258
4259          ; COMMAND LIST
4260
4261 030714          3:      2.
4262 030714 000002
4263
4264 030716 000005          KC#STA      ;LINK STATE
4265
4266 030720 000003          KC#ENB     ;INIT LINK FOR

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```

4267 030722 000002          2          ; STATE = NOT READY
4268
4269          ; RESPONSE LIST
4270
4271 030724 000002      4#: 2
4272 030726 030734      5#
4273 030730 030740      6#
4274 030732 030742      T8.41
4275
4276 030734 000605 000000      5#: KS.SUC+KC#STA+RDYO,0      ;LINK STATE = OFF
4277
4278 030740 000603      6#: KS.SUC+KC#ENB+RDYO      ;SUCCESS FOR KC#ENB
4279
4280 030742      T8.41:
4281 030742 004737 013510      CALL INIQIO      ;INIT QIO PROCESSING
4282 030746 012701 031002      MOV #60#,R1      ;GET QIO PARAMETER ADDRESS IN R1
4283 030752 004737 015022      CALL QIOP      ;PROCESS QIO
4284 030756 103002      BCC 1#      ;IF NO ERROR, EXIT
4285
4286 030760      EXIT SUB
4287
4288 030764 012701 031014      1#: MOV #4#,R1      ;GET RESPONSE LIST ADDRESS
4289 030770 004737 011276      CALL CHKRSP      ;THEN CHECK RESPONSES
4290 030774 103016      BCC T8.42      ;IF CORRECT, PROCESS NEXT COMMAND
4291
4292 030776      EXIT SUB
4293
4294          ; PARAMETERS FOR QIO PROCESSING
4295
4296 031002 031006      60#: 3#      ;IN LIST TABLE BASE ADDRESS
4297 031004 000764      500.      ;TIME-OUT LENGTH(N*10 MS)
4298
4299          ; COMMAND LIST
4300
4301 031006      3#:
4302 031006 000002          2.
4303
4304 031010 000005          KC#STA      ;LINK STATE
4305
4306 031012 000007          KC#STR      ;OPEN
4307
4308          ; RESPONSE LIST
4309
4310 031014 000002      4#: 2
4311 031016 031024      5#
4312 031020 031030      6#
4313 031022 031032      T8.42
4314
4315 031024 000605 000001      5#: KS.SUC+KC#STA+RDYO,1      ;LINK STATE = NOT READY
4316
4317 031030 000607      6#: KS.SUC+KC#STR+RDYO      ;SUCCESS FOR KC#STR
4318
4319 031032      T8.42:
4320 031032 004737 013510      CALL INIQIO      ;INIT QIO PROCESSING
4321 031036 012701 031072      MOV #60#,R1      ;GET QIO PARAMETER ADDRESS IN R1
4322 031042 004737 015022      CALL QIOP      ;PROCESS QIO
4323 031046 103002      BCC 1#      ;IF NO ERROR, EXIT

```

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```

4324
4325 031050          EXIT   SUB
4326
4327 031054 012701 031104 1$:   MOV   @4$,R1      ;GET RESPONSE LIST ADDRESS
4328 031060 004737 011276     CALL  CHKRSP      ;THEN CHECK RESPONSES
4329 031064 103016          BCC   T8.43       ;IF CORRECT, PROCESS NEXT COMMAND
4330
4331 031066          EXIT   SUB
4332
4333          ; PARAMETERS FOR QIO PROCESSING
4334
4335 031072 031076 60$:   3$      ;IN LIST TABLE BASE ADDRESS
4336 031074 000764          500.  ;TIME OUT LENGTH(N*10 MS)
4337
4338          ; COMMAND LIST
4339
4340 031076 3$:
4341 031076 000002          2.
4342
4343 031100 000005          KC$STA ;LINK STATE
4344
4345 031102 000004          KC$DIS ;STOP LINK
4346
4347          ; RESPONSE LIST
4348
4349 031104 000002 4$:   2
4350 031106 031114          5$
4351 031110 031120          6$
4352 031112 031122          T8.43
4353
4354 031114 000605 000004 5$:   KS.SUC+KC$STA+RDY0,4 ;LINK STATE = RUNNING
4355
4356 031120 000604 6$:   KS.SUC+KC$DIS+RDY0 ;SUCCESS FOR KC$DIS
4357
4358 031122 T8.43:
4359 031122 ENDSUB
4360
4361          ; TEST OF STATE TRANSACTIONS "OFF" - "ON" - "RUNNING" - "NT READY" - "OFF"
4362
4363 031124 BGNSUB
4364 031126
4365 031140 012700 031156 EXSUB
4366 031144 004737 015226 MOV   @1$,R0      ;SET POINTER
4367 031150 103010          CALL  SETCH      ;SET CHARACTERISTICS
4368
4369 031152          BCC   CHSET4 ;IF NO ERROR,CONTINUE
4370
4371          EXIT   SUB
4372
4371 031156 1$:
4372 031156 000144          100. ;PARAMETER LIST
4373 031160 000062          50.  ;T1
4374 031162 161412          BIT15+BIT14+BIT13+<3*400>+10. ;T2
4375 031164 000200          128. ;L,C,A=1 K=3 N2=10
4376 031166 000005          5    ;N1
4377 031170 000000          0    ;T3
4378
4379 031172 CHSET4:
4380

```

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```

4381 031172 004737 013510      CALL  INIQIO      ;INIT QIO PROCESSING
4382 031176 012701 031232      MOV   #60,R1     ;GET QIO PARAMETER ADDRESS IN R1
4383 031202 004737 015022      CALL  QIOP       ;PROCESS QIO
4384 031206 103002              BCC   1$        ;IF NO ERROR, EXIT
4385
4386 031210              EXIT  SUB
4387
4388 031214 012701 031246      1$:  MOV   #4,R1     ;GET RESPONSE LIST ADDRESS
4389 031220 004737 011276      CALL  CHKRSR     ;THEN CHECK RESPONSES
4390 031224 103017              BCC   T8.51     ;IF CORRECT, PROCESS NEXT COMMAND
4391
4392 031226              EXIT  SUB
4393
4394              ; PARAMETERS FOR QIO PROCESSING
4395
4396 031232 031236      60$:  3$        ;IN LIST TABLE BASE ADDRESS
4397 031234 000764      500.      ;TIME OUT LENGTH(N*10 MS)
4398
4399              ; COMMAND LIST
4400
4401 031236      3$:
4402 031236 000002      2.
4403
4404 031240 000005      KC$STA      ;LINK STATE
4405
4406 031242 000003      KC$ENB      ;INIT LINK FOR
4407 031244 000000      0          ; STATE = ON
4408
4409              ; RESPONSE LIST
4410
4411 031246 000002      4$:  2
4412 031250 031256      5$
4413 031252 031262      6$
4414 031254 031264      T8.51
4415
4416 031256 000605 000000      5$:  KS.SUC*KC$STA*RDY0,0      ;LINK STATE = OFF
4417
4418 031262 000603      6$:  KS.SUC*KC$ENB*RDY0      ;SUCCESS FOR KC$ENB
4419
4420 031264      T8.51:
4421 031264 004737 013510      CALL  INIQIO     ;INIT QIO PROCESSING
4422 031270 012701 031324      MOV   #60,R1     ;GET QIO PARAMETER ADDRESS IN R1
4423 031274 004737 015022      CALL  QIOP       ;PROCESS QIO
4424 031300 103002              BCC   1$        ;IF NO ERROR, EXIT
4425
4426 031302              EXIT  SUB
4427
4428 031306 012701 031336      1$:  MOV   #4,R1     ;GET RESPONSE LIST ADDRESS
4429 031312 004737 011276      CALL  CHKRSR     ;THEN CHECK RESPONSES
4430 031316 103016              BCC   T8.52     ;IF CORRECT, PROCESS NEXT COMMAND
4431
4432 031320              EXIT  SUB
4433
4434              ; PARAMETERS FOR QIO PROCESSING
4435
4436 031324 031330      60$:  3$        ;IN LIST TABLE BASE ADDRESS
4437 031326 000764      500.      ;TIME OUT LENGTH(N*10 MS)

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```

4438
4439 ; COMMAND LIST
4440
4441 3#:
4442 031330 000002 2.
4443
4444 031332 060005 KC#STA ;LINK STATE
4445
4446 031334 000007 KC#STR ;OPEN
4447
4448 ; RESPONSE LIST
4449
4450 4#: 2
4451 031340 031346 5#
4452 031342 031352 6#
4453 031344 031354 T8.52
4454
4455 031346 000605 000002 5#: KS.SUC.KC#STA.RDY0,2 ;LINK STATE = ON
4456
4457 031352 000607 6#: KS.SUC.KC#STR.RDY0 ;SUCCESS FOR KC#STR
4458
4459 T8.52:
4460 031354 004737 013510 CALL INIQIO ;INIT QIO PROCESSING
4461 031360 012701 031414 MOV #60#,R1 ;GET QIO PARAMETER ADDRESS IN R1
4462 031364 004737 015022 CALL QIOP ;PROCESS QIO
4463 031370 103002 BCC 1# ;IF NO ERROR, EXIT
4464
4465 031372 EXIT SUB
4466
4467 031376 012701 031426 1#: MOV #4#,R1 ;GET RESPONSE LIST ADDRESS
4468 031402 004737 011276 CALL CHKRSP ;THEN CHECK RESPONSES
4469 031406 103016 BCC T8.53 ;IF CORRECT, PROCESS NEXT COMMAND
4470
4471 031410 EXIT SUB
4472
4473 ; PARAMETERS FOR QIO PROCESSING
4474
4475 60#: 3# ;IN LIST TABLE BASE ADDRESS
4476 031416 000764 500. ;TIME OUT LENGTH(N*10 MS)
4477
4478 ; COMMAND LIST
4479
4480 3#:
4481 031420 000002 2.
4482
4483 031422 000005 KC#STA ;LINK STATE
4484
4485 031424 000010 KC#STP ;CLOSE
4486
4487 ; RESPONSE LIST
4488
4489 4#: 2
4490 031430 031436 5#
4491 031432 031442 6#
4492 031434 031444 T8.53
4493
4494 031436 000605 000004 5#: KS.SUC.KC#STA.RDY0,4 ;LINK STATE = RUNNING

```

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```

4495
4496 031442 000610      6#:      KS.SUC•KC#STP•RDYO      ;SUCCESS FOR KC#STP
4497
4498 031444
4499 031444 004737 013510      T8.53:      CALL      INIQIO      ;INIT QIO PROCESSING
4500 031450 012701 031504      MOV      #60#,R1      ;GET QIO PARAMETER ADDRESS IN R1
4501 031454 004737 015022      CALL      QIOP      ;PROCESS QIO
4502 031460 103002      BCC      1#      ;IF NO ERROR, EXIT
4503
4504 031462      EXIT      SUB
4505
4506 031466 012701 031516      1#:      MOV      #4#,R1      ;GET RESPONSE LIST ADDRESS
4507 031472 004737 011276      CALL      CHKRSP      ;THEN CHECK RESPONSES
4508 031476 103016      BCC      T8.54      ;IF CORRECT, PROCESS NEXT COMMAND
4509
4510 031500      EXIT      SUB
4511
4512      ; PARAMETERS FOR QIO PROCESSING
4513
4514 031504 031510      60#:      3#      ;IN LIST TABLE BASE ADDRESS
4515 031506 000764      500.      ;TIME OUT LENGTH(N*10 MS)
4516
4517      ; COMMAND LIST
4518
4519 031510      3#:
4520 031510 000002      2.
4521
4522 031512 000005      KC#STA      ;LINK STATE
4523
4524 031514 000004      KC#DIS      ;STOP LINK
4525
4526      ; RESPONSE LIST
4527
4528 031516 000002      4#:      2
4529 031520 031526      5#
4530 031522 031532      6#
4531 031524 031534      T8.54
4532
4533 031526 000605 000001      5#:      KS.SUC•KC#STA•RDYO,1      ;LINK STATE = NOT READY
4534
4535 031532 000604      6#:      KS.SUC•KC#DIS•RDYO      ;SUCCESS FOR KC#DIS
4536
4537 031534      T8.54:
4538 031534      ENDSUB
4539
4540      ; TEST OF STATE TRANSACTIONS "OFF" - "ON" - "SYNC" - "OFF"
4541
4542 031536      BGNSUB
4543 031540      EXSUB
4544 031552 012700 031570      MOV      #1#,R0      ;SET POINTER
4545 031556 004737 015226      CALL      SETCH      ;SET CHARACTERISTICS
4546 031562 103010      BCC      CMSETS      ;IF NO ERROR,CONTINUE
4547
4548 031564      EXIT      SUB
4549
4550 031570      1#:
4551 031570 007640      4000.      ;PARAMETER LIST
;T1

```

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```

4552 031572 000062          50.          ;T2
4553 031574 061405          BIT14·BIT13·<3·400>·5 ;C,A=1 K=3 N2=5
4554 031576 000200          128.        ;N1
4555 031600 000005          5           ;T3
4556 031602 000000          0           ;
4557
4558 031604                CMSETS:
4559
4560 031604                T8.61:
4561 031604 004737 013510      CALL    INIQIO          ;INIT QIO PROCESSING
4562 031610 012701 031644      MOV     #60$,R1        ;GET QIO PARAMETER ADDRESS IN R1
4563 031614 004737 015022      CALL    QIOP           ;PROCESS QIO
4564 031620 103002                BCC    1$              ;IF NO ERROR, EXIT
4565
4566 031622                EXIT    SUB
4567
4568 031626 012701 031660      1$:    MOV     #4$,R1    ;GET RESPONSE LIST ADDRESS
4569 031632 004737 011276      CALL    CHKRSP         ;THEN CHECK RESPONSES
4570 031636 103017                BCC    T8.62          ;IF CORRECT, PROCESS NEXT COMMAND
4571
4572 031640                EXIT    SUB
4573
4574                ; PARAMETERS FOR QIO PROCESSING
4575
4576 031644 031650      60$:    3$              ;IN LIST TABLE BASE ADDRESS
4577 031646 000764                500.                ;TIME OUT LENGTH(N*10 MS)
4578
4579                ; COMMAND LIST
4580
4581 031650      3$:
4582 031650 000002                2.
4583
4584 031652 000005                KC$STA              ;LINK STATE
4585
4586 031654 000003                KC$ENB              ;INIT LINK FOR
4587 031656 000000                0                   ; STATE = ON
4588
4589                ; RESPONSE LIST
4590
4591 031660 000002      4$:    2
4592 031662 031670                5$
4593 031664 031674                6$
4594 031666 031676                T8.62
4595
4596 031670 000605 000000      5$:    KS.SUC·KC$STA·RDY0,0 ;LINK STATE = OFF
4597
4598 031674 000603      6$:    KS.SUC·KC$ENB·RDY0 ;SUCCESS FOR KC$ENB
4599
4600 031676                T8.62:
4601 031676 004737 013510      CALL    INIQIO          ;INIT QIO PROCESSING
4602 031702 012701 031736      MOV     #60$,R1        ;GET QIO PARAMETER ADDRESS IN R1
4603 031706 004737 015022      CALL    QIOP           ;PROCESS QIO
4604 031712 103002                BCC    1$              ;IF NO ERROR, EXIT
4605
4606 031714                EXIT    SUB
4607
4608 031720 012701 031750      1$:    MOV     #4$,R1    ;GET RESPONSE LIST ADDRESS

```


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```

4666 032034 000003      4$:      3
4667 032036 032046      5$
4668 032040 032052      6$
4669 032042 032054      7$
4670 032044 032056      T8.64
4671
4672 032046 000605 000003      5$:      KS.SUC+KC$STA+RDYO,3      ;LINK STATE = SYNC
4673
4674 032052 000604      6$:      KS.SUC+KC$DIS+RDYO      ;SUCCESS FOR KC$DIS
4675
4676 032054 167607      7$:      KE.ABO+KC$STR+RDYO      ;KC$STR ABORTED
4677
4678 032056      T8.64:
4679 032056      ENDSUB
4680
4681      ;      TEST OF THE STATE TRANSACTIONS "OFF" - "ON" - "SYNC" - "NT READY" "OFF"
4682
4683 032060      BGNSUB
4684 032062      EXSUB
4685 032074 012700 032112      MOV      #1$,R0      ;SET POINTER
4686 032100 004737 015226      CALL     SETCH      ;SET CHARACTERISTICS
4687 032104 103010      BCC      CHSET6      ;IF NO ERROR,CONTINUE
4688
4689 032106      EXIT     SUB
4690
4691 032112      1$:      ;PARAMETER LIST
4692 032112 007640      4000.      ;T1
4693 032114 000062      50.      ;T2
4694 032116 061405      BIT14+BIT13+<3*400>+5      ;C,A=1 K=3 N2=5
4695 032120 000200      128.      ;N1
4696 032122 000005      5      ;T3
4697 032124 000000      0      ;
4698
4699 032126      CHSET6:
4700
4701 032126 004737 013510      CALL     INIQIO      ;INIT QIO PROCESSING
4702 032132 012701 032166      MOV      #60$,R1      ;GET QIO PARAMETER ADDRESS IN R1
4703 032136 004737 015022      CALL     QIOP      ;PROCESS QIO
4704 032142 103002      BCC      1$      ;IF NO ERROR, EXIT
4705
4706 032144      EXIT     SUB
4707
4708 032150 012701 032202      1$:      MOV      #4$,R1      ;GET RESPONSE LIST ADDRESS
4709 032154 004737 011276      CALL     CHKRSP      ;THEN CHECK RESPONSES
4710 032160 103017      BCC      T8.71      ;IF CORRECT, PROCESS NEXT COMMAND
4711
4712 032162      EXIT     SUB
4713
4714      ; PARAMETERS FOR QIO PROCESSING
4715
4716 032166 032172      60$:      3$      ;IN LIST TABLE BASE ADDRESS
4717 032170 000764      500.      ;TIME-OUT LENGTH(N*10 MS)
4718
4719      ; COMMAND LIST
4720
4721 032172      3$:
4722 032172 000002      2.

```

```

4723
4724 032174 000005          KC#STA          ;LINK STATE
4725
4726 032176 000003          KC#ENB          ;INIT LINK FOR
4727 032200 000000          0              ; STATE = ON
4728
4729          ; RESPONSE LIST
4730
4731 032202 000002          4#: 2
4732 032204 032212          5#
4733 032206 032216          6#
4734 032210 032220          T8.71
4735
4736 032212 000605 000000          5#: KS.SUC.KC#STA.RDY0,0      ;LINK STATE = OFF
4737
4738 032216 000603          6#: KS.SUC.KC#ENB.RDY0      ;SUCCESS FOR KC#ENB
4739
4740 032220
4741 032220 004737 013510          T8.71: CALL INIQIO          ;INIT QIO PROCESSING
4742 032224 012701 032260          MOV #60#,R1      ;GET QIO PARAMETER ADDRESS IN R1
4743 032230 004737 015022          CALL QIOP        ;PROCESS QIO
4744 032234 103002          BCC 1#          ;IF NO ERROR, EXIT
4745
4746 032236          EXIT SUB
4747
4748 032242 012701 032272          1#: MOV #4#,R1      ;GET RESPONSE LIST ADDRESS
4749 032246 004737 011276          CALL CHKRSP      ;THEN CHECK RESPONSES
4750 032252 103014          BCC T8.72      ;IF CORRECT, PROCESS NEXT COMMAND
4751
4752 032254          EXIT SUB
4753
4754          ; PARAMETERS FOR QIO PROCESSING
4755
4756 032260 032264          60#: 3#          ;IN LIST TABLE BASE ADDRESS
4757 032262 000144          100.           ;TIME OUT LENGTH(N*10 MS)
4758
4759          ; COMMAND LIST
4760
4761 032264          3#:
4762 032264 000002          2.
4763
4764 032266 000005          KC#STA          ;LINK STATE
4765
4766 032270 000007          KC#STR          ;OPEN
4767
4768          ; RESPONSE LIST
4769
4770 032272 000001          4#: 1
4771 032274 032300          5#
4772 032276 032304          T8.72
4773
4774 032300 000605 000002          5#: KS.SUC.KC#STA.RDY0,2      ;LINK STATE = ON
4775
4776 032304          T8.72:
4777 032304 004737 013510          CALL INIQIO      ;INIT QIO PROCESSING
4778 032310 012701 032344          MOV #60#,R1      ;GET QIO PARAMETER ADDRESS IN R1
4779 032314 004737 015022          CALL QIOP        ;PROCESS QIO

```

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```

4780 032320 103002          BCC      1#          ;IF NO ERROR, EXIT
4781
4782 032322                EXIT      SUB
4783
4784 032326 012701 032356    1#:      MOV      #4#,R1          ;GET RESPONSE LIST ADDRESS
4785 032332 004737 011276    CALL     CHKRSP          ;THEN CHECK RESPONSES
4786 032336 103020          BCC      T8.73          ;IF CORRECT, PROCESS NEXT COMMAND
4787
4788 032340                EXIT      SUB
4789
4790                ; PARAMETERS FOR QIO PROCESSING
4791
4792 032344 032350    60#:      3#          ;IN LIST TABLE BASE ADDRESS
4793 032346 023420    10000.          ;TIME OUT LENGTH(N*10 MS)
4794
4795                ; COMMAND LIST
4796
4797 032350    3#:
4798 032350 000002          2.
4799
4800 032352 000005          KC#STA          ;LINK STATE
4801
4802 032354 000010          KC#STP          ;CLOSE
4803
4804                ; RESPONSE LIST
4805
4806 032356 000003    4#:      3
4807 032360 032370          5#
4808 032362 032374          6#
4809 032364 032376          7#
4810 032366 032400          T8.73
4811
4812 032370 000605 000003    5#:      KS.SUC.KC#STA.RDY0.3          ;LINK STATE = SYNC
4813
4814 032374 175210    6#:      KE.N2T.KC#STP.RDY0          ;N2T FOR KC#STP
4815
4816 032376 167607    7#:      KE.ABO.KC#STR.RDY0          ;ABO KC#STR
4817
4818 032400    T8.73:
4819 032400 004737 013510    CALL     INIQIO          ;INIT QIO PROCESSING
4820 032404 012701 032440    MOV      #60#,R1          ;GET QIO PARAMETER ADDRESS IN R1
4821 032410 004737 015022    CALL     QIOP            ;PROCESS QIO
4822 032414 103002          BCC      1#          ;IF NO ERROR, EXIT
4823
4824 032416                EXIT      SUB
4825
4826 032422 012701 032452    1#:      MOV      #4#,R1          ;GET RESPONSE LIST ADDRESS
4827 032426 004737 011276    CALL     CHKRSP          ;THEN CHECK RESPONSES
4828 032432 103016          BCC      T8.74          ;IF CORRECT, PROCESS NEXT COMMAND
4829
4830 032434                EXIT      SUB
4831
4832                ; PARAMETERS FOR QIO PROCESSING
4833
4834 032440 032444    60#:      3#          ;IN LIST TABLE BASE ADDRESS
4835 032442 000764          500.          ;TIME OUT LENGTH(N*10 MS)
4836

```

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```

4837 ; COMMAND LIST
4838
4839 032444 38:
4840 032444 000002 2.
4841
4842 032446 000005 KC8STA ;LINK STATE
4843
4844 032450 000004 KC8DIS ;STOP LINK
4845
4846 ; RESPONSE LIST
4847
4848 032452 000002 48: 2
4849 032454 032462 58
4850 032456 032466 68
4851 032460 032470 T8.74
4852
4853 032462 000605 000001 58: KS.SUC.KC8STA.RDY0,1 ;LINK STATE = NOT READY
4854
4855 032466 000604 68: KS.SUC.KC8DIS.RDY0 ;SUCCESS FOR KC8DIS
4856
4857 032470 T8.74:
4858 032470 ENDSUB
4859
4860 ; TEST OF STATE TRANSACTION "OFF" - "NOT READY" - SYNC "ON OFF"
4861 ; FOR TIME-OUT AFTER N2 RETRIES
4862
4863 032472 BGNSUB
4864 032474
4865 032506 012700 032524 EXSUB
4866 032512 004737 015226 MOV #18,R0 ;SET POINTER
4867 032516 103010 CALL SETCH ;SET CHARACTERISTICS
4868
4869 032520 BCC CHSET7 ;IF NO ERROR,CONTINUE
4870
4871 032524 18: ;PARAMETER LIST
4872 032524 001750 1000. ;T1
4873 032526 000062 50. ;T2
4874 032530 061405 BIT14,BIT13,<3*400>.5 ;C,A=1 K=3 N2=5
4875 032532 000200 128. ;N1
4876 032534 000005 5 ;T3
4877 032536 000000 0 ;
4878
4879 032540 CHSET7:
4880
4881 032540 004737 013510 CALL INIQIO ;INIT QIO PROCESSING
4882 032544 012701 032600 MOV #60,R1 ;GET QIO PARAMETER ADDRESS IN R1
4883 032550 004737 015022 CALL QIOP ;PROCESS QIO
4884 032554 103002 BCC 18 ;IF NO ERROR, EXIT
4885
4886 032556 EXIT SUB
4887
4888 032562 012701 032620 18: MOV #4,R1 ;GET RESPONSE LIST ADDRESS
4889 032566 004737 011276 CALL CHKRSP ;THEN CHECK RESPONSES
4890 032572 103023 BCC T8.81 ;IF CORRECT, PROCESS NEXT COMMAND
4891
4892 032574 EXIT SUB
4893

```

```

4894 ; PARAMETERS FOR QIO PROCESSING
4895
4896 032600 032604 60$: 3$ ; IN LIST TABLE BASE ADDRESS
4897 032602 000764 500. ; TIME OUT LENGTH(N*10 MS)
4898
4899 ; COMMAND LIST
4900
4901 032604 3$: 3.
4902 032604 000003 KC$STA ; LINK STATE
4903
4904 032606 000005 KC$ENB ; INIT LINK FOR
4905 ; INVALID PARAMETER
4906 032610 000003 4
4907 032612 000004 KC$ENB ; INIT LINK FOR
4908 ; STATE = NOT READY
4909 032614 000003 2
4910 032616 000002
4911
4912 ; RESPONSE LIST
4913
4914 032620 000003 4$: 3
4915 032622 032632 5$
4916 032624 032636 6$
4917 032626 032640 7$
4918 032630 032642 T8.81
4919
4920 032632 000605 000000 5$: KS.SUC.KC$STA.RDY0.0 ; LINK STATE = OFF
4921
4922 032636 177203 6$: KE.BAD.KC$ENB.RDY0 ; INVALID PARAMETER FOR KC$ENB
4923
4924 032640 000603 7$: KS.SUC.KC$ENB.RDY0 ; SUCCESS FOR KC$ENB
4925
4926 032642 T8.81:
4927 032642 004737 013510 CALL INIQIO ; INIT QIO PROCESSING
4928 032646 012701 032702 MOV #60$,R1 ; GET QIO PARAMETER ADDRESS IN R1
4929 032652 004737 015022 CALL QIOP ; PROCESS QIO
4930 032656 103002 BCC 1$ ; IF NO ERROR, EXIT
4931
4932 032660 EXIT SUB
4933
4934 032664 012701 032714 1$: MOV #4$,R1 ; GET RESPONSE LIST ADDRESS
4935 032670 004737 011276 CALL CHKRSP ; THEN CHECK RESPONSES
4936 032674 103014 BCC T8.82 ; IF CORRECT, PROCESS NEXT COMMAND
4937
4938 032676 EXIT SUB
4939
4940 ; PARAMETERS FOR QIO PROCESSING
4941
4942 032702 032706 60$: 3$ ; IN LIST TABLE BASE ADDRESS
4943 032704 000062 50. ; TIME OUT LENGTH(N*10 MS)
4944
4945 ; COMMAND LIST
4946
4947 032706 3$: 2.
4948 032706 000002 KC$STA ; LINK STATE
4949
4950 032710 000005

```

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```

4951
4952 032712 000007          KC&STR          ;OPEN
4953
4954          ; RESPONSE LIST
4955
4956 032714 000001          4&:      1
4957 032716 032722          5&
4958 032720 032726          T8.82
4959
4960 032722 000605 000001  5&:      KS.SUC&KC&STA&RDY0,1          ;LINK STATE = NOT READY
4961
4962 032726          T8.82:
4963 032726 004737 013510          CALL      INIQIO          ;INIT QIO PROCESSING
4964 032732 012701 032766          MOV      @60&,R1          ;GET QIO PARAMETER ADDRESS IN R1
4965 032736 004737 015022          CALL      QIOP          ;PROCESS QIO
4966 032742 103002          BCC      1&          ;IF NO ERROR, EXIT
4967
4968 032744          EXIT      SUB
4969
4970 032750 012701 032776          1&:      MOV      @4&,R1          ;GET RESPONSE LIST ADDRESS
4971 032754 004737 011276          CALL      CHKRSP          ;THEN CHECK RESPONSES
4972 032760 103015          BCC      T8.83          ;IF CORRECT, PROCESS NEXT COMMAND
4973
4974 032762          EXIT      SUB
4975
4976          ; PARAMETERS FOR QIO PROCESSING
4977
4978 032766 032772          60&:      3&          ;IN LIST TABLE BASE ADDRESS
4979 032770 011610          5000.          ;TIME-OUT LENGTH(N*10 MS)
4980
4981          ; COMMAND LIST
4982
4983 032772          3&:
4984 032772 000001          1.
4985
4986 032774 000005          KC&STA          ;LINK STATE
4987
4988          ; RESPONSE LIST
4989
4990
4991 032776 000002          4&:      2
4992 033000 033006          5&
4993 033002 033012          6&
4994 033004 033014          T8.83
4995
4996 033006 000605 000003  5&:      KS.SUC&KC&STA&RDY0,3          ;LINK STATE = SYNC
4997
4998 033012 175207          6&:      KE.N2T&KC&STR&RDY0          ;ABO KC&STR AFTER N2 RETRIES
4999
5000 033014          T8.83:
5001 033014 004737 013510          CALL      INIQIO          ;INIT QIO PROCESSING
5002 033020 012701 033054          MOV      @60&,R1          ;GET QIO PARAMETER ADDRESS IN R1
5003 033024 004737 015022          CALL      QIOP          ;PROCESS QIO
5004 033030 103002          BCC      1&          ;IF NO ERROR, EXIT
5005
5006 033032          EXIT      SUB
5007

```

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```

5008 033036 012701 033064      1$:  MOV    @4$,R1          ;GET RESPONSE LIST ADDRESS
5009 033042 004737 011276      CALL   CHKRSP          ;THEN CHECK RESPONSES
5010 033046 103013              BCC    T8.84          ;IF CORRECT, PROCESS NEXT COMMAND
5011
5012 033050              EXIT   SUB
5013
5014              ; PARAMETERS FOR QIO PROCESSING
5015
5016 033054 033060      60$:  3$          ;IN LIST TABLE BASE ADDRESS
5017 033056 000764      500.          ;TIME OUT LENGTH(N*10 MS)
5018
5019              ; COMMAND LIST
5020
5021 033060      3$:          1.
5022 033060 000001              KC$STA          ;LINK STATE
5023
5024 033062 000005              ; RESPONSE LIST
5025
5026
5027
5028 033064 000001      4$:  1
5029 033066 033072      5$          T8.84
5030 033070 033076
5031
5032 033072 000605 000002      5$:  KS.SUC+KC$STA+RDY0.2          ;LINK STATE = ON
5033
5034 033076      T8.84:
5035 033076      ENDSUB
5036
5037 033100      ENDTST

```

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5039 033102

BADHEAD

.. TEST9 ..

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```

:
:
: ** - TEST OF THE STATUS RESPONSE "SUCCESS"(KS.SUC)
:
: HERE ARE ALL THE COMMANDS WHICH ARE NOT YET TESTED. THE
: TEST IS COMPOSED OF 6 SUB-TESTS, ONE BY STATE. FIRST,
: THE REQUIRED LINK STATE IS SELECTED THEN, TESTED WITH
: THE LINK STATE COMMAND. THE COMMANDS WHICH MUST BE TES-
: TED NOW, ARE DESCRIBED BELOW;
:
: GET CHARACTERISTIC(KC#GCH), THIS COMMAND IS USED TO READ
: THE VALUES OF THE X25 LEVEL 2 PROTOCOL PARAMETERS STORED
: IN THE KMV11-C'S INTERNAL TABLE. THESE PARAMETERS ARE
: THE SAME THAN THAN THESE ONE SENT WITH THE SET CHARACTE-
: RISTIC COMMAND. THIS COMMAND CAN BE SENT AT ANY TIME.
: READ PARAMETERS WILL BE REPORTED IN 5 REGISTERS.
: SUCH AS;
: SEL4 = T1
: SEL6 = T2
: SEL10 = L.C.A.K.N2
: SEL12 = N1B
: SEL14 = T3
:
: GET COUNTS(KC#CNT), THIS COMMAND CAN BE USED TO OBTAIN
: THE VALUES OF THE INTERNAL COUNTS MAINTAINED BY THE FRAME
: LEVEL MODULE AND, TO RESET THEM TO ZERO.
: TESTING OF VALUES IS NOT THE GOAL OF THIS TEST AND WILL
: BE TESTED FATER.
: THIS COMMAND CAN BE SENT AT ANY TIME.
: PARAMETER SENT WITH THIS COMMAND IS SUCH AS;
: BSEL4 = 0 ; RESET OF COUNTS NOT REQUIRED
: READ PARAMETERS WILL HAVE TO BE IN THE SHAPE OF 13 CSR'S
: (SEL4 TO SEL34) NOT TESTED.
:
: TRANSMIT(KC#TRX), THIS COMMAND IS USED TO GIVE BUFFER AD-
: DRESS AND BYTE COUNT OF AN I FRAME TO TRANSMIT. THE BUFFER
: SHOULD BE WORD ALIGNED IN THE HOST MEMORY. HERE THIS COM-
: MAND IS ONLY TESTED FOR SUCCESS AND, MUST BE ONLY SENT
: IN CASE OF "RUNNING" OR "TRANSPARENT" STATE.
: PARAMETERS TO SEND ARE;
: - 22 BITS BUFFER ADDRESS ON THE WORD BOUNDARY, SUCH AS,
:   BITS : 0-15 : IN SEL4
:   BITS : 16-21 : IN BSEL3 (RIGHT JUSTIFIED)
: - BYTE COUNT, IN SEL6, MUST BE =< N1B (GIVEN WITH THE
:   SET CHARACTERISTIC)
: READ PARAMETER WILL HAVE TO BE;
: BSEL4 = 1 FOR ONE BUFFER CORRECTLY TRANSMITTED
:
: RECEIVE(KC#RCV), THIS COMMAND IS USED TO GIVE BUFFER AD-
: DRESS AND BYTE COUNT OF A RECEIVE I FRAME TO THE KMV. THE
: BUFFER MUST BE WORD ALIGNED IN THE HOST. HERE THIS COM-
: MAND IS ONLY TESTED FOR SUCCESS AND, MUST BE ONLY SENT
: IN CASE OF "RUNNING" OR "TRANSPARENT" STATE. PARAMETERS
: TO SEND ARE;
: - 22 BIT BUFFER ADDRESS ON A WORD BOUNDARY, SUCH AS
:   BITS : 0 - 15 : IN SEL4

```

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5096 :
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5100 :
5101 :
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5114 :
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5117 :
5118 :
5119 :
5120 :
5121 :
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5144 :
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5146 :
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5149 :
5150 :
5151 :

```

BITS : 16 - 21: IN BSEL3(RIGHT JUSTIFIED)
- BYTE COUNT IN SEL6 WHICH MUST BE < N1B(GIVEN WITH THE
SET CHARACTERISTIC)
READ PARAMETERS WILL HAVE TO BE;
SEL4 = BYTE COUNT OF I FRAME RECEIVED
SEL6 = THE FIRST TWO CHARACTERS IF "TRANSPARENT" MODE

TRACE ENABLE(KC#TRE), THIS COMMAND ENABLES THE LEVEL 2
FRAME HEADER TRACING. NORMALLY, THE RESPONSE IS OBTAINED
WHEN ALL CSR'S FROM SEL4 TO SEL36 ARE FILLED OR TRACE IS
LOST. HERE, ONLY ONE FRAME IS SENT/RECEIVED AND, TO OB-
TAIN RESPONSE, TRACE IS ENABLE BEFORE TRANSMISSION/RECEP-
TION THEN DISABLE SOME TIME AFTER; AN ASYNCHRONOUS TRACE
RESPONSE IS RETURNED SUCH AS:
SEL4 = STATUS,CONTROL FIELDS FOR THE I FRAME SENT
SEL6 = STATUS,CONTROL FIELDS FOR THE I FRAME RECEIVED
SEL10= 0 FOR END OF TRACE

TRACE DISABLE(KC#TRD), THIS COMMAND IS USED TO DISABLE
THE TRACE OPTION.

THE TEST IS COMPOSED OF 6 SUB-TESTS, ONE FOR EACH STATE.
FIRST, THE REQUIRED STATE IS SELECTED THEN, TESTED WITH
THE LINK STATE COMMAND
SUBTESTS ARE BRIEFLY DESCRIBED BELOW;

SUBTEST1 LINK STATE = "OFF"
TEST SUCCESS STATUS FOR;
- GET CHARACTERISTIC(KC#GCH)
- GET COUNT(KC#CNT)
- TRACE ENABLE(KC#TRE)
- TRACE DISABLE(KC#TRD)

SUBTEST2 LINK STATE = "TRANSPARENT"
TEST SUCCESS STATUS FOR;
- GET CHARACTERISTIC(KC#GCH)
- GET COUNT(KC#CNT)
- TRACE ENABLE(KC#TRE)
- TRACE DISABLE(KC#TRD)
- TRANSMIT(KC#TRX)
- RECEIVE(KC#RCV)

SUBTEST3 LINK STATE = "NOT READY"
TEST SUCCESS STATUS FOR;
- GET CHARACTERISTIC(KC#GCH)
- GET COUNT(KC#CNT)
- TRACE ENABLE(KC#TRE)
- TRACE DISABLE(KC#TRD)

SUBTEST4 LINK STATE = "ON"
TEST SUCCESS STATUS FOR;
- GET CHARACTERISTIC(KC#GCH)
- GET COUNT(KC#CNT)
- TRACE ENABLE(KC#TRE)
- TRACE DISABLE(KC#TRD)

SUBTEST5 LINK STATE = "RUNNING"

```

5152      ;          TEST SUCCESS STATUS FOR;
5153      ;          - GET CHARACTERISTIC(KC#GCH)
5154      ;          GET COUNT(KC#CNT)
5155      ;          TRACE ENABLE(KC#TRE)
5156      ;          - TRACE DISABLE(KC#TRD)
5157      ;          - TRANSMIT(KC#TRX)
5158      ;          - RECEIVE(KC#RCV)
5159      ;
5160      ;          SUBTEST6 LINK STATE = "SYNC"
5161      ;          FIRST, THE LOOP IS DISABLE
5162      ;          TEST SUCCESS STATUS FOR;
5163      ;          - GET CHARACTERISTIC(KC#GCH)
5164      ;          - GET COUNT(KC#CNT)
5165      ;          - TRACE ENABLE(KC#TRE)
5166      ;          - TRACE DISABLE(KC#TRD)
5167      ;
5168      ;MODE:          APPLICATION MODE
5169      ;
5170      ;REPORTS:
5171      ;
5172      ;- ERROR 10000  KMV11 FAILS TO RESET MASTER CLEAR
5173      ;- ERROR 10001  RUN FUNCTION NOT CORRECTLY PERFORMED
5174      ;- ERROR 10002  WRITE FUNCTION NOT CORRECTLY PERFORMED
5175      ;- ERROR 10003  READ FUNCTION NOT CORRECTLY PERFORMED
5176      ;- ERROR 10004  DATA COMPARE ERROR
5177      ;- ERROR 10005  UNEXPECTED INTERRUPT IN
5178      ;- ERROR 10006  UNEXPECTED INTERRUPT OUT
5179      ;- ERROR 10007  NO MORE INTERRUPT WHILE QIO PENDING
5180      ;- ERROR 10008  UNEXPECTED EPROM'S ON KMV
5181      ;- ERROR 10009  UNEXPECTED QIO RESPONSE
5182      ;- ERROR 10010  UNEXPECTED NUMBER OF RESPONSES RECEIVED
5183      ;- ERROR 10012  THIS TEST IS SKIPPED BECAUSE THERE IS AN EX
5184      ;                  TERNAL LOOP
5185      ;- ERROR 10013  LIC OF RESPONSES EXPECTED BUT NOT RECEIVED
5186      ;
5187 033102  ;BADHEAD
5188      ;
5189      ;          ** TEST9 **
5190      ;
5190 033102  BGNTST
5191 033102  004737 013266      CALL  MODE0          ;SET APPLICATION MODE
5192 033106  103406          BCS    1$          ;IF NOT CORRECTLY DONE
5193      ;
5194 033110  004737 013410      CALL  LPBACK        ;CHECK LOOP BACK
5195 033114  103403          BCS    1$          ;IF NOT
5196      ;
5197 033116  004737 014344      CALL  RUNAPP        ;LOAD AND RUN APPLICATION
5198 033122  103002          BCC    2$          ;IF CORRECTLY DONE
5199      ;
5200 033124      1$:      EXIT  TST
5201      ;
5202      ;          SET LINK STATE = OFF THEN TEST
5203      ;
5204 033130      2$:
5205 033130      PC  JB
5206 033132          EXSUB
5207 033144  004737 013510      CALL  INIQIO        ;INIT QIO PROCESSING

```

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```

5208 033150 012701 033204      MOV    #60,R1      ;GET QIO PARAMETER ADDRESS IN R1
5209 033154 004737 015022      CALL   QIOP        ;PROCESS QIO
5210 033160 103002              BCC    3$         ;IF NO ERROR, EXIT
5211
5212 033162              EXIT   SUB
5213
5214 033166 012701 033232      3$:  MOV    #5,R1      ;GET RESPONSE LIST ADDRESS
5215 033172 004737 011276      CALL   CHKRSR      ;THEN CHECK RESPONSES
5216 033176 103024              BCC    T9.11      ;IF CORRECT, PROCESS NEXT COMMAND
5217
5218 033200              EXIT   SUB
5219
5220              ; PARAMETERS FOR QIO PROCESSING
5221
5222 033204 033210      60$:  4$         ;IN LIST TABLE BASE ADDRESS
5223 033206 000764          500.          ;TIME OUT LENGTH(N*10 MS)
5224
5225              ; COMMAND LIST
5226
5227 033210      4$:
5228 033210 000002          2.
5229
5230 033212 000005          KC$STA          ;LINK STATE
5231
5232 033214 000001          KC$SCH          ;SET CHARACTERISTICS FOR
5233 033216 003720          2000.          ;INTERNAL LOOP
5234 033220 000764          500.
5235 033222 161412          BIT15*BIT14*BIT13*(<3*400>+10.
5236 033224 000200          128.
5237 033226 000144          100.
5238 033230 000000          0
5239
5240              ; RESPONSE LIST
5241
5242 033232 000002      5$:  2
5243 033234 033242          6$
5244 033236 033246          7$
5245 033240 033250          T9.11
5246
5247 033242 000605 000000      6$:  KS.SUC*KC$STA*RDY0,0      ;LINK STATE = OFF
5248
5249 033246 000601          7$:  KS.SUC*KC$SCH*RDY0      ;SUCCESS FOR KC$SCH
5250
5251 033250      T9.11:
5252 033250 004737 013510      CALL   INIQIO      ;INIT QIO PROCESSING
5253 033254 012701 033316      MOV    #60,R1      ;GET QIO PARAMETER ADDRESS IN R1
5254 033260 004737 015022      CALL   QIOP        ;PROCESS QIO
5255 033264 103002          BCC    1$         ;IF NO ERROR, EXIT
5256
5257 033266              EXIT   SUB
5258
5259 033272 012701 033336      1$:  MOV    #4,R1      ;GET RESPONSE LIST ADDRESS
5260 033276 012737 012724 012546  MOV    #TYPO0,TSTF13 ;SET TEST TYPE FOR TRACE RESPONSE
5261 033304 004737 011276      CALL   CHKRSR      ;THEN CHECK RESPONSES
5262 033310 103044          BCC    T9.12      ;IF CORRECT, PROCESS NEXT COMMAND
5263
5264 033312              EXIT   SUB

```

```

5265
5266           ; PARAMETERS FOR QIO PROCESSING
5267
5268 033316 033322 60$: 3$           ; IN LIST TABLE BASE ADDRESS
5269 033320 000764 500.           ; TIME OUT LENGTH(N*10 MS)
5270
5271           ; COMMAND LIST
5272
5273 033322 3$:
5274 033322 000004 4.
5275
5276 033324 000002 KC$GCH           ; GET CHARACTERISTICS
5277
5278 033326 000006 KC$CNT           ; GET COUNTS
5279 033330 000000 0           ; WITH NO RESET OF COUNT
5280
5281 033332 000013 KC$TRE           ; TRACE ENABLE
5282
5283 033334 000014 KC$TRD           ; TRACE DISABLE
5284
5285           ; RESPONSE LIST
5286
5287 033336 000003 4$: 3
5288 033340 033350 5$
5289 033342 033364 6$
5290 033344 033420 7$
5291 033346 033422 T9.12
5292
5293 033350 000602 5$: KS.SUC+KC$GCH+RDYO ; SUCCESS FOR KC$GCH, PARAMETERS ARE:
5294 033352 003720 2000.           ; T1 = 100MS
5295 033354 000764 500.           ; T2 = 50MS
5296 033356 161412 BIT15+BIT14+BIT13.<3*400>.10. ; L,C,A = 1 K = 3 N2 = 10.
5297 033360 000200 128.           ; N1 = 128 BYTES
5298 033362 000144 100.           ; T3 = 5S
5299
5300 033364 000606 6$: KS.SUC+KC$CNT+RDYO ; SUCCESS FOR KC$CNT, PARAMETERS ARE:
5301 033366 000000 0           ; SZ = 0
5302 033370 000000 0           ; OUTERR = 0
5303 033372 000000 0           ; INERR = 0
5304 033374 000000 0           ; BS = 0.0
5305 033376 000000 0
5306 033400 000000 0           ; BR = 0.0
5307 033402 000000 0
5308 033404 000000 0           ; MS = 0
5309 033406 000000 0           ; MR = 0
5310 033410 000000 0           ; REMERR = 0
5311 033412 000000 0           ; LOCERR = 0
5312 033414 000000 0           ; REMTOUT = 0 LOCTOUT = 0
5313 033416 000000 0           ; REMBUFERR = 0 LOCBUFERR = 0
5314
5315 033420 000614 7$: KS.SUC+KC$TRD+RDYO ; TRACE DISABLED
5316
5317 033422 T9.12:
5318 033422 ENDSUB
5319
5320           ; SET LINK STATE = TRANSPARENT THEN TEST
5321

```

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5322 033424          BGNSUB
5323 033426          EXSUB
5324 033440 004737 013510 CALL INIQIO          ;INIT QIO PROCESSING
5325 033444 012701 033500 MOV  #60$,R1        ;GET QIO PARAMETER ADDRESS IN R1
5326 033450 004737 015022 CALL QIOP           ;PROCESS QIO
5327 033454 103002 BCC  1$            ;IF NO ERROR, EXIT
5328
5329 033456          EXIT  SUB
5330
5331 033462 012701 033514 1$: MOV  #4$,R1        ;GET RESPONSE LIST ADDRESS
5332 033466 004737 011276 CALL  CHKRSP       ;THEN CHECK RESPONSES
5333 033472 103017 BCC  T9.21        ;IF CORRECT, PROCESS NEXT COMMAND
5334
5335 033474          EXIT  SUB
5336
5337          ; PARAMETERS FOR QIO PROCESSING
5338
5339 033500 033504 60$:  3$          ;IN LIST TABLE BASE ADDRESS
5340 033502 000764      500.      ;TIME OUT LENGTH(N*10 MS)
5341
5342          ; COMMAND LIST
5343
5344 033504 3$:          2.
5345 033504 000002      KC$STA    ;LINK STATE
5346
5347 033506 000005      KC$ENB    ;INIT LINK FOR
5348                                ; STATE = TRANSPARENT
5349 033510 000003      1
5350 033512 000001
5351
5352          ; RESPONSE LIST
5353
5354 033514 000002 4$:  2
5355 033516 033524      5$
5356 033520 033530      6$
5357 033522 033532      T9.21
5358
5359 033524 000605 000000 5$:  KS.SUC+KC$STA+RDY0,0 ;LINK STATE = OFF
5360
5361 033530 000603 6$:  KS.SUC+KC$ENB+RDY0 ;SUCCESS FOR KC$ENB
5362
5363 033532 T9.21:
5364 033532 004737 013510 CALL  INIQIO          ;INIT QIO PROCESSING
5365 033536 012701 033636 MOV  #60$,R1        ;GET QIO PARAMETER ADDRESS IN R1
5366 033542 004737 015022 CALL  QIOP           ;PROCESS QIO
5367 033546 103002 BCC  1$            ;IF NO ERROR, EXIT
5368
5369 033550          EXIT  SUB
5370
5371 033554 012701 033672 1$:  MOV  #4$,R1        ;GET RESPONSE LIST ADDRESS
5372 033560 012737 012724 012546 MOV  #TYP00,TSTF13 ;SET TEST TYPE FOR TRACE RESPONSE
5373 033566 012737 000001 002442 MOV  #1,TXCNTR     ;INIT KC$TRX RESPONSE COUNTER
5374 033574 004737 011276 CALL  CHKRSP       ;THEN CHECK RESPONSES
5375 033600 103002 BCC  2$            ;IF CORRECT, COMPARE BUFFERS
5376
5377 033602          EXIT  SUB
5378

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5379 033606 012701 004750      2$:  MOV    #TXBUFO+2,R1      ;GET TRANSMIT BUFFER ADDRESS
5380 033612 012702 002746      MOV    #RXBUFO,R2        ;GET RECEIVE BUFFER ADDRESS
5381 033616 012737 000022 002402  MOV    #18.,LENGTH      ;GET LENGTH
5382 033624 004737 013056      CALL   COMPAR           ;COMPARE BUFFERS
5383 033630 103060              BCC    T9.22           ;IF CORRECT, PROCESS NEXT COMMAND
5384
5385 033632              EXIT   SUB
5386
5387              ; PARAMETERS FOR QIO PROCESSING
5388
5389 033636 033642      60$:  3$              ;IN LIST TABLE BASE ADDRESS
5390 033640 001274      700.              ;TIME-OUT LENGTH(N*10 MS)
5391
5392              ; COMMAND LIST
5393
5394 033642      3$:
5395 033642 000006      6.
5396
5397 033644 000005      KC$STA              ;LINK STATE
5398
5399 033646 000002      KC$GCH              ;GET CHARACTERISTICS
5400
5401 033650 000006      KC$CNT              ;GET COUNTS
5402 033652 000000      0                  ; WITH NO RESET OF COUNT
5403
5404 033654 000013      KC$TRE              ;TRACE ENABLE
5405
5406 033656 000012      KC$RCV              ;GIVE RECEIVE BUFFER
5407 033660 002746      RXBUFO              ; BUFFER ADDRESS
5408 033662 000036      30.                ; BYTE COUNT
5409
5410 033664 000011      KC$TRX              ;GIVE TRANSMIT BUFFER
5411 033666 004746      TXBUFO              ; BUFFER ADDRESS
5412 033670 000024      20.                ; BYTE COUNT
5413
5414              ; RESPONSE LIST
5415
5416 033672 000005      4$:  5
5417 033674 033710      5$
5418 033676 033714      6$
5419 033700 033730      7$
5420 033702 033764      8$
5421 033704 033766      9$
5422 033706 033772      T9.22
5423
5424 033710 000605 000005      5$:  KS.SUC+KC$STA+RDY0,5      ;LINK STATE = TRANSPARENT
5425
5426 033714 000602      6$:  KS.SUC+KC$GCH+RDY0      ;SUCCESS FOR KC$GCH, PARAMETERS ARE:
5427 033716 000000      0                  ; T1
5428 033720 000000      0                  ; T2
5429 033722 140000      BIT15+BIT14       ; L,C = 1
5430 033724 000000      0                  ; N1
5431 033726 000000      0                  ; T3
5432
5433 033730 000606      7$:  KS.SUC+KC$CNT+RDY0      ;SUCCESS FOR KC$CNT, PARAMETERS ARE:
5434 033732 000000      0                  ; SZ = 0
5435 033734 000000      0                  ; OUTERR = 0

```

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```

5436 033736 000000 0 ; INERR = 0
5437 033740 000000 0 ; BR = 0,0
5438 033742 000000 0 ; BR = 0,0
5439 033744 000000 0 ; MR = 0
5440 033746 000000 0 ; MR = 0
5441 033750 000000 0 ; REMERR = 0
5442 033752 000000 0 ; LOCERR = 0
5443 033754 000000 0 ; REMTOUT = 0 LOCTOUT = 0
5444 033756 000000 0 ; REMBUFERR = 0 LOCBUFERR = 0
5445 033760 000000 0
5446 033762 000000 0
5447
5448 033764 000611 8: KS.SUC.KC$TRX.RDY0 ; ONE BUFFER TRANSMITTED
5449
5450 033766 000612 9: KS.SUC.KC$RCV.RDY0 ; ONE BUFFER RECEIVED
5451 033770 000024 20. ; WITH 20 BYTES
5452
5453 033772 T9.22:
5454 033772 004737 013510 CALL INIQIO ; INIT QIO PROCESSING
5455 033776 012701 034040 MOV #60,R1 ; GET QIO PARAMETER ADDRESS IN R1
5456 034002 004737 015022 CALL QIOP ; PROCESS QIO
5457 034006 103002 BCC 1: ; IF NO ERROR, EXIT
5458
5459 034010 EXIT SUB
5460
5461 034014 012701 034050 1: MOV #4,R1 ; GET RESPONSE LIST ADDRESS
5462 034020 012737 012724 012546 MOV #TYP00,TSTF13 ; SET TEST TYPE FOR TRACE RESPONSE
5463 034026 004737 011276 CALL CHKRSP ; THEN CHECK RESPONSES
5464 034032 103014 BCC T9.23 ; IF CORRECT, PROCESS NEXT COMMAND
5465
5466 034034 EXIT SUB
5467
5468 ; PARAMETERS FOR QIO PROCESSING
5469
5470 034040 034044 60: 3: ; IN LIST TABLE BASE ADDRESS
5471 034042 000764 500. ; TIME OUT LENGTH(N*10 MS)
5472
5473 ; COMMAND LIST
5474
5475 034044 3:
5476 034044 000001 1.
5477
5478 034046 000014 KC$TRD ; TRACE DISABLE
5479
5480 ; RESPONSE LIST
5481
5482 034050 000002 4: 2
5483 034052 034060 5:
5484 034054 034062 6:
5485 034056 034064 T9.23
5486
5487 034060 000614 5: KS.SUC.KC$TRD.RDY0 ; TRACE DISABLED
5488
5489 034062 000613 6: KS.SUC.KC$TRE.RDY0 ; TRACE RESPONSE
5490
5491 034064 T9.23:
5492 034064 ENDSUB

```

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```

5493
5494 ; SET STATE - NOT READY THEN TEST
5495
5496 034066 BGNSUB
5497 034070
5498 034102 004737 013510
5499 034106 012701 034142
5500 034112 004737 015022
5501 034116 103002
5502
5503 034120
5504
5505 034124 012701 034154
5506 034130 004737 011276
5507 034134 103016
5508
5509 034136
5510
5511 ; PARAMETERS FOR QIO PROCESSING
5512
5513 034142 034146
5514 034144 000764
5515
5516 ; COMMAND LIST
5517
5518 034146
5519 034146 000002
5520
5521 034150 000005
5522
5523 034152 000004
5524
5525 ; RESPONSE LIST
5526
5527 034154 000002
5528 034156 034164
5529 034160 034170
5530 034162 034172
5531
5532 034164 000605 000005
5533
5534 034170 000604
5535
5536 034172
5537 034172 012700 034210
5538 034176 004737 015226
5539 034202 103010
5540
5541 034204
5542
5543 034210
5544 034210 003720
5545 034212 000764
5546 034214 161412
5547 034216 000200
5548 034220 000144
5549 034222 000000

```

```

;
EXSUB
CALL INIQIO ;INT QIO PROCESSING
MOV #60,R1 ;GET QIO PARAMETER ADDRESS IN R1
CALL QIOP ;PROCESS QIO
BCC 1$ ;IF NO ERROR, EXIT

EXIT SUB

1$: MOV #4,R1 ;GET RESPONSE LIST ADDRESS
CALL CHKRSP ;THEN CHECK RESPONSES
BCC T9.31 ;IF CORRECT, PROCESS NEXT COMMAND

EXIT SUB

;
60$: 3$ ;IN LIST TABLE BASE ADDRESS
500. ;TIME OUT LENGTH(N*10 MS)

;
3$: 2.

KC#STA ;LINK STATE
KC#DIS ;STOP LINK

;
4$: 2
5$
6$
T9.31

5$: KS.SUC.KC#STA.WDY0.5 ;LINK STATE = TRANSPARENT
6$: KS.SUC.KC#DIS.RDY0 ;LINK STOPPED

T9.31:
MOV #7,R0 ;SET POINTER
CALL SETCH ;SET CHARACTERISTICS
BCC CMSET8 ;IF NO ERROR,CONTINUE

EXIT SUB

7$: ;PARAMETER LIST
2000. ;T1
500. ;T2
BIT15.BIT14.EIT13.<3*400>.10. ;L,C,A=1 K=3 N2=10
128. ;N1
100. ;T3
0 ;

```

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```

5550
5551 034224          CMSET8:
5552
5553 034224 004737 013510      CALL    INIQIO          ;INIT QIO PROCESSING
5554 034230 012701 034264      MOV     #60,R1         ;GET QIO PARAMETER ADDRESS IN R1
5555 034234 004737 015022      CALL    QIOP           ;PROCESS QIO
5556 034240 103002              BCC     1$            ;IF NO ERROR, EXIT
5557
5558 034242              EXIT    SUB
5559
5560 034246 012701 034300      1$:   MOV     #4,R1         ;GET RESPONSE LIST ADDRESS
5561 034252 004737 011276      CALL    CHKRSP        ;THEN CHECK RESPONSES
5562 034256 103017              BCC     T9.32        ;IF CORRECT, PROCESS NEXT COMMAND
5563
5564 034260              EXIT    SUB
5565
5566          ; PARAMETERS FOR QIO PROCESSING
5567
5568 034264 034270      60$:   3$            ;IN LIST TABLE BASE ADDRESS
5569 034266 000764          500.          ;TIME OUT LENGTH(N*10 MS)
5570
5571          ; COMMAND LIST
5572
5573 034270      3$:           2.
5574 034270 000002              2.
5575
5576 034272 000005              KC$STA          ;LINK STATE
5577
5578 034274 000003              KC$ENB          ;INIT LINK
5579 034276 000002              2              ; STATE = NOT READY
5580
5581          ; RESPONSE LIST
5582
5583 034300 000002      4$:           2
5584 034302 034310          5$
5585 034304 034314          6$
5586 034306 034316          T9.32
5587
5588 034310 000605 000000      5$:   KS.SUC.KC$STA.RDY0,0 ;LINK STATE = OFF
5589
5590 034314 000603      6$:   KS.SUC.KC$ENB.RDY0 ;LINK IS NOW NOT READY
5591
5592 034316      T9.32:
5593 034316 004737 013510      CALL    INIQIO          ;INIT QIO PROCESSING
5594 034322 012701 034364      MOV     #60,R1         ;GET QIO PARAMETER ADDRESS IN R1
5595 034326 004737 015022      CALL    QIOP           ;PROCESS QIO
5596 034332 103002              BCC     1$            ;IF NO ERROR, EXIT
5597
5598 034334              EXIT    SUB
5599
5600 034340 012701 034406      1$:   MOV     #4,R1         ;GET RESPONSE LIST ADDRESS
5601 034344 012737 012724 012546 MOV     #TYP00,TSTF13 ;SET TEST TYPE FOR TRACE RESPONSE
5602 034352 004737 011276      CALL    CHKRSP        ;THEN CHECK RESPONSES
5603 034356 103050              BCC     T9.33        ;IF CORRECT, PROCESS NEXT COMMAND
5604
5605 034360              EXIT    SUB
5606

```

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```

5607          ; PARAMETERS FOR QIO PROCESSING
5608
5609 034364    034370          60$:    3$          ; IN LIST TABLE BASE ADDRESS
5610 034366    000764          500.          ; TIME OUT LENGTH(N*10 MS)
5611
5612          ; COMMAND LIST
5613
5614 034370          3$:    5.
5615 034370    000005          5.
5616
5617 034372    000005          KC$STA          ; READ STATE
5618
5619 034374    000002          KC$GCH          ; GET CHARACTERISTICS
5620
5621 034376    000006          KC$CNT          ; GET COUNTS
5622 034400    000000          0              ; WITH NO RESET OF COUNT
5623
5624 034402    000013          KC$TRE          ; TRACE ENABLE
5625
5626 034404    000014          KC$TRD          ; TRACE DISABLE
5627
5628          ; RESPONSE LIST
5629
5630 034406    000004          4$:    4
5631 034410    034422          5$
5632 034412    034426          6$
5633 034414    034442          7$
5634 034416    034476          8$
5635 034420    034500          T9.33
5636
5637 034422    000605    000001 5$:    KS.SUC.KC$STA.RDY0,1          ; LINK STATE = NOT READY
5638
5639 034426    000602          6$:    KS.SUC.KC$GCH.RDY0          ; SUCCESS FOR KC$GCH, PARAMETERS ARE:
5640 034430    003720          2000.          ; T1 = 100MS
5641 034432    000764          500.          ; T2 = 50MS
5642 034434    161412          BIT15.BIT14.BIT13.<3*400>.10.          ; L.C.A = 1 K = 3 N2 = 10.
5643 034436    000200          128.          ; N1 = 128 BYTES
5644 034440    000144          100.          ; T3 = 5S
5645
5646 034442    000606          7$:    KS.SUC.KC$CNT.RDY0          ; SUCCESS FOR KC$CNT, PARAMETERS ARE:
5647 034444    000000          0              ; SZ = 0
5648 034446    000000          0              ; OUTERR = 0
5649 034450    000000          0              ; INERR = 0
5650 034452    000000          0              ; BS = 0,0
5651 034454    000000          0              ; BR = 0,0
5652 034456    000000          0              ; MS = 0
5653 034460    000000          0              ; MR = 0
5654 034462    000000          0              ; REMERR = 0
5655 034464    000000          0              ; LOCERR = 0
5656 034466    000000          0              ; REMTOUT = 0 LOCTOUT = 0
5657 034470    000000          0              ; REMBUFERR = 0 LOCBUFERR = 0
5658 034472    000000          0
5659 034474    000000          0
5660
5661 034476    000614          8$:    KS.SUC.KC$TRD.RDY0          ; TRACE DISABLED
5662
5663 034500          T9.33:

```

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```

5664 034500          ENDSUB
5665
5666                ;      SET LINK STATE = ON THEN TEST
5667
5668 034502          BGNSUB
5669 034504          EXSUB
5670 034516 004737 013510 CALL INIQIO          ;INIT QIO PROCESSING
5671 034522 012701 034556 MOV #60$,R1         ;GET QIO PARAMETER ADDRESS IN R1
5672 034526 004737 015022 CALL QIOP           ;PROCESS QIO
5673 034532 103002 BCC 1$             ;IF NO ERROR, EXIT
5674
5675 034534          EXIT SUB
5676
5677 034540 012701 034572 1$: MOV #4$,R1          ;GET RESPONSE LIST ADDRESS
5678 034544 004737 011276 CALL CHKRSP         ;THEN CHECK RESPONSES
5679 034550 103017 BCC T9.41         ;IF CORRECT, PROCESS NEXT COMMAND
5680
5681 034552          EXIT SUB
5682
5683                ; PARAMETERS FOR QIO PROCESSING
5684
5685 034556 034562 60$: 3$          ;IN LIST TABLE BASE ADDRESS
5686 034560 000764 500.          ;TIME OUT LENGTH(N*10 MS)
5687
5688                ; COMMAND LIST
5689
5690 034562          3$:
5691 034562 000002          2.
5692
5693 034564 000005          KC$STA          ;LINK STATE
5694
5695 034566 000003          KC$ENB          ;INIT LINK
5696 034570 000000 0          ; FOR STATE = ON
5697
5698                ; RESPONSE LIST
5699
5700 034572 000002          4$: 2
5701 034574 034602          5$
5702 034576 034606          6$
5703 034600 034610          T9.41
5704
5705 034602 000605 000001 5$: KS.SUC+KC$STA+RDY0,1 ;LINK STATE = NOT READY
5706
5707 034606 000603          6$: KS.SUC+KC$ENB+RDY0 ;SUCCESS FOR KC$ENB
5708
5709 034610          T9.41:
5710 034610 004737 013510 CALL INIQIO          ;INIT QIO PROCESSING
5711 034614 012701 034656 MOV #60$,R1         ;GET QIO PARAMETER ADDRESS IN R1
5712 034620 004737 015022 CALL QIOP           ;PROCESS QIO
5713 034624 103002 BCC 1$             ;IF NO ERROR, EXIT
5714
5715 034626          EXIT SUB
5716
5717 034632 012701 034700 1$: MOV #4$,R1          ;GET RESPONSE LIST ADDRESS
5718 034636 012737 012724 012546 MOV #TYPO0,TSTF13 ;SET TEST TYPE FOR TRACE RESPONSE
5719 034644 004737 011276 CALL CHKRSP         ;THEN CHECK RESPONSES
5720 034650 103050 BCC T9.42         ;IF CORRECT, PROCESS NEXT COMMAND

```

```

5721
5722 034652          EXIT    SUB
5723
5724          ; PARAMETERS FOR QIO PROCESSING
5725
5726 034656 034662 60$:    3$          ; IN LIST TABLE BASE ADDRESS
5727 034660 000764          500.        ; TIME-OUT LENGTH(N*10 MS)
5728
5729          ; COMMAND LIST
5730
5731 034662 3$:          5.
5732 034662 000005          KC$STA      ; READ STATE
5733
5734 034664 000005          KC$GCH     ; GET CHARACTERISTICS
5735
5736 034666 000002          KC$CNT     ; GET COUNTS
5737
5738 034670 000006          0           ; WITH NO RESET OF COUNT
5739 034672 000000          KC$TRE     ; TRACE ENABLE
5740
5741 034674 000013          KC$TRD     ; TRACE DISABLE
5742
5743 034676 000014          ; RESPONSE LIST
5744
5745
5746
5747 034700 000004 4$:    4
5748 034702 034714          5$
5749 034704 034720          6$
5750 034706 034734          7$
5751 034710 034770          8$
5752 034712 034772          T9.42
5753
5754 034714 000605 5$:    KS.SUC+KC$STA+RDYO ; CURRENT STATE = ON
5755 034716 000002          2
5756
5757 034720 000602 6$:    KS.SUC+KC$GCH+RDYO ; SUCCESS FOR KC$GCH, PARAMETERS ARE:
5758 034722 003720          2000.        ; T1 = 100MS
5759 034724 000764          500.         ; T2 = 50MS
5760 034726 161412          BIT15+BIT14+BIT13+<3*400>+10. ; L.C.A = 1 K = 3 N2 = 10.
5761 034730 000200          128.         ; N1 = 128 BYTES
5762 034732 000144          100.         ; T3 = 5S
5763
5764 034734 000606 7$:    KS.SUC+KC$CNT+RDYO ; SUCCESS FOR KC$CNT, PARAMETERS ARE:
5765 034736 000000          0           ; SZ = 0
5766 034740 000000          0           ; OUTERR = 0
5767 034742 000000          0           ; INERR = 0
5768 034744 000000          0           ; BS = 0.0
5769 034746 000000          0           ; BR = 0.0
5770 034750 000000          0           ; MS = 0
5771 034752 000000          0           ; MR = 0
5772 034754 000000          0           ; REMERR = 0
5773 034756 000000          0           ; LOCERR = 0
5774 034760 000000          0           ; REMTOUT = 0 LOCTOUT = 0
5775 034762 000000          0           ; REMBUFERR = 0 LOCBUFERR = 0
5776 034764 000000          0
5777 034766 000000          0

```

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```

5778
5779 034770 000614      8$:      KS.SUC.KC$TRD.RDYO      ;TRACE DISABLED
5780
5781 034772
5782 034772      T9.42:
5783      ENDSUB
5784      ;      SET LINK STATE = RUNNING THEN TEST
5785
5786 034774      BGNSUB
5787 034776      EXSUB
5788 035010 004737 013510      CALL      INIQIO      ;INIT QIO PROCESSING
5789 035014 012701 035050      MOV      #60$,R1      ;GET QIO PARAMETER ADDRESS IN R1
5790 035020 004737 015022      CALL      QIOP      ;PROCESS QIO
5791 035024 103002      BCC      1$      ;IF NO ERROR, EXIT
5792
5793 035026      EXIT      SUB
5794
5795 035032 012701 035062      1$:      MOV      #4$,R1      ;GET RESPONSE LIST ADDRESS
5796 035036 004737 011276      CALL      CHKRSP      ;THEN CHECK RESPONSES
5797 035042 103016      BCC      T9.51      ;IF CORRECT, PROCESS NEXT COMMAND
5798
5799 035044      EXIT      SUB
5800
5801      ; PARAMETERS FOR QIO PROCESSING
5802
5803 035050 035054      60$:      3$      ;IN LIST TABLE BASE ADDRESS
5804 035052 000764      500.      ;TIME-OUT LENGTH(N*10 MS)
5805
5806      ; COMMAND LIST
5807
5808 035054      3$:
5809 035054 000002      2.
5810
5811 035056 000005      KC$STA      ;LINK STATE
5812
5813 035060 000007      KC$STR      ;OPEN
5814
5815      ; RESPONSE LIST
5816
5817 035062 000002      4$:      2
5818 035064 035072      5$
5819 035066 035076      6$
5820 035070 035100      T9.51
5821
5822 035072 000605      5$:      KS.SUC.KC$STA.RDYO      ;LINK STATE = ON
5823 035074 000002      2
5824
5825 035076 000607      6$:      KS.SUC.KC$STR.RDYO      ;SUCCESS FOR KC$STR
5826
5827 035100      T9.51:
5828 035100 004737 013510      CALL      INIQIO      ;INIT QIO PROCESSING
5829 035104 012701 035204      MOV      #60$,R1      ;GET QIO PARAMETER ADDRESS IN R1
5830 035110 004737 015022      CALL      QIOP      ;PROCESS QIO
5831 035114 103002      BCC      1$      ;IF NO ERROR, EXIT
5832
5833 035116      EXIT      SUB
5834

```

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```

5835 035122 012701 035240      1:  MOV    #4,R1          ;GET RESPONSE LIST ADDRESS
5836 035126 012737 012724 012546  MOV    #TYP00,TSTF13 ;SET TEST TYPE FOR TRACE RESPONSE
5837 035134 012737 000001 002442  MOV    #1,IXCNTR      ;INIT KC#TRX RESPONSE COUNTER
5838 035142 004737 011276      CALL   CHKRSP         ;THEN CHECK RESPONSES
5839 035146 103002      BCC    2:             ;IF CORRECT, COMPARE BUFFERS
5840
5841 035150      EXIT   SUB
5842
5843 035154 012701 004746      2:  MOV    #TXBUFO,R1    ;GET TRANSMIT BUFFER ADDRESS
5844 035160 012702 002746      MOV    #RXBUFO,R2    ;GET RECEIVE BUFFER ADDRESS
5845 035164 012737 000024 002402  MOV    #20.,LENGTH  ;GET LENGTH
5846 035172 004737 013056      CALL   COMPAR        ;COMPARE BUFFERS
5847 035176 103060      BCC    T9.52        ;IF CORRECT, PROCESS NEXT COMMAND
5848
5849 035200      EXIT   SUB
5850
5851      ; PARAMETERS FOR QIO PROCESSING
5852
5853 035204 035210      60:  3:             ;IN LIST TABLE BASE ADDRESS
5854 035206 001274      700. ;TIME-OUT LENGTH(N*10 MS)
5855
5856      ; COMMAND LIST
5857
5858 035210      3:             ;
5859 035210 000006      6.             ;
5860
5861 035212 000005      KC#STA        ;READ STATE
5862
5863 035214 000002      KC#GCH        ;GET CHARACTERISTICS
5864
5865 035216 000006      KC#CNT        ;GET COUNTS
5866 035220 000000      0             ; WITH NO RESET OF COUNT
5867
5868 035222 000013      KC#TRE        ;TRACE ENABLE
5869
5870 035224 000012      KC#RCV        ;GIVE A BUFFER FOR RECEPTION
5871 035226 002746      RXBUFO        ; BUFFER ADDRESS
5872 035230 000036      30.          ; BUFFER LENGTH = 30 BYTES
5873
5874 035232 000011      KC#TRX        ;TRANSMIT A FRAME
5875 035234 004746      TXBUFO        ; BUFFER ADDRESS
5876 035236 000024      20.          ; FRAME LENGTH
5877
5878      ; RESPONSE LIST
5879
5880 035240 000005      4:  5             ;
5881 035242 035256      5:  5:          ;
5882 035244 035262      6:  6:          ;
5883 035246 035276      7:  7:          ;
5884 035250 035332      8:  8:          ;
5885 035252 035334      9:  9:          ;
5886 035254 035340      T9.52       ;
5887
5888 035256 000605      5:  KS.SUC+KC#STA+RDY0 ;CURRENT STATE = RUNNING
5889 035260 000004      4             ;
5890
5891 035262 000602      6:  KS.SUC+KC#GCH+RDY0 ;SUCCESS FOR KC#GCH, PARAMETERS ARE:

```

```

5892 035264 003720          2000.          ; T1 = 100MS
5893 035266 000764          500.          ; T2 = 50MS
5894 035270 161412          BIT15·BIT14·BIT13·(3·400)·10. ; L,C,A = 1 K = 3 N2 = 10.
5895 035272 000200          128.          ; N1 = 128 BYTES
5896 035274 000144          100.          ; T3 = 5S
5897
5898 035276 000606          7$: KS.SUC·KC$CNT·RDY0      ; SUCCESS FOR KC$CNT, PARAMETERS ARE:
5899 035300 000054          54            ; SZ = 54
5900 035302 000000          0            ; OUTERR = 0
5901 035304 000000          0            ; INERR = 0
5902 035306 000000          0            ; BS = 0,0
5903 035310 000000          0            ; BR = 0,0
5904 035312 000000          0            ; MS = 0
5905 035314 000000          0            ; MR = 0
5906 035316 000000          0            ; REMERR = 0
5907 035320 000000          0            ; LOCERR = 0
5908 035322 000000          0            ; REMTOUT = 0 LOCTOUT = 0
5909 035324 000000          0            ; REMBUFERR = 0 LOCBUFERR = 0
5910 035326 000000          0
5911 035330 000000          0
5912
5913 035332 000611          8$: KS.SUC·KC$TRX·RDY0      ; ONE BUFFER SENT
5914
5915 035334 000612          9$: KS.SUC·KC$RCV·RDY0      ; ONE BUFFER RECEIVED
5916 035336 000024          20.          ; 20 BYTES LONG
5917
5918 035340          T9.52:
5919 035340 004737 013510      CALL      INIQIO          ; INIT QIO PROCESSING
5920 035344 012701 035406      MOV       #60$,R1        ; GET QIO PARAMETER ADDRESS IN R1
5921 035350 004737 015022      CALL      QIOP          ; PROCESS QIO
5922 035354 103002          BCC      1$            ; IF NO ERROR, EXIT
5923
5924 035356          EXIT      SUB
5925
5926 035362 012701 035416      1$: MOV       #4$,R1        ; GET RESPONSE LIST ADDRESS
5927 035366 012737 012724 012546  MOV       #TYP00,TSTF13 ; SET TEST TYPE FOR TRACE RESPONSE
5928 035374 004737 011276      CALL      CHKRSR        ; THEN CHECK RESPONSES
5929 035400 103014          BCC      T9.53        ; IF CORRECT, PROCESS NEXT COMMAND
5930
5931 035402          EXIT      SUB
5932
5933          ; PARAMETERS FOR QIO PROCESSING
5934
5935 035406 035412          60$: 3$            ; IN LIST TABLE BASE ADDRESS
5936 035410 000764          500.          ; TIME-OUT LENGTH(N*10 MS)
5937
5938          ; COMMAND LIST
5939
5940 035412          3$:
5941 035412 000001          1.
5942
5943 035414 000014          KC$TRD          ; TRACE DISABLE
5944
5945          ; RESPONSE LIST
5946
5947 035416 000002          4$: 2
5948 035420 035426          5$

```

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```

5949 035422 035430      6:
5950 035424 035432      T9.53
5951
5952 035426 000614      5: KS.SUC.KC:TRD.RDYO      ;TRACF DISABLED
5953
5954 035430 000613      6: KS.SUC.KC:TRE.RDYO      ;TRACE RESPONSE
5955
5956 035432      T9.53:
5957 035432      ENDSUB
5958
5959      ; SET LINK STATE = SYNC THEN TEST
5960
5961 035434      BGNSUB
5962 035436      EXSUB
5963 035450 004737 013510      CALL INIQIO      ;INIT QIO PROCESSING
5964 035454 012701 035510      MOV #60,R1      ;GET QIO PARAMETER ADDRESS IN R1
5965 035460 004737 015022      CALL QIOP      ;PROCESS QIO
5966 035464 103002      BCC 1:          ;IF NO ERROR, EXIT
5967
5968 035466      EXIT SUB
5969
5970 035472 012701 035522      1: MOV #4,R1      ;GET RESPONSE LIST ADDRESS
5971 035476 004737 011276      CALL CHKRSP      ;THEN CHECK RESPONSES
5972 035502 103016      BCC T9.61      ;IF CORRECT, PROCESS NEXT COMMAND
5973
5974 035504      EXIT SUB
5975
5976      ; PARAMETERS FOR QIO PROCESSING
5977
5978 035510 035514      60: 3:          ;IN LIST TABLE BASE ADDRESS
5979 035512 000764      500.          ;TIME-OUT LENGTH(N*10 MS)
5980
5981      ; COMMAND LIST
5982
5983 035514      3:
5984 035514 000002      2.
5985
5986 035516 000005      KC:STA      ;READ LINK STATE
5987
5988 035520 000004      KC:DIS      ;STOP LINK
5989
5990      ; RESPONSE LIST
5991
5992 035522 000002      4: 2
5993 035524 035532      5:
5994 035526 035536      6:
5995 035530 035540      T9.61
5996
5997 035532 000605      5: KS.SUC.KC:STA.RDYO      ;LINK STATE = RUNNING
5998 035534 000304      304
5999
6000 035536 000604      6: KS.SUC.KC:DIS.RDYO      ;LINE STOPPED NOW
6001
6002 035540      T9.61:
6003 035540 004737 013510      CALL INIQIO      ;INIT QIO PROCESSING
6004 035544 012701 035600      MOV #60,R1      ;GET QIO PARAMETER ADDRESS IN R1
6005 035550 004737 015022      CALL QIOP      ;PROCESS QIO

```

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```

6006 035554 103002          BCC      1$          ; IF NO ERROR, EXIT
6007
6008 035556                EXIT      SUB
6009
6010 035562 012701 035626  1$:      MOV      @4$,R1      ; GET RESPONSE LIST ADDRESS
6011 035566 004737 011276  CALL     CHKRSR      ; THEN CHECK RESPONSES
6012 035572 103024          BCC      T9.62      ; IF CORRECT, PROCESS NEXT COMMAND
6013
6014 035574                EXIT      SUB
6015
6016                ; PARAMETERS FOR QIO PROCESSING
6017
6018 035600 035604  60$:      3$          ; IN LIST TABLE BASE ADDRESS
6019 035602 000764          500.          ; TIME-OUT LENGTH(N*10 MS)
6020
6021                ; COMMAND LIST
6022
6023 035604  3$:          2.          ;
6024 035604 000002          2.          ;
6025
6026 035606 000005          KC$STA      ; READ LINK STATE
6027
6028 035610 000001          KC$SCH      ; SET CHARACTERISTICS FOR
6029 035612 007640          4000.      ; FOR NO LOOP BACK
6030 035614 000764          500.          ;
6031 035616 061405          BIT14+BIT13+<3*400>+5
6032 035620 000200          128.          ;
6033 035622 000144          100.          ;
6034 035624 000000          0          ;
6035
6036                ; RESPONSE LIST
6037
6038 035626 000002  4$:          2          ;
6039 035630 035636          5$          ;
6040 035632 035642          6$          ;
6041 035634 035644          T9.62      ;
6042
6043 035636 000605  5$:      KS.SUC+KC$STA+RDY0  ; LINK STATE = OFF
6044 035640 000000          0          ;
6045
6046 035642 000601  6$:      KS.SUC+KC$SCH+RDY0  ; SUCCESS FOR KC$SCH
6047
6048 035644  9.62:
6049 035644 004737 013510  CALL     INIQIO      ; INIT QIO PROCESSING
6050 035650 012701 035704  MOV      @60$,R1    ; GET QIO PARAMETER ADDRESS IN R1
6051 035654 004737 015022  CALL     QIOP        ; PROCESS QIO
6052 035660 103002          BCC      1$          ; IF NO ERROR, EXIT
6053
6054 035662                EXIT      SUB
6055
6056 035666 012701 035720  1$:      MOV      @4$,R1      ; GET RESPONSE LIST ADDRESS
6057 035672 004737 011276  CALL     CHKRSR      ; THEN CHECK RESPONSES
6058 035676 103017          BCC      T9.63      ; IF CORRECT, PROCESS NEXT COMMAND
6059
6060 035700                EXIT      SUB
6061
6062                ; PARAMETERS FOR QIO PROCESSING

```

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```

6063
6064 035704 035710      60$:  3$      ;IN LIST TABLE BASE ADDRESS
6065 035706 000764      500.      ;TIME OUT LENGTH(N*10 MS)
6066
6067      ; COMMAND LIST
6068
6069 035710      3$:
6070 035710 000002      2.
6071
6072 035712 000005      KC$STA      ;READ LINK STATE
6073
6074 035714 000003      KC$ENB      ;INIT LINK
6075 035716 000000      0          ; FOR LINK STATE = ON
6076
6077      ; RESPONSE LIST
6078
6079 035720 000002      4$:  2
6080 035722 035730      5$
6081 035724 035734      6$
6082 035726 035736      T9.63
6083
6084 035730 000605      5$:  KS.SUC+KC$STA+RDYO      ;LINK STATE = OFF
6085 035732 000000      0
6086
6087 035734 000603      6$:  KS.SUC+KC$ENB+RDYO      ;LINK STATE ON SET
6088
6089 035736      T9.63:
6090 035736 004737 013510  CALL    INIQIO      ;INIT QIO PROCESSING
6091 035742 012701 035776  MOV     #60$,R1     ;GET QIO PARAMETER ADDRESS IN R1
6092 035746 004737 015022  CALL    QIOP        ;PROCESS QIO
6093 035752 103002      BCC     1$         ;IF NO ERROR, EXIT
6094
6095 035754      EXIT    SUB
6096
6097 035760 012701 036010  1$:  MOV     #4$,R1     ;GET RESPONSE LIST ADDRESS
6098 035764 004737 011276  CALL    CHKRSP      ;THEN CHECK RESPONSES
6099 035770 103014      BCC     T9.64     ;IF CORRECT, PROCESS NEXT COMMAND
6100
6101 035772      EXIT    SUB
6102
6103      ; PARAMETERS FOR QIO PROCESSING
6104
6105 035776 036002      60$:  3$      ;IN LIST TABLE BASE ADDRESS
6106 036000 000764      500.      ;TIME OUT LENGTH(N*10 MS)
6107
6108      ; COMMAND LIST
6109
6110 036002      3$:
6111 036002 000002      2.
6112
6113 036004 000005      KC$STA      ;READ LINK STATE
6114
6115 036006 000007      KC$STR      ;THEN OPEN THE LINK
6116
6117      ; RESPONSE LIST
6118
6119 036010 000001      4$:  1

```

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```

6120 036012 036016          5$
6121 036014 036022          T9.64
6122
6123 036016 000605          5$:   KS.SUC+KC$STA+RDYO          ;LINK STATE = ON
6124 036020 000002          2
6125
6126 036022          T9.64:
6127 036022 004737 013510      CALL   INIQIO          ;INIT QIO PROCESSING
6128 036026 012701 036070      MOV    #60$,R1        ;GET QIO PARAMETER ADDRESS IN R1
6129 036032 004737 015022      CALL   QIOP           ;PROCESS QIO
6130 036036 103002          BCC    1$             ;IF NO ERROR, EXIT
6131
6132 036040          EXIT   SUB
6133
6134 036044 012701 036112      1$:   MOV    #4$,R1        ;GET RESPONSE LIST ADDRESS
6135 036050 012737 012724 012546  MOV    #TYP00,TSTF13 ;SET TEST TYPE FOR TRACE RESPONSE
6136 036056 004737 011276      CALL   CHKRSP         ;THEN CHECK RESPONSES
6137 036062 103050          BCC    T9.65         ;IF CORRECT, PROCESS NEXT COMMAND
6138
6139 036064          EXIT   SUB
6140
6141          ; PARAMETERS FOR QIO PROCESSING
6142
6143 036070 036074          60$:   3$             ;IN LIST TABLE BASE ADDRESS
6144 036072 000764          500.         ;TIME-OUT LENGTH(N*10 MS)
6145
6146          ; COMMAND LIST
6147
6148 036074          3$:
6149 036074 000005          5.
6150
6151 036076 000005          KC$STA        ;READ STATE
6152
6153 036100 000002          KC$GCH        ;GET CHARACTERISTICS
6154
6155 036102 000006          KC$CNT        ;GET COUNTS
6156 036104 000000          0           ; WITH NO RESET OF COUNT
6157
6158 036106 000013          KC$TRE        ;TRACE ENABLE
6159
6160 036110 000014          KC$TRD        ;TRACE DISABLE
6161
6162          ; RESPONSE LIST
6163
6164 036112 000004          4$:   4
6165 036114 036126          5$
6166 036116 036132          6$
6167 036120 036146          7$
6168 036122 036202          8$
6169 036124 036204          T9.65
6170
6171 036126 000605          5$:   KS.SUC+KC$STA+RDYO          ;CURRENT STATE = SYNC
6172 036130 000003          3
6173
6174 036132 000602          6$:   KS.SUC+KC$GCH+RDYO        ;SUCCESS FOR KC$GCH, PARAMETERS ARE:
6175 036134 007640          4000.       ; T1 = 100MS
6176 036136 000764          500.        ; T2 = 50MS

```

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```

6177 036140 061405          BIT14*BIT13.<3*400>.5
6178 036142 000200          128.
6179 036144 000144          100.
6180
6181 036146 000606          78: KS.SUC*MC&CNT*RDY0
6182 036150 000000          0
6183 036152 000000          0
6184 036154 000000          0
6185 036156 000000          0
6186 036160 000000          0
6187 036162 000000          0
6188 036164 000000          0
6189 036166 000000          0
6190 036170 000000          0
6191 036172 000000          0
6192 036174 000000          0
6193 036176 000000          0
6194 036200 000000          0
6195
6196 036202 000614          88: KS.SUC*MC&TRD*RDY0
6197
6198 036204          T9.65:
6199 036204          ENDSUB
6200
6201 036206          ENDTST

```

```

; I = 0 C.A = 1 K = 3 N2 = 5
; M1 = 128 BYTES
; T3 = 55
; SUCCESS FOR MC&CNT, PARAMETERS ARE:
; S7 = 0
; OUTERR = 0
; INERR = 0
; BS = 0.0
; BR = 0.0
; MS = 0
; MR = 0
; REMERR = 0
; LOCERR = 0
; REMTOUT = 0 LOCTOUT = 0
; REMBUFERR = 0 LOCBUFERR = 0
; TRACE DISABLED

```


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6259
6260
6261
6262
6263
6264
6265
6266
6267
6268
6269
6270
6271
6272
6273
6274
6275
6276
6277
6278 036210

```
;MODE:          APPLICATION MODE
;
;REPORTS:
;- ERROR 10000  KMV11 FAILS TO RESET MASTER CLEAR
;- ERROR 10001  RUN FUNCTION NOT CORRECTLY PFRFORMED
;- ERROR 10002  WRITE FUNCTION NOT CORRECTLY PERFORMED
;- ERROR 10003  READ FUNCTION NOT CORRECTLY PERFORMED
;- ERROR 10004  DATA COMPARE ERROR
;- ERROR 10005  UNEXPECTED INTERRUPT IN
;- ERROR 10006  UNEXPECTED INTERRUPT OUT
;- ERROR 10007  NO MORE INTERRUPT WHILE QIO PENDING
;- ERROR 10008  UNEXPECTED EPROM'S ON KMV
;- ERROR 10009  UNEXPECTED QIO RESPONSE
;- ERROR 10010  UNEXPECTED NUMBER OF RESPONSES RECEIVED
;- ERROR 10012  THIS TEST IS SKIPPED BECAUSE THERE IS AN EX
;                TERNAL LOOP
; ERROR 10013  LIST OF RESPONSES EXPECTED BUT NOT RECEIVED
;
;BADHEAD
;                ** TEST10 **
```

6279
6280
6281 036210
6282 036210 004737 013266
6283 036214 103406
6284
6285 036216 004737 013410
6286 036222 103403
6287
6288 036224 004737 014344
6289 036230 103002
6290
6291 036232
6292
6293
6294
6295 036236
6296 036236
6297 036240
6298 036252 004737 013510
6299 036256 012701 036312
6300 036262 004737 015022
6301 036266 103002
6302
6303 036270
6304
6305 036274 012701 036340
6306 036300 004737 011276
6307 036304 103024
6308
6309 036306
6310
6311
6312
6313 036312 036316
6314 036314 000764

```
BGNTST
CALL MODEO          ;SET APPLICATION MODE
BCS 1#              ;IF NOT CORRECTLY DONE

CALL LPBACK         ;CHECK LOOP BACK
BCS 1#              ;IF NOT

CALL RUNAPP         ;LOAD AND RUN APPLICATION
BCC 2#              ;IF CORRECTLY DONE

1#: EXIT TST

; SET LINK STATE = OFF THEN TEST

2#:
BGNSUB
EXSUB
CALL INIQIO         ;INIT QIO PROCESSING
MOV #60#,R1        ;GET QIO PARAMETER ADDRESS IN R1
CALL QIOP           ;PROCESS QIO
BCC 3#             ;IF NO ERROR, EXIT

EXIT SUB

3#: MOV #5#,R1      ;GET RESPONSE LIST ADDRESS
CALL CHKRSP        ;THEN CHECK RESPONSES
BCC T10.11        ;IF CORRECT, PROCESS NEXT COMMAND

EXIT SUB

; PARAMETERS FOR QIO PROCESSING

60#: 4#            ;IN LIST TABLE BASE ADDRESS
      500.         ;TIME OUT LENGTH(N*10 MS)
```

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```

6315
6316 ; COMMAND LIST
6317
6318 036316 4$:
6319 036316 000002 2.
6320 ;READ LINK STATE
6321 036320 000005 KC$STA
6322 ;SET CHARACTERISTICS FOR
6323 036322 000001 KC$SCH ;INTERNAL LOOP
6324 036324 003720 2000.
6325 036326 000764 500.
6326 036330 161412 BIT15*BIT14*BIT13.<3*400>*10.
6327 036332 000200 128.
6328 036334 000144 100.
6329 036336 000000 0
6330
6331 ; RESPONSE LIST
6332
6333 036340 000002 5$: 2
6334 036342 036350 6$
6335 036344 036354 7$
6336 03634 036356 T10.11
6337
6338 036350 000605 000000 6$: KS.SUC*KC$STA*RDY0,0 ;LINK STATE = OFF
6339
6340 036354 000601 7$: KS.SUC*KC$SCH*RDY0 ;SUCCESS FOR KC$SCH
6341
6342 036356 T10.11:
6343 036356 004737 013510 CALL INIQIO ;INIT QIO PROCESSING
6344 036362 012701 036424 MOV #60$,R1 ;GET QIO PARAMETER ADDRESS IN R1
6345 036366 004737 015022 CALL QIOP ;PROCESS QIO
6346 036372 103002 BCC 1$ ;IF NO ERROR, EXIT
6347
6348 036374 EXIT SUB
6349
6350 036400 012701 036454 1$: MOV #4$,R1 ;GET RESPONSE LIST ADDRESS
6351 036404 012737 012727 012546 MOV #TYP01,TSTF13 ;SET TEST TYPE FOR TRACE RESPONSE
6352 036412 004737 011276 CALL CHKRSP ;THEN CHECK RESPONSES
6353 036416 103032 BCC T10.12 ;IF CORRECT, PROCESS NEXT COMMAND
6354
6355 036420 EXIT SUB
6356
6357 ; PARAMETERS FOR QIO PROCESSING
6358
6359 036424 036430 60$: 3$ ;IN LIST TABLE BASE ADDRESS
6360 036426 000764 500. ;TIME-OUT LENGTH(N*10 MS)
6361
6362 ; COMMAND LIST
6363
6364 036430 3$:
6365 036430 000005 5.
6366 ;OPEN
6367 036432 000007 KC$STR
6368 ;CLOSE
6369 036434 000010 KC$STP
6370 ;STOP LINK
6371 036436 000004 KC$DIS

```

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```

6372
6373 036440 000011          KC#TRX          ; TRANSMIT BUFFER
6374 036442 004746          TXBUFO          ; BUFFER ADDRESS
6375 036444 000024          20.            ; BUFFER LENGTH
6376
6377 036446 000012          KC#RCV          ; RECEIVE BUFFER
6378 036450 002746          RXBUFO          ; BUFFER ADDRESS
6379 036452 000062          50.            ; BUFFER LENGTH
6380
6381          ; RESPONSE LIST
6382
6383 036454 000005          4#:           5          ;
6384 036456 036472          5#           5#          ;
6385 036460 036474          6#           6#          ;
6386 036462 036476          7#           7#          ;
6387 036464 036500          8#           8#          ;
6388 036466 036502          9#           9#          ;
6389 036470 036504          T10.12        ;
6390
6391 036472 175607          5#:           KE.SEQ#KC#STR#RDYO ; SEQUENCE ERROR FOR OPEN
6392
6393 036474 175610          6#:           KE.SEQ#KC#STP#RDYO ; SEQUENCE ERROR FOR CLOSE
6394
6395 036476 175604          7#:           KE.SEQ#KC#DIS#RDYO ; SEQUENCE ERROR FOR STOP LINK
6396
6397 036500 175611          8#:           KE.SEQ#KC#TRX#RDYO ; SEQUENCE ERROR FOR TRANSMIT
6398
6399 036502 175612          9#:           KC.SEQ#KC#RCV#RDYO ; SEQUENCE ERROR FOR RECEIVE
6400
6401
6402 036504          T10.12:
6403 036504          ENDSUB
6404
6405          ; SET LINK STATE = TRANSPARENT THEN TEST
6406
6407 036506          BGNSUB
6408 036510          EXSUB
6409 036522 004737 013510      CALL          INIQIO          ; INIT QIO PROCESSING
6410 036526 012701 036562      MOV          #60#,R1        ; GET QIO PARAMETER ADDRESS IN R1
6411 036532 004737 015022      CALL          QIOP          ; PROCESS QIO
6412 036536 103002          BCC          1#            ; IF NO ERROR, EXIT
6413
6414 036540          EXIT          SUB
6415
6416 036544 012701 036576      1#:          MOV          #4#,R1        ; GET RESPONSE LIST ADDRESS
6417 036550 004737 011276      CALL          CHKRSP        ; THEN CHECK RESPONSES
6418 036554 103017          BCC          T10.21        ; IF CORRECT, PROCESS NEXT COMMAND
6419
6420 036556          EXIT          SUB
6421
6422          ; PARAMETERS FOR QIO PROCESSING
6423
6424 036562 036566          60#:         3#            ; IN LIST TABLE BASE ADDRESS
6425 036564 000764          500.         ; TIME OUT LENGTH(N*10 MS)
6426
6427          ; COMMAND LIST
6428

```

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```

6429 036566          3$:
6430 036566 000002          2.
6431
6432 036570 000005          KC$STA          ;LINK STATE
6433
6434 036572 000003          KC$ENB          ;INIT LINK FOR
6435 036574 000001          1          ; STATE = TRANSPARENT
6436
6437          ; RESPONSE LIST
6438
6439 036576 000002          4$:          2
6440 036600 036606          5$
6441 036602 036612          6$
6442 036604 036614          T10.21
6443
6444 036606 000605          5$:          KS.SUC.KC$STA.RDYO          ;LINK STATE = OFF
6445 036610 000000          0
6446
6447 036612 000603          6$:          KS.SUC.KC$ENB.RDYO          ;SUCCESS FOR KC$ENB
6448
6449 036614          T10.21:
6450 036614 004737 013510          CALL          INIQIO          ;INIT QIO PROCESSING
6451 036620 012701 036662          MOV          #60$,R1          ;GET QIO PARAMETER ADDRESS IN R1
6452 036624 004737 015022          CALL          QIOP          ;PROCESS QIO
6453 036630 103002          BCC          1$          ;IF NO ERROR, EXIT
6454
6455 036632          EXIT          SUB
6456
6457 036636 012701 036720          1$:          MOV          #4$,R1          ;GET RESPONSE LIST ADDRESS
6458 036642 012737 012727 012546          MOV          #TYP01,TSTF13          ;SET TEST TYPE FOR TRACE RESPONSE
6459 036650 004737 011276          CALL          CHKRSP          ;THEN CHECK RESPONSES
6460 036654 103036          BCC          T10.22          ;IF CORRECT, PROCESS NEXT COMMAND
6461
6462 036656          EXIT          SUB
6463
6464          ; PARAMETERS FOR QIO PROCESSING
6465
6466 036662 036666          60$:          3$          ;IN LIST TABLE BASE ADDRESS
6467 036664 000764          500.          ;TIME-OUT LENGTH(N*10 MS)
6468
6469          ; COMMAND LIST
6470
6471 036666 000005          3$:          5.
6472
6473 036670 000005          KC$STA          ;READ LINK STATE
6474
6475 036672 000001          KC$SCH          ;SET CHARACTERISTICS FOR
6476 036674 000144          100.          ;INTERNAL LOOP
6477 036676 000062          50.
6478 036700 161412          BIT15.BIT14.BIT13.<3*400>.10.
6479 036702 000200          128.
6480 036704 000005          5
6481 036706 000000          0
6482
6483 036710 000003          KC$ENB          ;INIT LINK
6484 036712 000000          0          ; FOR STATE = ON
6485

```

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```

6486 036714 000007          KC#STR          ;OPEN
6487
6488 036716 000010          KC#STP          ;CLOSE
6489
6490          ; RESPONSE LIST
6491
6492 036720 000005      4#:      5
6493 036722 036736          5#
6494 036724 036742          6#
6495 036726 036744          7#
6496 036730 036746          8#
6497 036732 036750          9#
6498 036734 036752          T10.22
6499
6500 036736 000605      5#:      KS.SUC#KC#STA#RDYD          ;CURRENT LINK STATE = TRANSPARENT
6501 036740 000005          5
6502
6503 036742 175601      6#:      KE.SEQ#KC#SCH#RDYD          ;SEQUENCE ERROR FOR SET CHARACTERISTIC
6504
6505 036744 175603      7#:      KE.SEQ#KC#ENB#RDYD          ;SEQUENCE ERROR FOR INIT LINK
6506
6507 036746 175607      8#:      KE.SEQ#KC#STR#RDYD          ;SEQUENCE ERROR FOR OPEN
6508
6509 036750 175610      9#:      KE.SEQ#KC#STP#RDYD          ;SEQUENCE ERROR FOR CLOSE
6510
6511 036752          T10.22:
6512 036752          ENDSUB
6513
6514          ; SET STATE = NOT READY THEN TEST
6515
6516 036754          BGNSUB
6517 036756          EXSUB
6518 036770 004737 013510      CALL      INIQIO          ;INIT QIO PROCESSING
6519 036774 012701 037030      MOV      #60#,R1          ;GET QIO PARAMETER ADDRESS IN R1
6520 037000 004737 015022      CALL      QIOP          ;PROCESS QIO
6521 037004 103002          BLC      1#          ;IF NO ERROR, EXIT
6522
6523 037006          EXIT      SUB
6524
6525 037012 012701 037042      1#:      MOV      #4#,R1          ;GET RESPONSE LIST ADDRESS
6526 037016 004737 011276      CALL      CHKRSP          ;THEN CHECK RESPONSES
6527 037022 103016          BCC      T10.31          ;IF CORRECT, PROCESS NEXT COMMAND
6528
6529 037024          EXIT      SUB
6530
6531          ; PARAMETERS FOR QIO PROCESSING
6532
6533 037030 037034      60#:      3#          ;IN LIST TABLE BASE ADDRESS
6534 037032 000764          500.          ;TIME OUT LENGTH(N*10 MS)
6535
6536          ; COMMAND LIST
6537
6538 037034      3#:          2.
6539 037034 000002
6540
6541 037036 000005          KC#STA          ;LINK STATE
6542

```

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```

6543 037040 000004          KC#DIS          ;STOP LINK
6544
6545          ; RESPONSE LIST
6546
6547 037042 000002          4#: 2
6548 037044 037052          5#
6549 037046 037056          6#
6550 037050 037060          T10.31
6551
6552 037052 000605 000005          5#: KS.SUC.KC#STA.RDY0,5          ;LINK STATE = TRANSPARENT
6553
6554 037056 000604          6#: KS.SUC.KC#DIS.RDY0          ;LINK STOPPED
6555
6556 037060          T10.31:
6557 037060 012700 037076          MOV      #7#,R0          ;SET POINTER
6558 037064 004737 015226          CALL     SETCH          ;SET CHARACTERISTICS
6559 037070 103010          BCC      CHSET9          ;IF NO ERROR,CONTINUE
6560
6561 037072          EXIT     SUB
6562
6563 037076          7#:          ;PARAMETER LIST
6564 037076 003720          2000.          ;T1
6565 037100 000764          500.          ;T2
6566 037102 161412          BIT15.BIT14.BIT13.<3*400>.10.          ;L,C,A=1 K=3 N2=10
6567 037104 000200          128.          ;N1
6568 037106 000144          100.          ;T3
6569 037110 000000          0          ;
6570
6571 037112          CHSET9:
6572
6573 037112 004737 013510          CALL     INIQIO          ;INIT QIO PROCESSING
6574 037116 012701 037152          MOV      #60#,R1          ;GET QIO PARAMETER ADDRESS IN R1
6575 037122 004737 015022          CALL     QIOP          ;PROCESS QIO
6576 037126 103002          BCC      1#          ;IF NO ERROR, EXIT
6577
6578 037130          EXIT     SUB
6579
6580 037134 012701 037166          1#: MOV      #4#,R1          ;GET RESPONSE LIST ADDRESS
6581 037140 004737 011276          CALL     CHKRSP          ;THEN CHECK RESPONSES
6582 037144 103017          BCC      T10.32          ;IF CORRECT, PROCESS NEXT COMMAND
6583
6584 037146          EXIT     SUB
6585
6586          ; PARAMETERS FOR QIO PROCESSING
6587
6588 037152 037156          60#: 3#          ;IN LIST TABLE BASE ADDRESS
6589 037154 000764          500.          ;TIME-OUT LENGTH(N*10 MS)
6590
6591          ; COMMAND LIST
6592
6593 037156          3#: 2.
6594 037156 000002
6595
6596 037160 000005          KC#STA          ;LINK STATE
6597
6598 037162 000003          KC#ENB          ;INIT LINK
6599 037164 000002          2          ; STATE = NOT READY

```

```

6600
6601 ; RESPONSE LIST
6602
6603 037166 000002 4$: 2
6604 037170 037176 5$
6605 037172 037202 6$
6606 037174 037204 T10.32
6607
6608 037176 000605 000000 5$: KS.SUC.KC$STA.RDY0,0 ;LINK STATE = OFF
6609
6610 037202 000603 6$: KS.SUC.KC$ENB.RDY0 ;LINK IS NOW NOT READY
6611
6612 037204 T10.32:
6613 037204 004737 013510 CALL INIQIO ;INIT QIO PROCESSING
6614 037210 012701 037252 MOV #60$,R1 ;GET QIO PARAMETER ADDRESS IN R1
6615 037214 004737 015022 CALL QIOP ;PROCESS QIO
6616 037220 103002 BCC 1$ ;IF NO ERROR, EXIT
6617
6618 037222 EXIT SUB
6619
6620 037226 012701 037316 1$: MOV #4$,R1 ;GET RESPONSE LIST ADDRESS
6621 037232 012737 012727 012546 MOV #TYP01,TSTF13 ;SET TEST TYPE FOR TRACE RESPONSE
6622 037240 004737 011276 CALL CHKRSP ;THEN CHECK RESPONSES
6623 037244 103041 BCC T10.33 ;IF CORRECT, PROCESS NEXT COMMAND
6624
6625 037246 EXIT SUB
6626
6627 ; PARAMETERS FOR QIO PROCESSING
6628
6629 037252 037256 60$: 3$ ;IN LIST TABLE BASE ADDRESS
6630 037254 000764 500. ;TIME-OUT LENGTH(N*10 MS)
6631
6632 ; COMMAND LIST
6633
6634 037256 3$:
6635 037256 000005 5.
6636
6637 037260 000005 KC$STA ;READ LINK STATE
6638
6639 037262 000001 KC$SCH ;SET CHARACTERISTICS FOR
6640 037264 000144 100. ;INTERNAL LOOP
6641 037266 000062 50.
6642 037270 161412 BIT15.BIT14.BIT13.<3*400>.10.
6643 037272 000200 128.
6644 037274 000005 5
6645 037276 000000 0
6646
6647 037300 000010 KC$STP ;CLOSE
6648
6649 037302 000011 KC$TRX ;TRANSMIT BUFFER
6650 037304 004746 TXBUFO ; BUFFER ADDRESS
6651 037306 000024 20. ; BUFFER LENGTH
6652
6653 037310 000012 KC$RCV ;RECEIVE BUFFER
6654 037312 002746 RXBUFO ; BUFFER ADDRESS
6655 037314 000062 50. ; BUFFER LENGTH
6656

```

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```

6657 ; RESPONSE LIST
6658
6659 037316 000005 4$: 5
6660 037320 037334 5$
6661 037322 037340 6$
6662 037324 037342 7$
6663 037326 037344 8$
6664 037330 037346 9$
6665 037332 037350 T10.33
6666
6667 037334 000605 5$: KS.SUC.KC$STA.RDY0 ;CURRENT LINK STATE = NOT READY
6668 037336 000001 1
6669
6670 037340 175601 6$: KE.SEQ.KC$SCH.RDY0 ;SEQUENCE ERROR FOR SET CHARACTERISTIC
6671
6672 037342 175610 7$: KE.SEQ.KC$STP.RDY0 ;SEQUENCE ERROR FOR CLOSE
6673
6674 037344 175611 8$: KE.SEQ.KC$TRX.RDY0 ;SEQUENCE ERROR FOR TRANSMIT
6675
6676 037346 175612 9$: KE.SEQ.KC$RCV.RDY0 ;SEQUENCE ERROR FOR RECEIVE
6677
6678 037350 T10.33:
6679 037350 ENDSUB
6680
6681 ; SET LINK STATE = ON THEN TEST
6682
6683 037352 BGNSUB
6684 037354 EXSUB
6685 037366 004737 013510 CALL INIQIO ;INIT QIO PROCESSING
6686 037372 012701 037426 MOV #60$,R1 ;GET QIO PARAMETER ADDRESS IN R1
6687 037376 004737 015022 CALL QIOP ;PROCESS QIO
6688 037402 103002 BCC 1$ ;IF NO ERROR, EXIT
6689
6690 037404 EXIT SUB
6691
6692 037410 012701 037442 1$: MOV #4$,R1 ;GET RESPONSE LIST ADDRESS
6693 037414 004737 011276 CALL CHKRSP ;THEN CHECK RESPONSES
6694 037420 103017 BCC T10.41 ;IF CORRECT, PROCESS NEXT COMMAND
6695
6696 037422 EXIT SUB
6697
6698 ; PARAMETERS FOR QIO PROCESSING
6699
6700 037426 037432 60$: 3$ ;IN LIST TABLE BASE ADDRESS
6701 037430 000764 500. ;TIME-OUT LENGTH(N*10 MS)
6702
6703 ; COMMAND LIST
6704
6705 037432 3$:
6706 037432 000002 2.
6707
6708 037434 000005 KC$STA ;LINK STATE
6709
6710 037436 000003 KC$ENB ;INIT LINK
6711 037440 000000 0 ; FOR STATE = ON
6712
6713 ; RESPONSE LIST

```

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```

6714
6715 037442 000002          4$: 2
6716 037444 037452          5$
6717 037446 037456          6$
6718 037450 037460          T10.41
6719
6720 037452 000605 000001  5$: KS.SUC.KC$STA.RDY0.1 ;LINK STATE = NOT READY
6721
6722 037456 000603          6$: KS.SUC.KC$ENB.RDY0 ;SUCCESS FOR KC$ENB
6723
6724 037460          T10.41:
6725 037460 004737 013510      CALL INIQIO ;INIT QIO PROCESSING
6726 037464 012701 037526      MOV #60$,R1 ;GET QIO PARAMETER ADDRESS IN R1
6727 037470 004737 015022      CALL QIOP ;PROCESS QIO
6728 037474 103002          BCC 1$ ;IF NO ERROR, EXIT
6729
6730 037476          EXIT SUB
6731
6732 037502 012701 037576          1$: MOV #4$,R1 ;GET RESPONSE LIST ADDRESS
6733 037506 012737 012727 012546  MOV #TYP01,TSTF13 ;SET TEST TYPE FOR TRACE RESPONSE
6734 037514 004737 011276          CALL CHKRSP ;THEN CHECK RESPONSES
6735 037520 103045          BCC T10.42 ;IF CORRECT, PROCESS NEXT COMMAND
6736
6737 037522          EXIT SUB
6738
6739          ; PARAMETERS FOR QIO PROCESSING
6740
6741 037526 037532          60$: 3$ ;IN LIST TABLE BASE ADDRESS
6742 037530 000764          500. ;TIME-OUT LENGTH(N*10 MS)
6743
6744          ; COMMAND LIST
6745
6746 037532          3$:
6747 037532 000006          6.
6748
6749 037534 000005          KC$STA ;READ LINK STATE
6750
6751 037536 000001          KC$SCH ;SET CHARACTERISTICS FOR
6752 037540 000144          100. ;INTERNAL LOOP
6753 037542 000062          50.
6754 037544 161412          BIT15.BIT14.BIT13.<3*400>.10.
6755 037546 000200          128.
6756 037550 000005          5
6757 037552 000000          0
6758
6759 037554 000003          KC$ENB ;INIT LINK
6760 037556 000000          0 ;FOR STATE = ON
6761
6762 037560 000010          KC$STP ;CLOSE
6763
6764 037562 000011          KC$TRX ;TRANSMIT BUFFER
6765 037564 004746          TXBUFO ; BUFFER ADDRESS
6766 037566 000024          20. ; BUFFER LENGTH
6767
6768 037570 000012          KC$RCV ;RECEIVE BUFFER
6769 037572 002746          RXBUFO ; BUFFER ADDRESS
6770 037574 000062          50. ; BUFFER LENGTH

```

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```

6771
6772 ; RESPONSE LIST
6773
6774 037576 000006 4$: 6
6775 037600 037616 5$
6776 037602 037622 6$
6777 037604 037624 7$
6778 037606 037626 8$
6779 037610 037630 9$
6780 037612 037632 10$
6781 037614 037634 T10.42
6782
6783 037616 000605 5$: KS.SUC.KC$STA.RDYO ;CURRENT LINK STATE = ON
6784 037620 000002 2
6785
6786 037622 175601 6$: KE.SEQ.KC$SCH.RDYO ;SEQUENCE ERROR FOR SET CHARACTERISTIC
6787
6788 037624 175603 7$: KE.SEQ.KC$ENB.RDYO ;SEQUENCE ERROR FOR INIT LINK
6789
6790 037626 175610 8$: KE.SEQ.KC$STP.RDYO ;SEQUENCE ERROR FOR CLOSE
6791
6792 037630 175611 9$: KE.SEQ.KC$TRX.RDYO ;SEQUENCE ERROR FOR TRANSMIT
6793
6794 037632 175612 10$: KE.SEQ.KC$RCV.RDYO ;SEQUENCE ERROR FOR RECEIVE
6795
6796
6797 037634 T10.42:
6798 037634 ENDSUB
6799
6800 ; SET LINK STATE = RUNNING THEN TEST
6801
6802 037636 BGNSUB
6803 037640 EXSUB
6804 037652 004737 013510 CALL INIQIO ;INIT QIO PROCESSING
6805 037656 012701 037712 MOV #60$,R1 ;GET QIO PARAMETER ADDRESS IN R1
6806 037662 004737 015022 CALL QIOP ;PROCESS QIO
6807 037666 103002 BCC 1$ ;IF NO ERROR, EXIT
6808
6809 037670 EXIT SUB
6810
6811 037674 012701 037724 1$: MOV #4$,R1 ;GET RESPONSE LIST ADDRESS
6812 037700 004737 011276 CALL CHKRSP ;THEN CHECK RESPONSES
6813 037704 103016 BCC T10.51 ;IF CORRECT, PROCESS NEXT COMMAND
6814
6815 037706 EXIT SUB
6816
6817 ; PARAMETERS FOR QIO PROCESSING
6818
6819 037712 037716 60$: 3$ ;IN LIST TABLE BASE ADDRESS
6820 037714 000764 500. ;TIME-OUT LENGTH(N*10 MS)
6821
6822 ; COMMAND LIST
6823
6824 037716 3$:
6825 037716 000002 2.
6826
6827 037720 000005 KC$STA ;LINK STATE

```

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```

6828
6829 037722 000007          KC$STR          ;OPEN
6830
6831          ; RESPONSE LIST
6832
6833 037724 000002          4$:          2
6834 037726 037734                   5$
6835 037730 037740                   6$
6836 037732 037742                   T10.51
6837
6838 037734 000605          5$:          KS.SUC+KC$STA+RDYO          ;LINK STATE = ON
6839 037736 000002                   2
6840
6841 037740 000607          6$:          KS.SUC+KC$STR+RDYO          ;SUCCESS FOR KC$STR
6842
6843 037742          T10.51:
6844 037742 004737 013510          CALL          INIQIO          ;INIT QIO PROCESSING
6845 037746 012701 040010          MOV          #60$,R1          ;GET QIO PARAMETER ADDRESS IN R1
6846 037752 004737 015022          CALL          QIOP          ;PROCESS QIO
6847 037756 103002          BCC          1$          ;IF NO ERROR, EXIT
6848
6849 037760          EXIT          SUB
6850
6851 037764 012701 040044          1$:          MOV          #4$,R1          ;GET RESPONSE LIST ADDRESS
6852 037770 012737 012727 012546          MOV          #TYP01,TSTF13          ;SET TEST TYPE FOR TRACE RESPONSE
6853 037776 004737 011276          CALL          CHKRSR          ;THEN CHECK RESPONSES
6854 040002 103033          BCC          T10.52          ;IF CORRECT, PROCESS NEXT COMMAND
6855
6856 040004          EXIT          SUB
6857
6858          ; PARAMETERS FOR QIO PROCESSING
6859
6860 040010 040014          60$:          3$          ;IN LIST TABLE BASE ADDRESS
6861 040012 000764                   500.          ;TIME OUT LENGTH(N*10 MS)
6862
6863          ; COMMAND LIST
6864
6865 040014          3$:
6866 040014 000004                   4.
6867
6868 040016 000005          KC$STA          ;READ LINK STATE
6869
6870 040020 000001          KC$SCH          ;SET CHARACTERISTICS FOR
6871 040022 000144          100.          ;INTERNAL LOOP
6872 040024 000062          50.
6873 040026 161412          BIT15+BIT14+BIT13+<3*400>+10.
6874 040030 000200          128.
6875 040032 000005          5
6876 040034 000000          0
6877
6878 040036 000003          KC$ENB          ;INIT LINK
6879 040040 000000          0          ; FOR STATE = ON
6880
6881 040042 000007          KC$STR          ;OPEN
6882
6883          ; RESPONSE LIST
6884

```

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```

6885 040044 000004      4:      4
6886 040046 040060      5:      5
6887 040050 040064      6:      6
6888 040052 040066      7:      7
6889 040054 040070      8:      8
6890 040056 040072     T10.52
6891
6892 040060 000605      5:      KS.SUC.KC#STA.RDY0      ;CURRENT LINK STATE - PUMPING
6893 040062 000004      4
6894
6895 040064 175601      6:      KE.SEQ.KC#SCH.RDY0      ;SEQUENCE ERROR FOR SET CHARACTERISTIC
6896
6897 040066 175603      7:      KE.SEQ.KC#ENB.RDY0      ;SEQUENCE ERROR FOR INIT LINK
6898
6899 040070 175607      8:      KE.SEQ.KC#STR.RDY0      ;SEQUENCE ERROR FOR OPEN
6900
6901 040072     T10.52:
6902 040072     ENDSUB
6903
6904      ;      SET LINK STATE - SYNC THEN TEST
6905
6906 040074     BGNSUB
6907 040076     EXSUB
6908 040110 004737 013510     CALL      INIQIO      ;INIT QIO PROCESSING
6909 040114 012701 04C150     MOV      #60,R1      ;GET QIO PARAMETER ADDRESS IN R1
6910 040120 004737 015022     CALL      QIOP      ;PROCESS QIO
6911 040124 103002     BCC      1#      ;IF NO ERROR, EXIT
6912
6913 040126     EXIT      SUB
6914
6915 040132 012701 040162     1#:      MOV      #4,R1      ;GET RESPONSE LIST ADDRESS
6916 040136 004737 011276     CALL      CHKRSR      ;THEN CHECK RESPONSES
6917 040142 103016     BCC      T10.61      ;IF CORRECT, PROCESS NEXT COMMAND
6918
6919 040144     EXIT      SUB
6920
6921      ; PARAMETERS FOR QIO PROCESSING
6922
6923 040150 040154     60#:      3#      ;IN LIST TABLE BASE ADDRESS
6924 040152 000764     500.      ;TIME OUT LENGTH(N*10 MS)
6925
6926      ; COMMAND LIST
6927
6928 040154     3#:      2.
6929 040154 000002
6930
6931 040156 000005      KC#STA      ;READ LINK STATE
6932
6933 040160 000064      KC#DIS      ;STOP LINK
6934
6935      ; RESPONSE LIST
6936
6937 040162 000002      4:      2
6938 040164 040172      5:      5
6939 040166 040176      6:      6
6940 040170 040200     T10.61
6941

```

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```

6942 040172 000605      5#:   KS.SUC.KC#STA.RDY0      ;LINK STATE = RUNNING
6943 040174 000004      4
6944
6945 040176 000604      6#:   KS.SUC.KC#DIS.RDY0      ;LINE STOPPED NOW
6946
6947 040200
6948 040200 004737 013510      T10.61: CALL   INIQIO      ;INIT QIO PROCESSING
6949 040204 012701 040240      MOV    #60#,R1      ;GET QIO PARAMETER ADDRESS IN R1
6950 040210 004737 015022      CALL   QIOP          ;PROCESS QIO
6951 040214 103002      BCC    1#           ;IF NO ERROR, EXIT
6952
6953 040216      EXIT   SUB
6954
6955 040222 012701 040266      1#:   MOV    #4#,R1      ;GET RESPONSE LIST ADDRESS
6956 040226 004737 011276      CALL   CHKRSR        ;THEN CHECK RESPONSES
6957 040232 103024      BCC    T10.62       ;IF CORRECT, PROCESS NEXT COMMAND
6958
6959 040234      EXIT   SUB
6960
6961      ; PARAMETERS FOR QIO PROCESSING
6962
6963 040240 040244      60#:   3#           ;IN LIST TABLE BASE ADDRESS
6964 040242 000764      500.   ;TIME-OUT LENGTH(N*10 MS)
6965
6966      ; COMMAND LIST
6967
6968 040244      3#:
6969 040244 000002      2.
6970
6971 040246 000005      KC#STA      ;READ LINK STATE
6972
6973 040250 000001      KC#SCH      ;SET CHARACTERISTICS FOR
6974 040252 003720      2000.      ;FOR NO LOOP BACK
6975 040254 000764      500.
6976 040256 061462      BIT14*BIT13.<3*400>.50.
6977 040260 000200      128.
6978 040262 000144      100.
6979 040264 000000      0
6980
6981      ; RESPONSE LIST
6982
6983 040266 000002      4#:   2
6984 040270 040276      5#
6985 040272 040302      6#
6986 040274 040304      T10.62
6987
6988 040276 000605      5#:   KS.SUC.KC#STA.RDY0      ;LINK STATE = OFF
6989 040300 000000      0
6990
6991 040302 000601      6#:   KS.SUC.KC#SCH.RDY0      ;SUCCESS FOR KC#SCH
6992
6993 040304
6994 040304 004737 013510      T10.62: CALL   INIQIO      ;INIT QIO PROCESSING
6995 040310 012701 040344      MOV    #60#,R1      ;GET QIO PARAMETER ADDRESS IN R1
6996 040314 004737 015022      CALL   QIOP          ;PROCESS QIO
6997 040320 103002      BCC    1#           ;IF NO ERROR, EXIT
6998

```

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```

6999 040322          EXIT  SUB
7000
7001 040326 012701 040360 1$:  MOV  #4$,R1      ;GET RESPONSE LIST ADDRESS
7002 040332 004737 011276      CALL  CHKRSP      ;THEN CHECK RESPONSES
7003 040336 103017              BCC   T10.63     ;IF CORRECT, PROCESS NEXT COMMAND
7004
7005 040340          EXIT  SUB
7006
7007          ; PARAMETERS FOR QIO PROCESSING
7008
7009 040344 040350 60$:  3$      ;IN LIST TABLE BASE ADDRESS
7010 040346 000764          500.  ;TIME OUT LENGTH(N*10 MS)
7011
7012          ; COMMAND LIST
7013
7014 040350 3$:
7015 040350 000002          2.
7016
7017 040352 000005          KC$STA      ;READ LINK STATE
7018
7019 040354 000003          KC$ENB      ;INIT LINK
7020 040356 000000          0          ; FOR LINK STATE = ON
7021
7022          ; RESPONSE LIST
7023
7024 040360 000002 4$:  2
7025 040362 040370          5$
7026 040364 040374          6$
7027 040366 040376          T10.63
7028
7029 040370 000605 5$:  KS.SUC+KC$STA+RDY0      ;LINK STATE = OFF
7030 040372 000000          0
7031
7032 040374 000603 6$:  KS.SUC+KC$ENB+RDY0      ;LINK STATE ON SET
7033
7034 040376 T10.63:
7035 040376 004737 013510      CALL  INIQIO      ;INIT QIO PROCESSING
7036 040402 012701 040436      MOV   #60$,R1    ;GET QIO PARAMETER ADDRESS IN R1
7037 040406 004737 015022      CALL  QIOP       ;PROCESS QIO
7038 040412 103002          BCC   1$         ;IF NO ERROR, EXIT
7039
7040 040414          EXIT  SUB
7041
7042 040420 012701 040450 1$:  MOV   #4$,R1      ;GET RESPONSE LIST ADDRESS
7043 040424 004737 011276      CALL  CHKRSP      ;THEN CHECK RESPONSES
7044 040430 103014          BCC   T10.64     ;IF CORRECT, PROCESS NEXT COMMAND
7045
7046 040432          EXIT  SUB
7047
7048          ; PARAMETERS FOR QIO PROCESSING
7049
7050 040436 040442 60$:  3$      ;IN LIST TABLE BASE ADDRESS
7051 040440 000764          500.  ;TIME OUT LENGTH(N*10 MS)
7052
7053          ; COMMAND LIST
7054
7055 040442 3$:

```

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```

7056 040442 000002          2.
7057
7058 040444 000005          KC#STA          ;READ LINK STATE
7059
7060 040446 000007          KC#STR          ;THEN OPEN THE LINK
7061
7062          ; RESPONSE LIST
7063
7064 040450 000001          4$:          1
7065 040452 040456          5$:          5$
7066 040454 040462          T10.64
7067
7068 040456 000605          5$:          KS.SUC.KC#STA.RDY0
7069 040460 000002          2
7070
7071 040462          T10.64:
7072 040462 004737 013510          CALL          INIQIO          ;INIT QIO PROCESSING
7073 040466 012701 040530          MOV          #60,R1          ;GET QIO PARAMETER ADDRESS IN R1
7074 040472 004737 015022          CALL          QIOP          ;PROCESS QIO
7075 040476 103002          BCC          1$          ;IF NO ERROR, EXIT
7076
7077 040500          EXIT          SUB
7078
7079 040504 012701 040600          1$:          MOV          #4,R1          ;GET RESPONSE LIST ADDRESS
7080 040510 012737 012727 012546          MOV          #TYP01,TSTF13          ;SET TEST TYPE FOR TRACE RESPONSE
7081 040516 004737 011276          CALL          CHKRSP          ;THEN CHECK RESPONSES
7082 040522 103045          BCC          T10.65          ;IF CORRECT, PROCESS NEXT COMMAND
7083
7084 040524          EXIT          SUB
7085
7086          ; PARAMETERS FOR QIO PROCESSING
7087
7088 040530 040534          60.:          3$          ;IN LIST TABLE BASE ADDRESS
7089 040532 000764          500.          ;TIME OUT LENGTH(N*10 MS)
7090
7091          ; COMMAND LIST
7092
7093 040534          3$:
7094 040534 000006          6.
7095
7096 040536 000005          KC#STA          ;READ LINK STATE
7097
7098 040540 000001          KC#SCH          ;SET CHARACTERISTICS FOR
7099 040542 000144          100.          ;INTERNAL LOOP
7100 040544 000062          50.
7101 040546 161412          BIT15.BIT14.BIT13.<3*400>.10.
7102 040550 000200          128.
7103 040552 000005          5
7104 040554 000000          0
7105
7106 040556 000003          KC#ENB          ;INIT LINK
7107 040560 000000          0          ; FOR STATE = ON
7108
7109 040562 000007          KC#STR          ;OPEN
7110
7111 040564 000011          KC#TRX          ;TRANSMIT BUFFER
7112 040566 004746          TXBUFO          ; BUFFER ADDRESS

```

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7113	040570	000024	20.	; BUFFER LENGTH
7114				
7115	040572	000012	KC#RCV	;RECEIVE BUFFER
7116	040574	002746	RXBUFO	; BUFFER ADDRESS
7117	040576	000062	50.	; BUFFER LENGTH
7118				
7119			; RESPONSE LIST	
7120				
7121	040600	000006	4\$: 6	
7122	040602	040620	5\$	
7123	040604	040624	6\$	
7124	040606	040626	7\$	
7125	040610	040630	8\$	
7126	040612	040632	9\$	
7127	040614	040634	10\$	
7128	040616	040636	T10.65	
7129				
7130	040620	000605	5\$: KS.SUC.KC#STA.RDY0	;CURRENT LINK STATE = SYNC
7131	040622	000003	3	
7132				
7133	040624	175601	6\$: KE.SEQ.KC#SCH.RDY0	;SEQUENCE ERROR FOR SET CHARACTERISTIC
7134				
7135	040626	175603	7\$: KE.SEQ.KC#ENB.RDY0	;SEQUENCE ERROR FOR INIT LINK
7136				
7137	040630	175607	8\$: KE.SEQ.KC#STR.RDY0	;SEQUENCE ERROR FOR OPEN
7138				
7139	040632	175611	9\$: KE.SEQ.KC#TRX.RDY0	;SEQUENCE ERROR FOR TRANSMIT
7140				
7141	040634	175612	10\$: KE.SEQ.KC#RCV.RDY0	;SEQUENCE ERROR FOR RECEIVE
7142				
7143	040636		T10.65:	
7144	040636		ENDSUB	
7145				
7146	040640		ENDTST	

7204
7205
7206
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7220
7221
7222
7223
7224
7225
7226
7227
7228 040642

7229
7230
7231 040642
7232 040642 004737 013266
7233 040646 103406
7234
7235 040650 004737 013410
7236 040654 103403
7237
7238 040656 004737 014344
7239 040662 103002
7240
7241 040664
7242
7243
7244
7245 040670
7246 040670
7247 040672
7248 040704 004737 013510
7249 040710 012701 040744
7250 040714 004737 015022
7251 040720 103002
7252
7253 040722
7254
7255 040726 012701 040776
7256 040732 004737 011276
7257 040736 103030
7258
7259 040740

```

;
; TRANSMITTED
; - NON EXISTENT MEMORY FOR ONE TRANSMIT AND RE
; CEIVE BUFFERS. THE FAULT MEMORY ADDRESS IS
; RETURNED IN SEL4 AND BSEL6
;
;MODE: APPLICATION MODE
;
;REPORTS:
;
;- ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
;- ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
;- ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
;- ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
;- ERROR 10004 DATA COMPARE ERROR
;- ERROR 10005 UNEXPECTED INTERRUPT IN
;- ERROR 10006 UNEXPECTED INTERRUPT OUT
;- ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING
;- ERROR 10008 UNEXPECTED EPROM'S ON KMV
;- ERROR 10009 UNEXPECTED QIO RESPONSE
;- ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
;- ERROR 10012 THIS TEST IS SKIPPED BECAUSE THERE IS AN EX
; TERNAL LOOP
;- ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED
;
;BADHEAD
;
; ** TEST11 **
;
;
;BGNTST
;
;CALL MODEO ;SET APPLICATION MODE
;BCS 1$ ;IF NOT CORRECTLY DONE
;
;CALL LPBACK ;CHECK LOOP BACK
;BCS 1$ ;IF NOT
;
;CALL RUNAPP ;LOAD AND RUN APPLICATION
;BCC 2$ ;IF CORRECTLY DONE
;
;1$: EXIT TST
;
; TEST OF BUFFER OVERFLOW
;
;2$:
;BGNSUB
;EXSUB
;CALL INIQIO ;INIT QIO PROCESSING
;MOV #60$,R1 ;GET QIO PARAMETER ADDRESS IN R1
;CALL QIOP ;PROCESS QIO
;BCC 3$ ;IF NO ERROR, EXIT
;
;EXIT SUB
;
;3$: MOV #5$,R1 ;GET RESPONSE LIST ADDRESS
;CALL CHKRSP ;THEN CHECK RESPONSES
;BCC T11.11 ;IF CORRECT, PROCESS NEXT COMMAND
;
;EXIT SUB

```

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```

7260
7261      ; PARAMETERS FOR QIO PROCESSING
7262
7263 040744 040750      60$: 4$      ; IN LIST TABLE BASE ADDRESS
7264 040746 000764      500.      ; TIME OUT LENGTH(N*10 MS)
7265
7266      ; COMMAND LIST
7267
7268 040750      4$: 3.
7269 040750 000003      3.
7270
7271 040752 000005      KC$STA      ; LINK STATE
7272
7273 040754 000001      KC$SCH      ; SET CHARACTERISTICS FOR
7274 040756 003720      2000.      ; INTERNAL LOOP
7275 040760 000764      500.
7276 040762 161412      BIT15*BIT14*BIT13*(<3*400>*10.
7277 040764 000200      128.
7278 040766 000144      100.
7279 040770 000000      0
7280
7281 040772 000003      KC$ENB      ; INIT LINK
7282 040774 000000      0      ; FOR STATE = ON
7283
7284      ; RESPONSE LIST
7285
7286 040776 000003      5$: 3
7287 041000 041010      6$
7288 041002 041014      7$
7289 041004 041016      8$
7290 041006 041020      T11.11
7291
7292 041010 000605      6$: KS.SUC*KC$STA*RDYO      ; LINK STATE = OFF
7293 041012 000000      0
7294
7295 041014 000601      7$: KS.SUC*KC$SCH*RDYO      ; CHARACTERISTICS ARE SET
7296
7297 041016 000603      8$: KS.SUC*KC$ENB*RDYO      ; NOW STATE = ON
7298
7299 041020      T11.11:
7300 041020 004737 013510      CALL INIQIO      ; INIT QIO PROCESSING
7301 041024 012701 041060      MOV #60$,R1      ; GET QIO PARAMETER ADDRESS IN R1
7302 041030 004737 015022      CALL QIOP      ; PROCESS QIO
7303 041034 103002      BCC 3$      ; IF NO ERROR, EXIT
7304
7305 041036      EXIT SUB
7306
7307 041042 012701 041072      3$: MOV #5$,R1      ; GET RESPONSE LIST ADDRESS
7308 041046 004737 011276      CALL CHKRSP      ; THEN CHECK RESPONSES
7309 041052 103016      BCC T11.12      ; IF CORRECT, PROCESS NEXT COMMAND
7310
7311 041054      EXIT SUB
7312
7313      ; PARAMETERS FOR QIO PROCESSING
7314
7315 041060 041064      60$: 4$      ; IN LIST TABLE BASE ADDRESS
7316 041062 000764      500.      ; TIME-OUT LENGTH(N*10 MS)

```

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```

7317
7318 ; COMMAND LIST
7319
7320 041064 4$:
7321 041064 000002 2.
7322
7323 041066 000005 KC$STA ;LINK STATE
7324
7325 041070 000007 KC$STR ;OPEN
7326
7327 ; RESPONSE LIST
7328
7329 041072 000002 5$: 2
7330 041074 041102 6$
7331 041076 041106 7$
7332 041100 041110 T11.12
7333
7334 041102 000605 6$: KS.SUC+KC$STA+RDYO ;LINK STATE = ON
7335 041104 000002 2
7336
7337 041106 000607 7$: KS.SUC+KC$STR+RDYO ;NOW STATE = RUNNING
7338
7339 041110 T11.12:
7340 041110 EXSUB
7341 041122 004737 013510 CALL INIQIO ;INIT QIO PROCESSING
7342 041126 012701 041170 MOV #60$,R1 ;GET QIO PARAMETER ADDRESS IN R1
7343 041132 004737 015022 CALL QIOP ;PROCESS QIO
7344 041136 103002 BCC 1$ ;IF NO ERROR, EXIT
7345
7346 041140 EXIT SUB
7347
7348 041144 012701 041222 1$: MOV #4$,R1 ;GET RESPONSE LIST ADDRESS
7349 041150 012737 000001 002442 MOV #1,TXCNTR ;INIT KC$TRX RESPONSE COUNTER
7350 041156 004737 011276 CALL CHKRSP ;THEN CHECK RESPONSES
7351 041162 103033 BCC T11.21 ;IF CORRECT, PROCESS NEXT COMMAND
7352
7353 041164 EXIT SUB
7354
7355 ; PARAMETERS FOR QIO PROCESSING
7356
7357 041170 041174 60$: 3$ ;IN LIST TABLE BASE ADDRESS
7358 041172 002260 1200. ;TIME-OUT LENGTH(N*10 MS)
7359
7360 ; COMMAND LIST
7361
7362 041174 3$:
7363 041174 000004 4.
7364
7365 041176 000005 KC$STA ;LINK STATE
7366
7367 041200 000012 KC$RCV ;GIVE A RECEIVE BUFFER
7368 041202 002746 RXBUF0 ; BUFFER ADDRESS
7369 041204 000024 20. ; BUFFER LENGTH
7370
7371 041206 000012 KC$RCV ;GIVE A RECEIVE BUFFER
7372 041210 003146 RXBUF1 ; BUFFER ADDRESS
7373 041212 000120 80. ; BUFFER LENGTH

```

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```

7374
7375 041214 000011          KC#TRX          ; TRANSMIT A BUFFER
7376 041216 005546          TXBUF3          ; BUFFER ADDRESS
7377 041220 000074          60.            ; BUFFER LENGTH
7378
7379          ; RESPONSE LIST
7380
7381 041222 000004          4$:           4          ;
7382 041224 041236          5$:           5$         ;
7383 041226 041242          6$:           6$         ;
7384 041230 041244          7$:           7$         ;
7385 041232 041250          8$:           8$         ;
7386 041234 041252          T11.21         ;
7387
7388 041236 000605          5$:           KS.SUC#KC#STA#RDY0 ; LINK STATE = RUNNING
7389 041240 000004          4
7390
7391 041242 000611          6$:           KS.SUC#KC#TRX#RDY0 ; ONE BUFFER TRANSMITTED
7392
7393 041244 000612          7$:           KS.SUC#KC#RCV#RDY0 ; ONE BUFFER RECEIVED
7394 041246 000074          60.            ; BYTE COUNT
7395
7396 041250 176212          8$:           KE.OVF#KC#RCV#RDY0 ; BUFFER OVERFLOW FOR ONE RECEIVE BUFFER
7397
7398 041252          T11.21:
7399 041252          ENDSUB
7400
7401          ; TEST OF BYTE COUNT EXCEEDED
7402
7403 041254          BGNSUB
7404 041256          EXSUB
7405 041270 004737 013510    CALL          INIQIO          ; INIT QIO PROCESSING
7406 041274 012701 041330    MOV           #60$,R1        ; GET QIO PARAMETER ADDRESS IN R1
7407 041300 004737 015022    CALL          QIOP           ; PROCESS QIO
7408 041304 103002          BCC           1$            ; IF NO ERROR, EXIT
7409
7410 041306          EXIT          SUB
7411
7412 041312 012701 041354    1$:          MOV           #4$,R1        ; GET RESPONSE LIST ADDRESS
7413 041316 004737 011276    CALL          CHKRSP         ; THEN CHECK RESPONSES
7414 041322 103025          BCC           T11.31        ; IF CORRECT, PROCESS NEXT COMMAND
7415
7416 041324          EXIT          SUB
7417
7418          ; PARAMETERS FOR QIO PROCESSING
7419
7420 041330 041334          60$:          3$            ; IN LIST TABLE BASE ADDRESS
7421 041332 000764          500.         ; TIME-OUT LENGTH(N*10 MS)
7422
7423          ; COMMAND LIST
7424
7425 041334          3$:           3.            ;
7426 041334 000003          KC#STA          ; LINK STATE
7427
7428 041336 000005          KC#RCV          ; GIVE A RECEIVE BUFFER
7429
7430 041340 000012

```

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```

7431 041342 002746          RXBUF0          ; BUFFER ADDRESS
7432 041344 000224          128.*20.    ; BUFFER LENGTH
7433
7434 041346 000011          KC$TRX      ; TRANSMIT A BUFFER
7435 041350 004746          TXBUF0      ; BUFFER ADDRESS
7436 041352 000224          128.*20.    ; BUFFER LENGTH
7437
7438          ; RESPONSE LIST
7439
7440 041354 000003          4$:         3
7441 041356 041366          5$:         5$
7442 041360 041372          6$:         6$
7443 041362 041374          7$:         7$
7444 041364 041376          T11.31
7445
7446 041366 000605          5$:         KS.SUC+KC$STA+RDYO ; LINK STATE = RUNNING
7447 041370 000304          304
7448
7449 041372 174612          6$:         KE.N1B+KC$RCV+RDYO ; BYTE COUNT EXCEEDED FOR ONE RECEIVE BUFFER
7450
7451 041374 174611          7$:         KE.N1B+KC$TRX+RDYO ; BYTE COUNT EXCEEDED FOR ONE TRANSMIT BUFFER
7452
7453 041376          T11.31:
7454 041376          ENDSUB
7455
7456          ; TEST OF ODD ADDRESS
7457
7458 041400          BGNSUB
7459 041402          EXSUB
7460 041414 004737 013510          CALL      INIQIO          ; INIT QIO PROCESSING
7461 041420 012701 041454          MOV       #60$,R1        ; GET QIO PARAMETER ADDRESS IN R1
7462 041424 004737 015022          CALL      QIOP           ; PROCESS QIO
7463 041430 103002          BCC       1$             ; IF NO ERROR, EXIT
7464
7465 041432          EXIT      SUB
7466
7467 041436 012701 041500          1$:       MOV       #4$,R1          ; GET RESPONSE LIST ADDRESS
7468 041442 004737 011276          CALL      CHKRSP         ; THEN CHECK RESPONSES
7469 041446 103025          BCC       T11.41        ; IF CORRECT, PROCESS NEXT COMMAND
7470
7471 041450          EXIT      SUB
7472
7473          ; PARAMETERS FOR QIO PROCESSING
7474
7475 041454 041460          60$:     3$             ; IN LIST TABLE BASE ADDRESS
7476 041456 000764          500.     ; TIME-OUT LENGTH(N*10 MS)
7477
7478          ; COMMAND LIST
7479
7480 041460          3$:
7481 041460 000003          3.
7482
7483 041462 000005          KC$STA      ; LINK STATE
7484
7485 041464 000012          KC$RCV      ; GIVE A RECEIVE BUFFER
7486 041466 002747          RXBUF0+1   ; BUFFER ADDRESS (ODD)
7487 041470 000062          50.         ; BUFFER LENGTH

```

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```

7488
7489 041472 000011          KC$TRX          ; TRANSMIT A BUFFER
7490 041474 004747          TXBUF0.1      ; BUFFER ADDRESS(ODD)
7491 041476 000050          40.          ; BUFFER LENGTH
7492
7493          ; RESPONSE LIST
7494
7495 041500 000003      4$:      3
7496 041502 041512          5$
7497 041504 041516          6$
7498 041506 041520          7$
7499 041510 041522          T11.41
7500
7501 041512 000605      5$:      KS.SUC.KC$STA.RDY0 ; LINK STATE = RUNNING
7502 041514 000304          304
7503
7504 041516 174212      6$:      KE.ODD.KC$RCV.RDY0 ; ODD ADDRESS FOR ONE RECEIVE BUFFER
7505
7506 041520 174211      7$:      KE.ODD.KC$TRX.RDY0 ; ODD ADDRESS FOR ONE TRANSMIT BUFFER
7507
7508 041522          T11.41:
7509 041522          ENDSUB
7510
7511          ; NON EXISTENT MEMORY ADDRESS TEST
7512
7513 041524          BGNSUB
7514 041526          EXSUB
7515 041540 004737 010756      CALL      ..SIZE          ; SIZE MEMORY
7516 041544 005737 002566      TST      PDPTYP          ; CHECK IF A PDP11/23.?
7517 041550 001025          BNE      1$              ; IF YES
7518
7519 041552 022737 157776 002550      CMP      @157776,LSTAD    ; IF NOT, TEST LAST ADDRESS FOR IO PAGE
7520 041560 001021          BNE      1$              ; IF NOT
7521 041562 013701 002552          MOV      LSTBK,R1
7522 041566 042701 177774          BIC      @177774,R1
7523 041572 022701 000003          CMP      @3,R1
7524 041576 001012          BNE      1$              ; IF NOT
7525
7526 041600          PRINTF @MNONEX          ; IF YES, PRINT THAT SUBTEST IS DROPPED
7527          .EVEN
7528 041620 000137 042022          JMP      T11.13
7529 041624 013701 002550      1$:      MOV      LSTAD,R1          ; /V01.01/
7530 041630 162701 000012          SUB      @10.,R1          ; GET LAST MEMORY ADDRESS
7531 041634 010137 041740          MOV      R1,3$.6          ; POSITION 10 BYTES BEFORE
7532 041640 010137 041762          MOV      R1,3$.30         ; SET BAD ADDRESS IN TABLE(0 15)
7533 041644 113737 002552 041737          MOV      LSTBK,3$.5       ;
7534 041652 113737 002552 041761          MOV      LSTBK,3$.27      ; SET BAD ADDRESS IN TABLE(16-21)
7535          ;
7536 041660 004737 013510          CALL     INIQIO           ; INIT QIO PROCESSING
7537 041664 012701 041726          MOV      @60$,R1         ; GET QIO PARAMETER ADDRESS IN R1
7538 041670 004737 015022          CALL     QIOP            ; PROCESS QIO
7539 041674 103002          BCC      2$              ; IF NO ERROR, EXIT
7540
7541 041676          EXIT      SUB
7542
7543 041702 012701 041766      2$:      MOV      @4$,R1          ; GET RESPONSE LIST ADDRESS
7544 041706 012737 000001 002442      MOV      @1,TXCNTN       ; INIT KC$TRX RESPONSE COUNTER

```

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```

7545 041714 004737 011276      CALL  CHKRSP      ; THEN CHECK RESPONSES
7546 041720 103040              BCC   T11.13     ; IF CORRECT, PROCESS NEXT COMMAND
7547                               ;
7548 041722              EXIT  SUB
7549                               ;
7550                               ; PARAMETERS FOR QIO PROCESSING
7551                               ;
7552 041726 041732      60$:   3$      ; IN LIST TABLE BASE ADDRESS
7553 041730 003720      2000.      ; TIME OUT LENGTH(N*10 MS)
7554                               ;
7555                               ; COMMAND LIST
7556                               ;
7557 041732      3$:                               ;
7558 041732 000005      5.                               ;
7559                               ;
7560 041734 000005      KC$STA      ; LINK STATE
7561                               ;
7562 041736 000012      KC$RCV      ; GIVE A RECEIVE BUFFER
7563 041740 002746      RXBUF0     ; BUFFER ADDRESS
7564 041742 000062      50.        ; BUFFER LENGTH
7565                               ;
7566 041744 000012      KC$RCV      ; GIVE A RECEIVE BUFFER
7567 041746 003146      RXBUF1     ; BUFFER ADDRESS
7568 041750 000062      50.        ; BUFFER LENGTH
7569                               ;
7570 041752 000011      KC$TRX      ; TRANSMIT A BUFFER
7571 041754 004746      TXBUF0     ; BUFFER ADDRESS
7572 041756 000050      40.        ; BUFFER LENGTH
7573                               ;
7574 041760 000011      KC$TRX      ; TRANSMIT A BUFFER
7575 041762 005146      TXBUF1     ; BUFFER ADDRESS
7576 041764 000024      20.        ; BUFFER LENGTH
7577                               ;
7578                               ; RESPONSE LIST
7579                               ;
7580 041766 000005      4$:   5      ;
7581 041770 042004      5$      ;
7582 041772 042010      6$      ;
7583 041774 042012      7$      ;
7584 041776 042014      8$      ;
7585 042000 042016      9$      ;
7586 042002 042022      T11.13    ;
7587                               ;
7588 042004 000605      5$:   KS.SUC+KC$STA+RDYO ; LINK STATE = RUNNING
7589 042006 000304      304      ;
7590                               ;
7591 042010 000611      6$:   KS.SUC+KC$TRX+RDYO ; ONE BUFFER TRANSMITTED
7592                               ;
7593 042012 176612      7$:   KE.NXM+KC$RCV+RDYO ; NON EXISTENT MEMORY FOR ONE RECEIVE BUFFER
7594                               ;
7595 042014 176611      8$:   KE.NXM+KC$TRX+RDYO ; NON EXISTENT MEMORY FOR ONE TRANSMIT BUFFER
7596

```

CVKMJAO KHV11 C FCTNL DIAG
HARDWARE TESTS

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7597 042016 000612
7598 042020 000050
7599
7600 042022
7601 042022
7602
7603 042024

98: KS.SUC.KC8RCV.RDYD
40.

T11.13:
ENDSUB

ENDTST

SUCCESS FOR SECOND RECEIVE BUFFER

7605
7606 042026

BADHEAD

.. TEST12 ..

7607
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;
;
;.. TEST OF TRANSMIT/RECEIVE COMMANDS WITH TRACING
;
; TEST OF A COMPLETE TRACE RESPONSE. THE CS'S
; FROM SEL4 TO SEL36 CONTAIN THE TRACE INFORMA
; TIONS PER BLOCK. EACH BLOCK CORRESPONDS TO A
; TRANSMITTED OR RECEIVED FRAME. EACH BLOCK IN
; CLUDES A STATUS AND A CONTROL FIELD.
; THE TRACING IS ENABIED
; THE "RUNNING" STATE IS ACCESSED.
; 4 RECEIVE BUFFERS ARE CREATED
; 4 TRANSMIT BUFFERS ARE CREATED
; A TRACE RESPONSE MUST BE RECEIVED WITH 8 BLOCKS
; CORRESPONDING TO 4 TRANSMITTED FRAMES AND
; 4 RECEIVED FRAMES IN A CHRONOLOGICAL ORDER.

;MODE: APPLICATION MODE

;REPORTS:

- ; - ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR
- ; - ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
- ; - ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
- ; - ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
- ; - ERROR 10004 DATA COMPARE ERROR
- ; - ERROR 10005 UNEXPECTED INTERRUPT IN
- ; - ERROR 10006 UNEXPECTED INTERRUPT OUT
- ; - ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING
- ; - ERROR 10008 UNEXPECTED EPROM'S ON KMV
- ; - ERROR 10009 UNEXPECTED QIO RESPONSE
- ; - ERROR 10010 UNEXPECTED NUMBER OF RESPONSES RECEIVED
- ; - ERROR 10011 UNEXPECTED DATA FOUND IN THE RECEIVE BUFFER
- ; - ERROR 10012 THIS TEST IS SKIPPED BECAUSE THERE IS AN EX
; TERNAL LOOP
- ; - ERROR 10013 LIST OF RESPONSES EXPECTED BUT NOT RECEIVED

7643 042026

BADHEAD

.. TEST12 ..

7644
7645
7646 042026
7647 042026 004737 013266
7648 042032 103406
7649
7650 042034 004737 013410
7651 042040 103403
7652
7653 042042 004737 014344
7654 042046 103002
7655
7656 042050
7657
7658
7659

BGNTST

```

CALL MODEO ;SET APPLICATION MODE
BCS 1$ ;IF NOT CORRECTLY DONE

CALL LPBACK ;CHECK LOOP BACK
BCS 1$ ;IF NOT

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

1$: EXIT TST

; TEST OF COMPLETE TRACE RESPONSE IN 'RUNNING' STATE

```

CVKMJAO KMV11 C FCTNL DIAG
HARDWARE TESTS

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```

7660 042054
7661 042054 004737 013510
7662 042060 012701 042114
7663 042064 004737 015022
7664 042070 103002
7665
7666 042072
7667
7668 042076 012701 042146
7669 042102 004737 011276
7670 042106 103030
7671
7672 042110
7673
7674
7675
7676 042114 042120
7677 042116 000764
7678
7679
7680
7681 042120
7682 042120 000003
7683
7684 042122 000005
7685
7686 042124 000001
7687 042126 003720
7688 042130 000764
7689 042132 161412
7690 042134 000200
7691 042136 000144
7692 042140 000000
7693
7694 042142 000003
7695 042144 000000
7696
7697
7698
7699 042146 000003
7700 042150 042160
7701 042152 042164
7702 042154 042166
7703 042156 042170
7704
7705 042160 000605
7706 042162 000000
7707
7708 042164 000601
7709
7710 042166 000603
7711
7712 042170
7713 042170 004737 013510
7714 042174 012701 042230
7715 042200 004737 015022
7716 042204 103002

2$:
CALL INIQIO ;INIT QIO PROCESSING
MOV #60$,R1 ;GET QIO PARAMETER ADDRESS IN R1
CALL QIOP ;PROCESS QIO
BCC 3$ ;IF NO ERROR, EXIT

EXIT TST

3$:
MOV #5$,R1 ;GET RESPONSE LIST ADDRESS
CALL CHMRSP ;THEN CHECK RESPONSES
BCC T12.11 ;IF CORRECT, PROCESS NEXT COMMAND

EXIT TSI

; PARAMETERS FOR QIO PROCESSING

60$: 4$ ;IN LIST TABLE BASE ADDRESS
500. ;TIME OUT LENGTH(N*10 MS)

; COMMAND LIST

4$:
3.
KC$STA ;LINK STATE
KC$SCH ;SET CHARACTERISTICS FOR
2000. ;INTERNAL LOOP
500.
BIT15*BIT14*BIT13*(<3*400>+10.
128.
100.
0

KC$ENB ;INIT LINK
0 ;FOR STATE = ON

; RESPONSE LIST

5$:
3
6$
7$
8$
T12.11

6$:
KS.SUC+KC$STA+RDY0 ;LINK STATE = OFF
0

7$:
KS.SUC+KC$SCH+RDY0 ;CHARACTERISTICS ARE SET

8$:
KS.SUC+KC$ENB+RDY0 ;NOW STATE = ON

T12.11:
CALL INIQIO ;INIT QIO PROCESSING
MOV #60$,R1 ;GET QIO PARAMETER ADDRESS IN R1
CALL QIOP ;PROCESS QIO
BCC 3$ ;IF NO ERROR, EXIT

```

CVKMJAO KMV11 C FCTM DIAG
HARDWARE TESTS

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```

7717
7718 042206          EXIT    TST
7719
7720 042212 012701 042242    3$:  MOV    #5$,R1      ;GET RESPONSE LIST ADDRESS
7721 042216 004737 011276    CALL   CHKRSP      ;THEN CHECK RESPONSES
7722 042222 103016          BCC    T12.12     ;IF CORRECT, PROCESS NEXT COMMAND
7723
7724 042224          EXIT    TST
7725
7726          ; PARAMETERS FOR QIO PROCESSING
7727
7728 042230 042234    60$:  4$      ;IN LIST TABLE BASE ADDRESS
7729 042232 000764    500.      ;TIME OUT LENGTH(N*10 MS)
7730
7731          ; COMMAND LIST
7732
7733 042234    4$:      2.
7734 042234 000002          KC$STA      ;LINK STATE
7735
7736 042236 000005          KC$STR      ;OPEN
7737
7738 042240 000007          ; RESPONSE LIST
7739
7740
7741
7742 042242 000002    5$:  2
7743 042244 042252    6$      7$
7744 042246 042256    T12.12
7745 042250 042260
7746
7747 042252 000605    6$:  KS.SUC*KC$STA*RDY0      ;LINK STATE = ON
7748 042254 000002    2
7749
7750 042256 000607    7$:  KS.SUC*KC$STR*RDY0      ;NOW STATE = RUNNING
7751
7752 042260
7753 042260 004737 013510    T12.12: CALL   INIQIO      ;INIT QIO PROCESSING
7754 042264 012701 042454    MOV    #60$,R1     ;GET QIO PARAMETER ADDRESS IN R1
7755 042270 004737 015022    CALL   QIOP        ;PROCESS QIO
7756 042274 103002          BCC    1$          ;IF NO ERROR, EXIT
7757
7758 042276          EXIT    TST
7759
7760 042302 012701 042576    1$:  MOV    #4$,R1      ;GET RESPONSE LIST ADDRESS
7761 042306 012737 013013 012546  MOV    #TYP05,TSTF13 ;GET TYPE OF RESPONSE FOR KC$TRE
7762 042314 012737 000006 002442  MOV    #6,TXCNTR    ;INIT KC$IRX RESPONSE COUNTER
7763 042322 004737 011276    CALL   CHKRSP      ;THEN CHECK RESPONSES
7764 042326 103450          BCS    2$          ;IF NOT CORRECT, EXIT
7765
7766 042330 012701 006346    MOV    #TXBUF6,R1   ;GET TRANSMIT BUFFER ADDRESS
7767 042334 012702 003346    MOV    #RXBUF2,R2   ;GET RECEIVE BUFFER ADDRESS
7768 042340 012737 000050 002402  MOV    #40.,LENGTH ;GET LENGTH
7769 042346 004737 013056    CALL   COMPAR      ;COMPARE BUFFERS
7770 042352 103436          BCS    2$          ;IF NOT CORRECT
7771
7772 042354 012701 005746    MOV    #TXBUF4,R1   ;GET TRANSMIT BUFFER ADDRESS
7773 042360 012702 003546    MOV    #RXBUF3,R2   ;GET RECEIVE BUFFER ADDRESS

```

CVKMJAO KMV11-C FCTML DIAG
HARDWARE TESTS

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```

7774 042364 012737 000036 002402      MOV      #30.,LENGTH      ;GET LENGTH
7775 042372 004737 013056      CALL     COMPAR          ;COMPARE BUFFERS
7776 042376 103424      BCS     2#              ;IF NOT CORRECT
7777
7778 042400 012701 005146      MOV      #TXBUF1,R1      ;GET TRANSMIT BUFFER ADDRESS
7779 042404 012702 003746      MOV      #RXBUF4,R2      ;GET RECEIVE BUFFER ADDRESS
7780 042410 012737 000200 002402      MOV      #128.,LENGTH    ;GET LENGTH
7781 042416 004737 013056      CALL     COMPAR          ;COMPARE BUFFERS
7782 042422 103412      BCS     2#              ;IF NOT CORRECT
7783
7784 042424 012701 005346      MOV      #TXBUF2,R1      ;GET TRANSMIT BUFFER ADDRESS
7785 042430 012702 002746      MOV      #RXBUFO,R2      ;GET RECEIVE BUFFER ADDRESS
7786 042434 012737 000024 002402      MOV      #20.,LENGTH    ;GET LENGTH
7787 042442 004737 013056      CALL     COMPAR          ;COMPARE BUFFERS
7788 042446 103124      BCC     T12.13          ;IF CORRECT, PROCESS NEXT COMMAND
7789
7790 042450      2#:      EXIT      TST
7791
7792      ; PARAMETERS FOR QIO PROCESSING
7793
7794 042454 042460      60#:    3#              ;IN LIST TABLE BASE ADDRESS
7795 042456 004704      2500.    ;TIME-OUT LENGTH(N*10 MS)
7796
7797      ; COMMAND LIST
7798
7799 042460      3#:
7800 042460 000016      14.
7801
7802 042462 000005      KC#STA      ;LINK STATE
7803
7804 042464 0'0013      KC#TRE      ;ENABLE TRACING
7805
7806 042466 000012      KC#RCV      ;GIVE A RECEIVE BUFFER
7807 042470 003346      RXBUF2      ; BUFFER ADDRESS
7808 042472 000062      50.         ; BUFFER LENGTH
7809
7810 042474 000012      KC#RCV      ;GIVE A RECEIVE BUFFER
7811 042476 003546      RXBUF3      ; BUFFER ADDRESS
7812 042500 000036      30.         ; BUFFER LENGTH
7813
7814 042502 000012      KC#RCV      ;GIVE A RECEIVE BUFFER
7815 042504 003746      RXBUF4      ; BUFFER ADDRESS
7816 042506 000200      128.        ; BUFFER LENGTH
7817
7818 042510 000012      KC#RCV      ;GIVE A RECEIVE BUFFER
7819 042512 002746      RXBUFO      ; BUFFER ADDRESS
7820 042514 000144      100.        ; BUFFER LENGTH
7821
7822 042516 000012      KC#RCV      ;GIVE A RECEIVE BUFFER
7823 042520 003146      RXBUF1      ; BUFFER ADDRESS
7824 042522 000144      100.        ; BUFFER LENGTH
7825
7826 042524 000012      KC#RCV      ;GIVE A RECEIVE BUFFER
7827 042526 003146      RXBUF1      ; BUFFER ADDRESS
7828 042530 000144      100.        ; BUFFER LENGTH
7829
7830 042532 000011      KC#TRX      ;GIVE A TRANSMIT BUFFER

```


CVKMJAO KMV11 C FCTNL DIAG
HARDWARE TESTS

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7888	042656	000612	12:	KS.SUC.KC\$RCV.RDYD	;ONE BUFFER RECEIVED
7889	042660	000050		40.	; 40 BYTES RECEIVED
7890					
7891	042662	000613	13:	KS.SUC.KC\$TRC.RD rO	;COMPLETE TRACE RECEIVED
7892	042664	000041		41	;PARAMETERS
7893	042666	001041		1041	
7894	042670	000005		5	
7895	042672	001005		1005	
7896	042674	022041		22041	
7897	042676	022005		22005	
7898	042700	063041		63041	
7899	042702	063005		63005	
7900	042704	104041		104041	
7901	042706	105041		105041	
7902	042710	104005		104005	
7903	042712	105005		105005	
7904	042714	142440		142440	
7905	042716	000000		0	
7906	042720		T12.13:		
7907	042720		ENDTST		

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.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,,0,774,YES
GPRMD PRIRTY,4,0,7000,4,7,YES
GPRML LOOPBK,6,-1,YES ; /V01.01/
GPRML PDPTST,10,-1,YES ; /V01.01/

ENDHRD
.EVEN

104 105 126 ADDRES: .ASCIZ /DEVICE CSR ADDRESS: /
104 105 126 VECTOR: .ASCIZ /DEVICE FIRST VECTOR ADDRESS: /
104 105 126 PRIRTY: .ASCIZ /DEVICE PRIORITY LEVEL: /
111 123 040 LOOPBK: .ASCIZ /IS ANY LOOP BACK CONNECTOR INSERTED ? / ; /V01.01/
111 123 040 PDPTST: .ASCIZ \IS THE HOST COMPUTER A PDP11/23B ? \ ; /V01.01/

.EVEN

12770
12771 076742
12772 076742 031742
12773 076744 000000
12774 076746 000000
12775 076750 000000
12776
12777 076752
12778 076752
12779
12780 077072
077076
12781
12782 077076
12783

```
BUFLGH: .=$FWEND  
.WORD .-$BUFF ;FIRMWARE CODE LENGTH  
.WORD 0  
.WORD 0  
.WORD 0  
  
$PATCH: .BLKW 50  
  
LASTAD  
L$LAST: .  
  
ENDMOD
```

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** - IMPURE DATA AREA

12785			
12786			
12787	077076		BGNSETUP 1
12788	077076		BGNPTAB
12789	077102	177000	.WORD 177000
12790	077104	000300	.WORD 300
12791	077106	004000	.WORD 4000
12792	077110	000000	.WORD 0
12793	077112		ENDPTAB
12794	077112		ENDSETUP
12795			
12796		000001	.END

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SYMBOL TABLE

C.BL33= 100033 G	CO.RGI= 000200	ERRIYP 002236 G	E10013 021436	F#CNTL= 000001
C.BL34= 100034 G	CO.RUN= 100000	EVBUSY= 000010	FC#DIS= 000103	F#DU = 000016
C.BL35= 100035 G	CO.SLM= 000200	EVCL05= 000001	FC#DM = 000017	F#END = 000041
C.BL36= 100036 G	CO.TST= 010000	EVDISC= 000033	FC#FRM= 000207	F#HARD= 000004
C.BL37= 100037 G	CO.WRT= 020000	EVDM = 000036	FC#INF= 000001	F#HW = 000013
C.BSL0= 100000 G	C1.ERR= 000001	EVDMIF 000037	FC#NRH= 000037	F#INFO= 000002
C.BSL1= 100001 G	C1.MCL= 000100	EVENT = 000037	FC#NSH= 000361	F#INIT= 000006
C.BSL2= 100002 G	C1.MT1= 000002	EVFRMR= 000031	FC#PFB= 000020	F#JMP = 000050
C.BSL3= 100003 G	C1.MT2= 000010	EVIFOK= 000013	FC#REJ= 000011	F#MOD = 000000
C.BSL4= 100004 G	C1.RD = 000004	EVIFTX= 000002	FC#RNR= 000005	F#MSG = 000011
C.BSL5= 100005 G	C1.RUN= 000200	EVINSE= 000014	FC#RR = 000001	F#PROT= 000021
C.BSL6= 100006 G	C1.TST= 000020	EVINVF= 000011	FC#SAB= 000057	F#PWR = 000017
C.BSL7= 100007 G	C1.WRT= 000040	EVIQKP= 000012	FC#SUP= 000017	F#RPT = 000012
C.BUF = 000014	C2.RYI= 000020	EVL = 000004 G	FC#UA = 000143	F#SEG = 000003
C.BUF1= 000014	C2.RYO= 000200	EVNBSY= 000007	FC#UNB= 000357	F#SOFT= 000005
C.BUF2= 000024	DATA 002374	EVOPEN= 000000	FC.CCP= 000020	F#SRV = 000010
C.CNT = 000020	DFPTBL 002164 G	EVRECP= 000025	FC.CTL= 000006	F#SUB = 000002
C.CNT1= 000020	DIAGMC= 000000	EVREJC= 000026	FC.KCP= 000016	F#SW = 000014
C.CNT2= 000030	DISAST 065716	EVREJR= 000030	FC.KIL= 000004	F#TEST= 000001
C.FLG = 000022	DISCOM 065372	EVRRER= 000027	FC.MAX= 000020	GETRA 070602
C.FLG1= 000022	DISCUA 065344	EVRRCP= 000021	FC.RCE= 000002	GOOD 002274
C.FLG2= 000032	DI.IOP= 000200	EVRRRC= 000022	FC.RCP= 000014	G#CNT0= 000200
C.FNC = 000010	DMCHK2 065616	EVRRRF= 000023	FC.TIM= 000010	G#DELM= 000372
C.LIN = 000006	DMCHK3 065504	EVRRR= 000024	FC.XCP= 000012	G#DISP= 000003
C.LNK = 000000	DMSABM 065574	EVRRRC= 000016	FC.XME= 000000	G#EXCP= 000400
C.MOD = 000011	DO.IOP= 000200	EVRRCP= 000015	FRMCOM 063354	G#HILI= 000002
C.NSP = 000004	D.RBAI= 150020 G	EVRRR= 000020	FRSABM 065134	G#LOLI= 000001
C.PRI = 000200	D.RBAO= 150004 G	EVRRRF= 000017	FR#W = 000001	G#NO = 000000
C.RSV = 000002	D.RBCI= 150014 G	EVSABM= 000032	FR#X = 000002	G#OFFS= 000400
C.SEL0= 100000 G	D.RBCO= 150000 G	EVTMO1= 000003	FR#Y = 000004	G#OFFSI= 000376
C.SEL2= 100002 G	D.RXAI= 150024 G	EVTMO2= 000005	FR#Z = 000010	G#PRMA= 000001
C.SEL4= 100004 G	D.RXAO= 150010 G	EVTMO3= 000006	FS.AST= 005000	G#PRMD= 000002
C.SEL6= 100006 G	D.WBAI= 150022 G	EVT1N2= 000004	FS.CIB= 002000	G#PRML= 000000
C.SL10= 100010 G	D.WBAO= 150006 G	EVUA = 000034	FS.CNT= 010000	G#RADA= 000140
C.SL12= 100012 G	D.WBCI= 150016 G	EVUAI= 000035	FS.CRA= 001000	G#RADB= 000000
C.SL14= 100014 G	D.WBCO= 150002 G	EXITST 002540	FS.DTS= 003000	G#RADD= 000040
C.SL16= 100016 G	D.WXAI= 150026 G	EXTADR= 000077	FS.DVC= 001000	G#RADL= 000120
C.SL20= 100020 G	D.WXAO= 150012 G	E#END = 002100	FS.ENB= 002000	G#RADO= 000020
C.SL22= 100022 G	D.XXXX= 150000	E#LOAD= 000035	FS.GCH= 004000	G#XFER= 000004
C.SL24= 100024 G	ECONB = 160002	E00000 021511	FS.KIL= 000000	G#YES = 000010
C.SL26= 100026 G	EF.CON= 000036 G	E00001 021574	FS.LTM= 001000	MELP = 000000
C.SL30= 100030 G	EF.NEW= 000035 G	E00002 021624	FS.MSN= 004000	MOE = 100000 G
C.SL32= 100032 G	EF.PWR= 000034 G	E00003 021710	FS.RTN= 001000	IBE = 010000 G
C.SL34= 100034 G	EF.RES= 000037 G	E00004 022004	FS.SCH= 006000	IDLE = 045770 G
C.SL36= 100036 G	EF.SIA= 000040 G	E10000 020434	FS.STA= 007000	IDU = 000040 G
C.STA = 000007	END 024724	E10001 020476	FS.STM= 000000	IEI = 000001
C.STS = 000012	ENDRCP 073670	E10002 020564	FS.STP= 001000	IEO = 000020
C.VEC0= 000060	ENDRC1 073674	E10003 020653	FS.STR= 000000	JER = 020000 G
C.VEC2= 000070	ENDRXS 073704	E10004 020743	FS.TRD= 012000	IFOK06 064076
C.XXXX= 100000	END1 025142	E10005 021026	FS.TRE= 011000	IFOK08 064120
CO.ERR= 000400	ERCNTR 002264	E10006 021067	FS.XKL= 002000	IFOK09 064120
CO.IEI= 000001	ERR = 000400	E10007 021131	FTIME 002256	INIFLG 002570
CO.IEO= 000020	ERRBLK 002244 G	E10008 021215	F#ADDR= 000000	INILNK 051536
CO.MCL= 040000	ERRCNT 002466	E10009 021254	F#AU = 000015	INIQIO 013510
CO.MT1= 001000	ERRFLG 002424	E10010 021311	F#AUTO= 000020	INLST 002444
CO.MT2= 004000	ERRMSG 002242 G	E10011 021361	F#BGN = 000040	INSE00 064134
CO.RD = 002000	ERRNBR 002240 G	E10012 020330	F#CLEA= 000007	INSE01 064134

INSE04	064160	KE.RSE=	000363	LINTMO	074724	L\$AUT	002070 G	L\$TEST	002114 G
INSE07	064160	KE.SEQ=	000373	LINXME	074056	L\$AUTO	025144 G	L\$TIML	002014 G
INSE10	064160	KE.TRA=	000377	LL.DST=	040000	L\$CCP	002106 G	L\$UIT	002270
INTIN	002556	KE.UND=	000362	LL.MDM=	100000	L\$CLEA	025234 C	L\$UNIT	002012 G
TNTOUT	002560	KF.ICL=	000010	LMODWN	075250	L\$CNTI	000506 G	L\$WTRX	000500 G
IOKP06	064120	KF.INI=	000002	LNKSTA	051544	L\$CO	002032 G	L.CTL =	000010
IOKP08	064120	KF.PDV=	000001	LNSTOP	074366	L\$CTIM	000472 G	L.DDM =	000002
IOKP09	064120	KF.STP=	000004	LN\$CTS=	000001 G	L\$DEPO	002011 G	L.DDS =	000004
ISR =	000100 G	KGTINI	045110 G	LN\$DIS=	000005 G	L\$DESC	002176 G	L.DLC =	000003
ITIN	014504	KMSK =	000370	LN\$DSR=	000003 G	L\$DESP	002076 G	L.DLS =	000006
ITOUT	014704	KMVCSR	002554	LN\$OFF=	000002 G	L\$DEVP	002060 G	L.FLG =	000000
IXE =	004000 G	KMV11C=	000000	LN\$ON =	000004 G	L\$DISP	002132 G	L.LEN =	000012
I\$AU =	000041	KS.SUC=	000001	LN\$PNF=	000000 G	L\$DLY	002116 G	L.PRI =	000240
I\$AUTO=	000041	K\$BSY=	000304 G	LN\$TRN=	000006 G	L\$DTP	002040 G	L.RLC1=	120000 G
I\$CLN =	000041	K\$BUSY=	000204 G	LN.CLO=	000000	L\$DTYP	002034 G	L.RRTC=	120010 G
I\$DU =	000041	K\$DISC=	000044 G	LN.DUM=	000005	L\$DU	025240 G	L.UNT =	000011
I\$HRD =	000041	K\$FLAG=	000004 G	LN.LOA=	000004	L\$DUT	002072 G	L.VEC =	000130
I\$INIT=	000041	K\$FRMR=	000144 G	LN.LOO=	000003	L\$DVTY	010466 G	L.WCC =	120016 G
I\$MOD =	000041	K\$NRDY=	000001 G	LN.OAU=	000003	L\$EF	002052 G	L.WLC1=	120002 G
I\$MSG =	000041	K\$N1B =	000002 G	LN.OFF=	000001	L\$ENVI	002044 G	L.WRTC=	120012 G
I\$PROT=	000040	K\$OFF =	000000 G	LN.ON =	000000	L\$ERRT	002236 G	L.XXXX=	120000
I\$PTAB=	000041	K\$ON =	000002 G	LN.OOP=	000004	L\$ETP	002102 G	L10001	002175
I\$PWR =	000041	K\$PDVC=	000006 G	LN.OPE=	000001	L\$EXP1	002046 G	L10002	022126
I\$RPT =	000041	K\$RBSY=	000104 G	LN.REF=	000002	L\$EXP4	002064 G	L10003	022164
I\$SEG =	000041	K\$RUNN=	000004 G	LN.SER=	000002	L\$EXP5	002066 G	L10004	022222
I\$SETU=	000041	K\$STAT=	000000 G	LN.STA=	000017	L\$FLAG	000476 G	L10005	022304
I\$SRV =	000041	K\$SYNC=	000003 G	LN.SUB=	000360	L\$HARD	042724 G	L10006	022372
I\$SUB =	000041	K\$TBSY=	000344 G	LN.TRI=	000006	L\$HIME	002120 G	L10007	022434
I\$TST =	000041	K\$TMO =	000244 G	LOADMA	073720	L\$MPCP	002016 G	L10010	022516
J\$JMP =	000167	K\$TRAN=	000005 G	LOCK	002260	L\$MPTP	002022 G	L10011	023250
KC\$CNT=	000006	LCLoop	002564	LOE =	040000 G	L\$HW	002164 G	L10012	023734
KC\$DIS=	000004	LC.LCM=	000077	LOGDEV	002246	L\$ICP	002104 G	L10013	024324
KC\$ENB=	000003	LC.RTM=	000274	LOKFLG	002572	L\$INIT	024416 G	L10014	024406
KC\$GCH=	000002	LC.STP=	010000	LOOPBK	043105	L\$LADP	002026 G	L10015	024414
KC\$RCV=	000012	LC.STR=	004000	LOT =	000010 G	L\$LAST	077076 G	L10016	025142
KC\$SCH=	000001	LDAPPL	013666	LPBACK	013410	L\$LOAD	002100 G	L10017	025232
KC\$STA=	000005	LENGTH	002402	LRXASS	076070	L\$LUN	002074 G	L10020	025236
KC\$STP=	000010	LERROR	070710	LR.CNT=	000040	L\$MFCV	002050 G	L10021	025320
KC\$STR=	000007	LFLCOM	075564	LR.DIS=	002000	L\$NAME	002000 G	L10022	025322
KC\$TRD=	000014	LFLSH1	075560	LR.DMA=	000200	L\$PNTI	000504 G	L10023	025460
KC\$TRE=	000013	LFLUSH	075506	LR.FRM=	000100	L\$PRIO	002042 G	L10024	025602
KC\$TRX=	000011	LF.ACT=	100000	LR.NXM=	001000	L\$PROT	002122 G	L10025	025622
KERROR	047676	LF.BWT=	000007	LR.OVF=	000400	L\$PRT	002112 G	L10026	026116
KE.ABD=	000357	LF.BW1=	003400	LSTAD	002550	L\$PRTB	000520 G	L10027	026224
KE.BAD=	000376	LF.DLO=	000040	LSTART	075376	L\$RCV1	000510 G	L10030	026540
KE.CON=	000367	LF.MDC=	000100	LSTBK	002552	L\$RCV2	000512 G	L10031	027450
KE.CRC=	000361	LF.MFL=	004000	LSTLGH	002434	L\$REPP	002062 G	L10032	026706
KE.DIS=	000366	LF.MTP=	000020	LTXASS	075614	L\$REV	002010 G	L10033	027446
KE.MDM=	000365	LF.PAC=	000200	LX.ABD=	000010	L\$RPT	024410 G	L10034	033100
KE.NRD=	000355	LF.RDY=	040000	LX.ACT=	000001	L\$SPC	002056 G	L10035	027730
KE.NXM=	000375	LF.REA=	010000	LX.DMA=	020000	L\$SPCP	002020 G	L10036	030254
KE.N1B=	000371	LF.TIM=	000010	LX.EOM=	000004	L\$SPTP	002024 G	L10037	030600
KE.N2T=	000372	LF.UNL=	020000	LX.IT1=	000002	L\$STA	002030 G	L10040	031122
KE.OOJ=	000370	LINCTL	074104	LX.IT2=	000020	L\$STAT	000474 G	L10041	031534
KE.OVF=	000374	LINKIL	074604	L\$ACP	002110 G	L\$STOP	000516 G	L10042	032056
KE.RES=	000364	LINPDV	045100 G	L\$APT	002036 G	L\$STRT	000514 G	L10043	032470
KE.ROR=	000360	LINSTA	072164	L\$AU	025322 G	L\$SW	002266	L10044	033076

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SYMBOL TABLE

L10045	036206	O\$APTS=	000000	PDDEF	=	077406	RDYIDN	047276	RQI	=	000200						
L10046	033422	O\$AU	=	000000	PDPTST	043154	RDYIST	047106	RRCPDM	064216							
L10047	034064	O\$BGNR=	000000	PDPTYP	002566	PDRO	=	172300	RRCPO4	064272							
L10050	034500	O\$BGNS=	000000	PDRV	=	172300	RDYODN	047226	RRCPO6	064370							
L10051	034772	O\$DU	=	000001	PDVNM	=	000005	RDYOST	047166	RRCPO7	064320						
L10052	035432	O\$ERRT=	000000	PEXPEC	023252	G	READ	=	002000	RRCPO8	064342						
L10053	036204	O\$GNSW=	000000	PNT	=	001000	G	RECPO4	064610	RRCPO9	064370						
L10054	040640	O\$POIN=	000001	PRBCOM	024036	G	RECPO6	064656	RRCPO10	064320							
L10055	036504	O\$SETU=	000001	PRBECO	022166	G	RECPO7	064752	RRIFRA	064462							
L10056	036752	PARTNB=	160004	PRBNUM	024326	G	RECPO8	064656	RRRF07	064416							
L10057	037350	PARO	=	172340	PRDAT	022224	G	RECPO9	064724	RRRF09	064416						
L10060	037634	PAR7	=	172356	PRI	=	002000	G	RECP10	064610	RRXCHK	064572					
L10061	040072	PATLGH	010262	PRILEV	002562	PRI00	=	000000	G	REGADR	010266	RSPCNT	002436				
L10062	040636	PATTAB	010146	PRI01	=	000040	G	REG1	002404	REGO	002404	RSPEXP	020120				
L10063	042024	PATTRN	010150	PRI02	=	000100	G	REG2	002406	REG1	002406	RSPID	002544				
L10064	041252	PA.CD0=	000004	PRI03	=	000140	G	REG3	002410	REG2	002410	RSPLST	012124				
L10065	041376	PA.CIO=	000020	PRI04	=	000200	G	REG4	002412	REG3	002412	RSPQKE	006746				
L10066	041522	PA.C00=	000040	PRI05	=	000240	G	REG5	002414	REG4	002414	RSPST	002546				
L10067	042022	PA.CTS=	C00001	PRI06	=	000300	G	REG6	002416	REG5	002416	RSPSTA	020164				
L10070	042720	PA.DSR=	000002	PRI07	=	000340	G	REG7	002420	REG6	002420	RSPSTX	020232				
L10071	042772	PA.RDA=	000200	PROMNB	002676	REIFRA	064456	REJCHK	064560	REIFRA	064456	RSPTB	023736				
L10072	077102	PA.RDY=	000010	PRQION	022436	G	REJCO4	065034	REJCO6	065074	REJCO8	065074	RSPTYP	020054			
L10074	077112	PA.TMO=	000100	PRSEL	022374	G	REJCO8	065074	REJCO10	065034	REJRC	066302	RSP00	017406			
MALLP	020301	PBRSP	022520	G	PRSELO	022130	G	REJCO10	065034	REJRC04	065034	RSP01	017414				
MAXERR	002262	PB.DST=	000040	G	PRSTAT	022306	G	REJRC06	065074	REJRC08	065074	RSP02	017423				
MAXTXL	=	000002	G	PB.DTR=	000100	PRO	=	000000	REJRC10	065034	REJRXC	066302	RSP03	017432			
MBBUF0	016715	PB.ERX=	000004	PB.ETX=	000010	PR1	=	000040	REJR04	065034	REJR06	065074	RSP04	017441			
MBBUF1	017022	PB.GPN=	000002	PB.RTS=	000200	PR2	=	000100	REJR08	065074	REJR10	065034	RSP05	017450			
MBNUM	016220	PB.SLM=	000020	PB.YEL=	000001	PR3	=	000140	REJTXC	066236	REQCNT	002426	RSP06	017457			
MCLR	=	040000	PCMSE	015705	PC.CT0=	000003	PR4	=	000200	REQ07	065000	RERF09	065000	RSP07	017466		
MCSREX	017742	PC.C0D=	000014	PC.C0E=	000015	PR5	=	000240	RESCNT	=	000001	RESCNT	=	000001	RSP10	017475	
MCSRX	020007	PC.C2D=	000016	PC.C2E=	000017	PR6	=	000300	RESET	066516	RETCB	067706	G	RETCB	067706	RSP11	017504
MCSRO	016341	PC.DDI=	000004	PC.DD0=	000006	PR7	=	000340	RETXFR1	066332	RETRDB	067746	G	RETRDB	067746	RSP12	017513
MCSR1	016420	PC.DIE=	000020	PC.DMI=	000010	P.XXXX=	130000	QC.INI=	000200	REVCOD	010264	REVCHK	014106	RSP13	017522		
MCSR2	016370	PC.DMO=	000012	PC.DOE=	000040	QC.VCO=	000040	QC.VC4=	000100	RMARK0	025004	RMARK1	025067	RSP14	017531		
MDAT0	016562	PC.DRT=	000000	PC.DRT=	000000	QIOP	015022	QV.FLG	002573	RNCPO4	064504	RNCPO6	064532	RSP15	017540		
MDAT1	016642	PC.DT0=	000002	PC.EC0=	000100	Q.CTL	=	140000	G	RNCPO7	064504	RNCPO8	064532	RSP16	017546		
MDROP	025266	PC.EC2=	000200	PC.EC2=	000200	Q.XXXX=	140000	RATE	002400	RNCPO9	064532	RNCPO10	064504	RSP17	017554		
MECO	015602	PC.EDI=	000005	PC.ED0=	000007	RCPDRV	061636	RCVADD	002460	RNRCDM	064212	RNRCHK	064566	RTNBSY	063772		
MERR	015472	PC.ED1=	000011	PC.EMI=	000011	RCVBUF	002464	RCVCMO	051626	RNRFO7	064412	RNRFO9	064412	RTXFRA	066316		
MNONEX	015546	PC.EMJ=	000013	PC.ERT=	000001	RCVDEQ	074020	RCVRSR	051660	RNRFXC	066266	RNRFXC	066222	RTXFR1	066332		
MODEO	013266	PC.ERC=	000004	PC.RIT=	000004	RDATA	010536	RDYI	=	000020	RNRFXC	066222	RNRFXC	066222	RUN	=	100000
MPNUMH	002636	PC.RTC=	000001	PC.SM	=	000220	PC.XIT=	000010			RNRFXC	066222	RNRFXC	066222	RUNAPP	014344	
MPNUML	002576	PC.SM	=	000220	PC.XIT=	000010					RNRFXC	066222	RNRFXC	066222	RUNIN	024726	
MQIO	016106										RNRFXC	066222	RNRFXC	066222	RXBUF0	002746	
MQION	016501										RNRFXC	066222	RNRFXC	066222	RXBUF1	003146	
MRCVER	017261										RNRFXC	066222	RNRFXC	066222	RXBUF2	003346	
MSEL	016020										RNRFXC	066222	RNRFXC	066222	RXBUF3	003546	
MSELO	015736										RNRFXC	066222	RNRFXC	066222	RXBUF4	003746	
MXMTER	017207										RNRFXC	066222	RNRFXC	066222	RXBUF5	004146	
NBSCH	=	000006									RNRFXC	066222	RNRFXC	066222	RXBUF6	004346	
NEXT	024534										RNRFXC	066222	RNRFXC	066222	RXBUF7	004546	
NULL	062324										RNRFXC	066222	RNRFXC	066222	SABMGN	065310	
OFFST	002376										RNRFXC	066222	RNRFXC	066222	SABM01	065204	
OUTBUF	007016										RNRFXC	066222	RNRFXC	066222	SABM03	065216	
OUTLST	002446										RNRFXC	066222	RNRFXC	066222	SABM05	065336	
OUTNUM	002534										RNRFXC	066222	RNRFXC	066222	SABM10	065310	

SAVE4	002252	ST355	017724	TR.RCV=	000004	T\$LSYM=	010000	T10.41	037460
SAVE6	002254	ST357	017733	TR.ROR=	000020	T\$LTNO=	000014	T10.42	037634
SDEQ	070212	ST363	017715	TR.TRX=	000040	T\$NEST=	177777	T10.5	037636
SELNUM	002454	ST364	017706	TR.UND=	000100	T\$NS0 =	000000	T10.51	037742
SEL0 =	000000	ST365	017677	TSTF0	012164	T\$NS1 =	000004	T10.52	040072
SEL10 =	000010	ST366	017670	TSTF1	012212	T\$NS2 =	000002	T10.6	040074
SEL12 =	000012	ST367	017661	TSTF10	012444	T\$PCNT=	000000	T10.61	040200
SEL14 =	000014	ST370	017652	TSTF11	012472	T\$PTAB=	010073	T10.62	040304
SEL16 =	000016	ST371	017643	TSTF12	012520	T\$PTHV=	000001	T10.63	040376
SEL2 =	000002	ST372	017634	TSTF13	012546	T\$PTNU=	000001	T10.64	040462
SEL20 =	000020	ST373	017625	TSTF14	012574	T\$SAVL =	177777	T10.65	040636
SEL22 =	000022	ST374	017616	TSTF15	012622	T\$SEGL =	177777	T11	040642 G
SEL24 =	000024	ST375	017607	TSTF16	012650	T\$SIZE =	000006	T11.1	040670
SEL26 =	000026	ST376	017600	TSTF17	012676	T\$SUBN=	000000	T11.11	041020
SEL30 =	000030	ST377	017571	TSTF2	012240	T\$TAGL =	177777	T11.12	041110
SEL32 =	000032	SUBPC	002536	TSTF3	012266	T\$TAGN=	010075	T11.13	042022
SEL34 =	000034	SUPCOM	066050	TSTF4	012314	T\$TEMP=	000000	T11.2	041254
SEL36 =	000036	SVCGBL =	000000	TSTF5	012342	T\$TEST=	000014	T11.21	041252
SEL4 =	000004	SVCINS=	177777	TSTF6	012370	T\$STIM =	177777	T11.3	041400
SEL6 =	000006	SVCSUB=	177777	TSTF7	012416	T\$STTS=	000001	T11.31	041376
SETCH	015226	SVCTAG=	177777	TXBUF0	004746	T\$AU =	010022	T11.4	041524
SETNR	066172	SVCTST=	177777	TXBUF1	005146	T\$AUT =	010017	T11.41	041522
SETNS	066146	S\$LSYM=	010000	TXBUF2	005346	T\$CLE =	010020	T12	042026 G
SETUP	024526	S.LOAD	002450	TXBUF3	005546	T\$DAT =	010074	T12.11	042170
SF.ACT=	000200	S. JE=	110006 G	TXBUF4	005746	T\$DU =	010021	T12.12	042260
SF.ENA=	000100	S. CV =	110000 G	TXBUF5	006146	T\$HAR=	010071	T12.13	042720
SF.LPB=	000004	S. SELL=	110012 G	TXBUF6	006346	T\$HW =	010001	T2	025462 G
SF.PAC=	000020	S. XMT =	110002 G	TXBUF7	006546	T\$INI =	010016	T3	025604 G
SF.REA=	000010	S. XXXX=	110000	TXCNTR	002442	T\$MSG=	010014	T4	025624 G
SF.UNL=	000040	TEMP	002430	TXDISC	062412	T\$PC =	000001	T5	026120 G
SHTMS =	000062	TFDISC	062404	TXDM	063112	T\$PRO=	010000	T6	026226 G
SLTMM =	000001	TFFRMR	063162	TXFRMR	063170	T\$PTA =	010073	T7	026542 G
SLTO	045016 G	TFM36	017335	TXIFRA	066630	T\$RPT=	010015	T7.1	026570
SM.CRC=	000000	TFNRRC	062754	TXREJR	062612	T\$SUB=	010067	T7.2	026710
SM.IDL=	004000	TFRRC	062672	TXRNRC	062762	T\$TES =	010070	T8	027452 G
SR.ABO=	002000	TF SABM	062326	TXRNRR	062532	T1	025324 G	T8.1	027500
SR.CRC=	100000	TF.ACT=	000001	TXRRC	062700	T1N202	063534	T8.11	027546
SR.EOM=	001000	TF.TLS=	000010	TXRRR	062456	T1N203	063604	T8.12	027640
SR.INV=	070000	TF.TRM=	000002	TXSABM	062334	T1N204	063646	T8.13	027730
SR.OVR=	004000	TF.TR1=	000004	TXUA	063042	T1N205	063646	T8.2	027732
SR.SOM=	000400	TIM220=	000004	TYPO0	012724	T1N206	063646	T8.21	030072
SR.STA=	107400	TIM50 =	000001	TYPO1	012727	T1N207	063646	T8.22	030164
SRO =	177572	TIM500=	000012	TYPO2	012734	T1N208	063646	T8.23	030254
SR3 =	172516	TMOUT	002440	TYPO3	012743	T1N209	063646	T8.3	030256
SSTACK	010466	TM0104	063470	TYPO4	012760	T1N210	063646	T8.31	030416
STACT	051714	TM0106	063512	TYPO5	013013	T10	036210 G	T8.32	030510
STATAB	072126	TM0107	063470	TYPO6	013052	T10.1	036236	T8.33	030600
STATE	047702	TM0108	063512	T\$ARGC=	000001	T10.11	036356	T8.4	030602
STATES=	000012	TM0109	063512	T\$CODE=	004130	T10.12	036504	T8.41	030742
STLIST	023776	TM0110	063470	T\$ERRN=	000003	T10.2	036506	T8.42	031032
STMUL	053754	TRACOM	070374	T\$EXCP=	000000	T10.21	036614	T8.43	031122
STNEXT	053214	TRATMO	056256	T\$FLAG=	000040	T10.22	036752	T8.5	031124
ST.ABO=	002000	TRDCOM	055700	T\$FREE=	077112	T10.3	036754	T8.51	031264
ST.EOM=	001000	TR.ABO=	000200	T\$GMAN=	000000	T10.31	037060	T8.52	031354
ST.GA =	004000	TR.ADB=	000001	T\$HILI=	000007	T10.32	037204	T8.53	031444
ST.SOM=	000400	TR.CRC=	000010	T\$LAST=	000001	T10.33	037350	T8.54	031534
ST1	017562	TR.FRM=	000002	T\$LOLI=	000004	T10.4	037352	T8.6	031536

T8.61	031604	WDATA	010644	X\$CUTX=	000025 G	X\$WTRX=	000042 G	\$CLKCT=	000256 G
T8.62	031676	WRITE	= 020000	X\$CUT1=	000004 G	X2CAST	062164	\$CLKDC=	000260 G
T8.63	031762	XACKTX	067354	X\$CUT2=	000010 G	X2CSTP	062012	\$CLKTK=	000024
T8.64	032056	XBLFRM	067474	X\$CUT3=	000014 G	X2CSTR	061670	\$CLKVL=	005216
T8.7	032060	XCHKNR	067126	X\$DISC=	000003 G	X2ECNT	055324	\$CLMEM	046074 G
T8.71	032220	XCPSUB	056742	X\$END =	000156 G	X2EDIS	055242	\$CMPDV=	000236 G
T8.72	032304	XERROR	051560	X\$EVNT=	000037 G	X2EENB	055100	\$CMQIN=	177536
T8.73	032400	XEVENT=	000037	X\$FALS=	000040	X2EGCH	054706	\$CMQRM=	177552
T8.74	032470	XE\$CRC=	000001	X\$FCCB=	000040 G	X2ESCH	054474	\$CSXDP	046112 G
T8.8	032472	XE\$FRR=	000001	X\$FLAG=	000030 G	X2ESTA	055272	\$CSXTB	000274 G
T8.81	032642	XE\$FRT=	000002	X\$FREE=	000051 G	X2ESTP	055450	\$CSXO	046302 G
T8.82	032726	XE\$INR=	000001	X\$FRFD=	000072 G	X2ESTR	055420	\$CSX2	046342 G
T8.83	033014	XE\$LNG=	000002	X\$FRMR=	000005 G	X2ETRD	055610	\$CTCMP=	176734
T8.84	033076	XE\$RJT=	000010	X\$IN =	000130 G	X2ETRE	055500	\$DC TPU=	172000
T9	033102 G	XE\$ROR=	000002	X\$INK =	000022 G	X25CCP	061662	\$DDAST=	176472
T9.1	033130	XE\$SHR=	000004	X\$INN2=	000020 G	X25CTB	051612	\$DDCCP=	176552
T9.11	033250	XE\$UND=	000004	X\$INTX=	000024 G	X25CTL	054466	\$DDRCP=	176532
T9.12	033422	XFLUSH	070006	X\$INT1=	000002 G	X25ETB	051564	\$DDSTP=	176400
T9.2	033424	XF.BTA=	040000	X\$INT2=	000006 G	X25PDV	045070 G	\$DDSTR=	176372
T9.21	033532	XF.CLK=	000002	X\$INT3=	000012 G	X25RCE	054176	\$DDXKL=	176350
T9.22	033772	XF.LOP=	000001	X\$LBUF=	000154 G	X25RCP	057066	\$DOXME=	176326
T9.23	034064	XF.MDM=	100000	X\$LERR=	000150 G	X25TMO	055764	\$DOXMP=	176522
T9.3	034066	XF.PRX=	002000	X\$LNRS=	000034 G	X25XCP	056430	\$DEBUG=	000001
T9.31	034172	XF.PTX=	000200	X\$LTMO=	000152 G	X25XME	054054	\$DSPTH=	177700
T9.32	034316	XF.REJ=	020000	X\$MR =	000144 G	ZF.COU=	001000	\$FRKHD=	000242 G
T9.33	034500	XF.RJS=	010000	X\$MS =	000142 G	ZF.DDM=	000001	\$FWEND=	076742
T9.4	034502	XF.STP=	000010	X\$NRDY=	000000 G	ZF.DLC=	000002	\$HIGH =	000272 G
T9.41	034610	XF.STR=	000004	X\$N1B =	000016 G	ZF.LLC=	000004	\$IMPLG=	000074 G
T9.42	034772	XF.TLS=	000100	X\$OFF =	177777 G	ZF.LMC=	000100	\$INTSX=	177174
T9.5	034774	XF.TMO=	004000	X\$OFFS=	000400	ZF.MFL=	000010	\$KCE.E=	000151 G
T9.51	035100	XF.TRA=	000040	X\$ON =	000001 G	ZF.MUX=	000040	\$KCE.I=	000200
T9.52	035340	XMERCE	047774	X\$OUT =	000126 G	ZF.TIM=	000200	\$KDEF =	000007
T9.53	035432	XMTADD	002456	X\$RBSY=	000004 G	Z.DAT =	000010	\$LDBAF=	000232 G
T9.6	035434	XMTBUF	002462	X\$RBUF=	000155 G	Z.DSP =	000000	\$LINDP	070666 G
T9.6	035540	XNRERR	066012	X\$RCNR=	000047 G	Z.FLG =	000006	\$LINTB	000472 G
T9.62	035644	XRSTT1	067612	X\$RERR=	000146 G	Z.LEN =	000010	\$LLCRQ=	177044
T9.63	035736	XSTATE=	000012 G	X\$RTMO=	000153 G	Z.LLN =	000004	\$LLCRS=	177142
T9.64	036022	XSTDRV	062244	X\$RUNN=	000012 G	Z.MAP =	000012	\$LLCTA=	000204 G
T9.65	036204	XSTPT1	067664	X\$SRCV=	000110 G	Z.NAM =	000002	\$LLCTB	045014 G
UAM	= 000200 G	XSTPT2	067672	X\$STAT=	000036 G	Z.SCH =	000005	\$LNDRM	071500 G
UASABM	065574	XSTPT3	067700	X\$SYNC=	000002 G	\$AUXDP	076500 G	\$LNRS1	072256
UA02	065440	XSTRT1	067604	X\$SZ =	000124 G	\$BFRTN	076504 G	\$LNRXD	071312 G
UA03	065504	XSTRT2	067622	X\$TBSY=	000011 G	\$BREAK	045772 G	\$LNRSX	072172 G
UNIT	002272	XSTRT3	067640	X\$TBUF=	000052 G	\$BUFF	045000 G	\$LNTXD	070712 G
UUT	002574	XTRARX	070320	X\$TFLG=	000046 G	\$CCBAF=	000226 G	\$LNUND	072032 G
VECTOR	043017	XTRATX	070262	X\$TMO =	000007 G	\$CCBC =	000022	\$LSTIN=	177777
VKMJAO	002000 G	X\$ADDA=	000027 G	X\$TPTR=	000050 G	\$CCBCT=	000222 G	\$LSTTA=	177777
V.DMRX=	000120	X\$ADDB=	000026 G	X\$TRAC=	000102 G	\$CCBGT=	175652	\$LTFNC=	000270 G
V.DMTD=	000100	X\$ALWA=	000000	X\$TRAN=	177776 G	\$CCBIN	045774 G	\$N1BDF=	000200
V.PRI3=	000300	X\$ARCV=	000114 G	X\$TRA1=	000076 G	\$CCBLH=	000246 G	\$N2DEF=	000012
V.PRIS=	000340	X\$BBSY=	000010 G	X\$TRA2=	000100 G	\$CCBNM=	000212 G	\$PATCH	076752 G
V.PRIT=	000240	X\$BR =	000136 G	X\$TRUE=	000020	\$CCBRT=	176272	\$PDSPL=	177300
V.PRIU=	000340	X\$BS =	000132 G	X\$VARX=	000035 G	\$CCBS =	000034	\$PDVID=	177574
V.PRIX=	000300	X\$BUSY=	000006 G	X\$VR =	000032 G	\$CCBSZ=	000214 G	\$PDVNM=	000206 G
V.RXVD=	000110	X\$CTIM=	000000 G	X\$VS =	000033 G	\$CHKDP	047654 G	\$PDVTA=	000200 G
V.RXST=	000150	X\$CUK =	000023 G	X\$WCNT=	000120 G	\$CHKTB	000304 G	\$PDVIB	045000 G
V.TUND=	000140	X\$CUN2=	000021 G	X\$WRCV=	000104 G	\$CKINT	076140 G	\$RAM =	000000

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 SYMBOL TABLE

\$RCCMP= 176754	\$RDBRT= 176136	\$ROM = 160000	\$STMDA= 000262 G	\$X25DP 051504 G
\$RDBAF= 000230 G	\$RDBS = 000032	\$SLTMA= 000202 G	\$STMDB= 000264 G	\$X25TB 000314 G
\$RDBC = 000005	\$RDBSZ= 000220 G	\$SLTMB 045012 G	\$STMFC= 000266 G	\$\$\$STR = 160000
\$RDBCT= 000224 G	\$RDATH= 000234 G	\$SLTMM= 000210 G	\$TSTIM= 177652	\$\$\$ADD= 045000
\$RDBGT= 175736	\$RDBW1= 176010	\$SPOOL= 000522 G	\$T1DEF= 000100	\$\$\$STR 045110 G
\$RDBIN 046032 G	\$RDBYN 045370 G	\$STACK= 077776	\$T2DEF= 000050	.WAIT 010474
\$RDBLH= 000250 G	\$RDQCT= 000254 G	\$START= 045110	\$T3DEF= 000005	..SIZE 010756
\$RDBNM= 000216 G	\$RDQSL= 000252 G	\$STKDP= 000240 G	\$XMCMP= 176724	

. ABS. 077112 000
 000000 001

ERRORS DETECTED: 0

VIRTUAL MEMORY USED: 39760 WORDS (156 PAGES)

DYNAMIC MEMORY: 21612 WORDS (83 PAGES)

ELAPSED TIME: 00:10:31

VKMJAO.BIN, VKMJAO.SEQ/CR/ -SP=LIBA/ML, VKMJAO.DOC, VKMJAO.P11, KASTOR.TMP