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IDENTIFICATION

PRODUCT CODE: AC-T846A-MC
PRODUCT NAME: CNKMCAD KMV11-A FCTNL. DIAG
PRODUCT DATE: APRIL 9, 1984
MAINTAINER: ISS/DIAGNOSTIC SERVICES
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MODIFIED BY: JAKI BERG 9-APR-1984

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1.0 INTRODUCTION

1.1 PROGRAM ABSTRACT

THIS DIAGNOSTIC IS DESIGNED TO TEST THE KHV11-A FIRMWARE WHICH HANDLES BASIC HDLC/SDLC FRAMING WITH FULL MODEM CONTROL ACCORDING TO DEC STD 052.

TO UNDERSTAND THIS DIAGNOSTIC, IT IS RECOMMENDED THAT THE FIRMWARE FUNCTIONAL SPECIFICATIONS (APPENDIX A OF THE KHV11-A TECHNICAL MANUAL) BE READ.

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

THE PURPOSE OF THIS PROGRAM IS TO PERFORM TESTING OF:

- SEQUENCING THE COMMANDS AND RESPONSES RECEIVED
- XMIT/RECEIVE PATHS USING THE LOOP BACK FACILITY
- ALL THE POSSIBLE STATUS RETURNED

DUE TO THE LOOP BACK MODE OF TEST, SOME STATUS CAN'T BE TESTED THESE ARE:

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

DUE TO THE FACT THAT THE KHV11-A MODULE UNDER TEST IS CONSIDERED TO RUN CORRECTLY FROM A HARDWARE POINT OF VIEW, THE STATUS 370 (LATENCY ERROR) CAN'T BE TESTED EITHER.

THE XMIT/RECEIVE PATH IS TESTED :

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

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

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

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

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

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VECTOR ADDRESS.

CAUTION:

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 KHV RAM, WILL
CAUSE FALSE TEST CONDITIONS (PARTICULARLY, THIS CONCERNS CCB'S
RDB'S LENGTH AND NUMBER).

1.2 HARDWARE INTRODUCTION

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

EXTERNAL LOOP BACK CONNECTORS:

KHV11-A CAN OPERATE UNDER THE RS422 OR RS232 RECOMMENDATIONS

RS422 LOOP BACK:

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

RS423 LOOP BACK:

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

RS232 LOOP BACK:

-SAME AS FOR RS423

CAUTION:

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

CAUTION:

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

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

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2.0 HARDWARE REQUIREMENTS

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

SBC-11/21.
16K MEMORY
CONSOLE TERMINAL.
THE M7500 MODULE WITH EPROM'S AT ECO LEVEL 1

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3.0 PRELIMINARY PROGRAM REQUIREMENTS

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

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

```
*****
*
*   NOTE: THE KMV11 DIAGNOSTICS NKMDA AND NKMB A SHOULD BE
*   BEFORE RUNNING NKMCA.
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4.0 GENERAL PROGRAM CONSIDERATIONS

4.1 DIAGNOSTIC SUPERVISOR

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

4.2 EXECUTION TIME

THE TOTAL TIME REQUIRED TO RUN THE M7500 FUNCTIONAL TESTS IS ABOUT 260 SECONDS PER PASS FOR EACH UNIT.

4.3 XXDP+

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

4.4 ACT

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

4.5 APT

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

4.6 MEMORY MANAGEMENT

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

4.7 MEMORY PARITY OPTION

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

4.8 ERROR LOGGING

THE NUMBER OF ERRORS WHICH HAVE OCCURRED ON EACH DEVICE

CNKMCAO KMV11 A FCTNL DIAG
PROGRAM DOCUMENT

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SEQ 8

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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-O
NMCAO
KMV11-A FUNCTIONAL DIAGNOSTIC
UNIT IS M7500
50 HZ (L) N? Y
LSI (L) N? Y
DR>...

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

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6.3 PROGRAM OPTIONS

6.3.1 START COMMAND

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*****  
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
ILR	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-1> 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

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

6.3.2.1 TESTS, PASS, AND FLAGS SWITCHES

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

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

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

6.3.3 CONTINUE COMMAND

```
*****  
CON(INUE)/PASS:<PASS-CNT>/FLAG:<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

PROCEED)/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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RATE = 2.4K

EXPECTED RESPONSES ARE:

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

CURRENT STATE = S6

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

SUBTEST3 - DECONFIGURE THE LINE

ENTER COMMAND F17 TWICE

ENTER COMMAND F14 TWICE

ENTER COMMAND F16 TWICE

ENTER COMMAND F1

" " F2 TWICE

" " F1

EXPECTED RESPONSES ARE:

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

THEN CURRENT STATE = S1

MODEM = ALL OFF

SUBTEST4 - TEST THAT WE ARE OFF LINE AGAIN

ENTER COMMAND F17 FOR STATUS = 1

F14 FOR STATUS = 371

REPORTS:

ERROR 10000 KHV11 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

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THIS IS THE ADDRESS AT WHICH THE CSR REGISTERS (SELO) RESIDE
ON THE QBUS. THE DEFAULT IS 177000 (OCTAL).

2. DEVICE VECTOR ADDRESS : (0) 300 ?

THIS IS THE ADDRESS OF THE FIRST INPUT INTERRUPT VECTOR FOR
THIS DEVICE. THE ALLOWABLE RANGE IS 000-677 (OCTAL), AND THE
DEFAULT VALUE IS 300.

3. DEVICE PRIORITY LEVEL : (0) 4 ?

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

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

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

6.3.13 SOFTWARE PARAMETERS

NO SOFTWARE PARAMETERS ARE REQUESTED BY THE LOGIC DIAGNOSTIC

6.3.14 EXTENDED DISCUSSION OF P-TABLE DIALOGUE

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

AFTER THE INITIAL DIALOGUE, THE SUPERVISOR ISSUES THE QUES-
TION BELOW:

CHANGE HW (L) ?

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

* UNITS (D) ?

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

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

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CARRIED OUT, EXCEPT THAT THE EARLIEST P-TABLE NOT TO HAVE RECEIVED AN EXPLICIT VALUE IN ANY OF ITS SLOTS NOW ASSUMES THE ROLE THAT TABLE NUMBER ONE PLAYED IN THE FIRST TRIP.

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

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

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

THE FOLLOWING DIALOGUE WOULD ACCOMPLISH THIS GOAL:

* UNITS (D) ? 16

UNIT 1

<QUESTION 1> ? 75

<QUESTION 2> ? 0-6

<QUESTION 3> ? 76

UNIT 21

<QUESTION 1> ?

<QUESTION 2> ? 7-11,,13-15

<QUESTION 3> ? 77

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

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

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PROGRAM DOCUMENT

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

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7.0 TEST DESCRIPTIONS

*****TEST01*****

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

MODE: APPLICATION MODE

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER
CLEAR

*****TEST02*****

** - SELF-TEST RUNNING TEST

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

MODE: APPLICATION MODE

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

*****TEST03*****

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

MODE: APPLICATION MODE

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

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*****TEST04*****  
** - TEST OF THE CSR HANDSHAKING WITHOUT INTERRUPT  
COMMAND LOADED: READ MODEM (F14)  
RESPONSE EXPECTED:      READ MODEM RESPONSE WITH :  
                           STATUS = 371  
                           MODEM  = ALL OFF  
  
REPORTS:      ERROR 10000  KMV11 FAILS TO RESET MASTER  
                           CLEAR  
                ERROR 10001  RUN FUNCTION NOT CORRECTLY  
                           PERFORMED  
                ERROR 10002  WRITE FUNCTION NOT CORRECTLY  
                           PERFORMED  
                ERROR 10003  READ FUNCTION NOT CORRECTLY  
                           PERFORMED  
                ERROR 10004  DATA COMPARE ERROR  
                ERROR 10005  UNEXPECTED INTERRUPT IN  
                ERROR 10006  UNEXPECTED INTERRUPT OUT  
                ERROR 10007  NO MORE INTERRUPT WHILE QIO  
                           PENDING  
                ERROR 10008  UNEXPECTED EPROM'S ON KMV  
                ERROR 10009  UNEXPECTED QIO RESPONSE  
                ERROR 00002  RDI NOT ASSERTED BY THE KMV  
                           AFTER AN INPUT REQ  
                ERROR 00003  RDO NOT ASSERTED BY THE KMV  
                           IN RESPONSE  
                ERROR 00004  UNEXPECTED INTERRUPT RECEI-  
                           VED IEI&IEO DISABLED  
  
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*****TEST05*****  
** - TEST OF THE CSR HANDSHAKING WITH INTERRUPTS  
COMMAND LOADED: READ MODEM (F14)  
RESPONSE EXPECTED:      READ MODEM RESPONSE WITH :  
                           STATUS = 371  
                           MODEM  = ALL OFF  
  
REPORTS:      ERROR 10000  KMV11 FAILS TO RESET MASTER  
                           CLEAR  
                ERROR 10001  RUN FUNCTION NOT CORRECTLY  
                           PERFORMED  
                ERROR 10002  WRITE FUNCTION NOT CORRECTLY  
                           PERFORMED  
                ERROR 10003  READ FUNCTION NOT CORRECTLY  
                           PERFORMED  
                ERROR 10004  DATA COMPARE ERROR  
                ERROR 10005  UNEXPECTED INTERRUPT IN  
                ERROR 10006  UNEXPECTED INTERRUPT OUT  
                ERROR 10007  NO MORE INTERRUPT WHILE QIO
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PENDING
ERROR 10008 UNEXPECTED EPROM'S ON KHV
ERROR 10009 UNEXPECTED QIO RESPONSE

*****TEST06*****

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

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

COMMAND LOADED: ALL COMMANDS

RESPONSE EXPECTED:

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

REPORTS: ERROR 10000 KHV11 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 KHV
ERROR 10009 UNEXPECTED QIO RESPONSE

*****TEST07*****

** - TEST OF QIO PROCESSING AS BELOW:

SUBTEST1 : STATE = S1
ALL THE COMMANDS EXCEPT F1 ARE PASSED
WHILE THE LINE IS NOT CONFIGURATED.
EXPECTED STATUS ARE:
STATUS = 371 FOR F2,F5,F6,F7,F10,F14
= 1 FOR F16,F17
= NONE FOR DUMMY COMMANDS

SUBTEST2 - ENTER COMMAND F16 TWICE
ENTER COMMAND F1 TWICE FOR:
SDLC PROTOCOL
FULL MODEM CONTROL
CLOCK SOURCE INTERNAL.

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BEFORE TEST, A COMMAND F14 IS GIVEN FIRST
TO CONTROL MODEMS AND THE LINE STATE, SUCH AS:

STATE = S6
MODEM = S142 ON

SUBTEST1

- TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
OF 2 BUFFERS.
THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
EXPECTED RESPONSES ARE:

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

PATTERN: INCREMENTAL

REPORTS: ERROR 10000 KHV11 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 KHV
ERROR 10009 UNEXPECTED QIO RESPONSE
ERROR 10010 UNEXPECTED NUMBER OF RESP-
ONSES RECEIVED
ERROR 10011 UNEXPECTED DATA RECEIVED
ERROR 10012 LOOP BACK NOT USED

*****TEST12*****

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

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

BEFORE TEST, A COMMAND F14 IS GIVEN FIRST

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1060 ERROR 10008 UNEXPECTED EPROM'S ON KMV
1061 ERROR 10009 UNEXPECTED QIO RESPONSE
1062 ERROR 10010 UNEXPECTED NUMBER OF RESP-
1063 ONSES
1064 ERROR 10012 LOOP BACK NOT USED
1065
1066 *****
1067
1068 *****TEST08*****
1069
1070 TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 2.4K
1071 WITH FULL MODEM CONTROL
1072
1073 CONFIGURATE: SDLC PROTOCOL
1074 FULL MODEM CONTROL
1075 WITHOUT ADDRESS SEARCH
1076 CLOCK SOURCE INTERNAL
1077 RATE = 2.4K
1078
1079 BEFORE SUBTESTS, A COMMAND F14 IS GIVEN FIRST
1080 TO CONTROL MODEMS AND THE LINE STATE, SUCH AS:
1081 STATE = S6
1082 MODEM = S142+S112+S109+S106+S107 ON
1083
1084 SUBTEST1 - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
1085 OF 2 BUFFERS.
1086 THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
1087 XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
1088 EXPECTED RESPONSES ARE:
1089 STATUS = 360 FOR F6 THIRD BUFFER PASSED
1090 = 372 FOR F5 1 BYTE LONG BUFFER
1091 = 360 FOR F5 THIRD BUFFER PASSED
1092 = 1 FOR F5 FIRST BUFFER XMITTED
1093 = 1 FOR F6 FIRST BUFFER FELT
1094 = 1 FOR F5 SECOND BUFFER XMITTED
1095 = 1 FOR F6 SECOND BUFFER FELT
1096
1097 SUBTEST2 - TEST OF BUFFER OVERFLOW STATUS 373 FOR RECEPTION
1098 A 32 BYTE LONG BUFFER IS AFFECTED FOR RECEPTION WHILE
1099 A 100 BYTE LONG BUFFER IS PASSED TO XMIT.
1100 EXPECTED RESPONSES ARE:
1101 STATUS = 1 FOR F5 BUFFER XMITTED
1102 = 373 FOR F6 BUFFER OVERFLOW
1103
1104 SUBTEST3 - TEST OF NON EXISTENT MEMORY STATUS 374
1105 TWO RECEIVE BUFFER ARE AFFECTED ONE OF WHICH WITH
1106 NON EXISTENT ADDRESS
1107 TWO XMIT BUFFERS ARE PASSED ONE OF WHICH WITH NON
1108 EXISTENT ADDRESS
1109 EXPECTED RESPONSES ARE:
1110 STATUS = 374 FOR F6 NON EXISTENT MEMORY BUFFER
1111 = 1 FOR F5 COORRECT BUFFER
1112 = 374 FOR F5 NON EXISTENT MEMORY BUFFER
1113 = 364 FOR F6 RECEIVE ABORT
1114
1115 SUBTEST4 - TEST OF ABORT RECEIVED STATUS 364 AND ACTION OF XMIT
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1117 ABORT COMMAND.
1118 ONE RECEIVE BUFFER IS AFFECTED THEN, TWO XMIT BUFFERS
1119 ARE PASSED. AFTER A SHORT WAIT, XMIT ABORT IS GIVEN
1120 EXPECTED STATUS ARE:
1121 STATUS = 1 FOR F7 XMIT ABORTED
1122 = 364 FOR F6 ABORT RECEIVED
1123
1124 SUBTEST5 - TEST OF ACTION OF RECEIVE ABORT COMMAND.
1125 TWO RECEIVE BUFFERS ARE AFFECTED THEN, TWO XMIT ONES
1126 ARE PASSED. AFTER A SHORT WAIT, RECEIVE ABORT IS GIVEN
1127 EXPECTED STATUS ARE:
1128 STATUS = 1 FOR F10 RECEIVE ABORTED
1129 = 1 FOR F5 FIRST BUFFER SENT
1130 = 1 FOR F5 SECOND BUFFER SENT
1131
1132 SUBTEST6 - TEST OF KMY RDB OVERFLOW DURING XMIT/RECEIVE BUFFER
1133 ONE RECEIVE BUFFER IS AFFECTED,
1134 THEN TWO XMIT BUFFER ARE PASSED THE FIRST ONE TOO
1135 LONG.
1136 EXPECTED STATUS ARE:
1137 STATUS = 373 FOR FIRST F5
1138 = 1 FOR SECOND F5
1139 = 1 FOR F6
1140
1141 SUBTEST7 - TEST OF A DECONFIGURATE DURING XMIT/RECEIVE BUFFER,
1142 TWO RECEIVE BUFFERS ARE AFFECTED THEN, TWO XMIT ONES
1143 ARE PASSED. AFTER A SHORT WAIT, DECONFIGURATE IS PASSED
1144 EXPECTED STATUS IS:
1145 STATUS = 1 FOR F2 DECONFIGURATE DONE
1146 AND ALL BUFFERS ARE KILLED
1147
1148 PATTERN: INCREMENTAL
1149 FOR EACH TEST WHERE A CORRECT BUFFER IS OBTAINED, THIS BUFFER
1150 IS COMPARED TO THE CORRESPONDING XMIT BUFFER
1151
1152 REPORTS: ERROR 10000 KMY11 FAILS TO RESET MASTER
1153 CLEAR
1154 ERROR 10001 RUN FUNCTION NOT CORRECTLY
1155 PERFORMED
1156 ERROR 10002 WRITE FUNCTION NOT CORRECTLY
1157 PERFORMED
1158 ERROR 10003 READ FUNCTION NOT CORRECTLY
1159 PERFORMED
1160 ERROR 10004 DATA COMPARE ERROR
1161 ERROR 10005 UNEXPECTED INTERRUPT IN
1162 ERROR 10006 UNEXPECTED INTERRUPT OUT
1163 ERROR 10007 NO MORE INTERRUPT WHILE QIO
1164 PENDING
1165 ERROR 10008 UNEXPECTED EPROM'S ON KMY
1166 ERROR 10009 UNEXPECTED QIO RESPONSE
1167 ERROR 10010 UNEXPECTED NUMBER OF RESP-
1168 ONSES RECEIVED
1169 ERROR 10011 UNEXPECTED DATA RECEIVED
1170 ERROR 10012 LOOP BACK NOT USED
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*****TEST09*****

TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 2.4K
WITH DATA LEADS ONLYCONFIGURATE: HDLC PROTOCOL
DATA LEADS ONLY
WITHOUT ADDRESS SEARCH
CLOCK SOURCE INTERNAL
RATE = 2.4KBEFORE SUBTESTS A COMMAND F14 IS GIVEN FIRST TO CONTROL
THE LINE STATE AND MODEM SUCH AS:STATE = S6
MODEM = S142 ONLYSUBTEST1 - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
OF 2 BUFFERS.
THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
EXPECTED RESPONSES ARE:
STATUS = 360 FOR F6 THIRD BUFFER PASSED
= 372 FOR F5 1 BYTE LONG BUFFER
= 360 FOR F5 THIRD BUFFER PASSED
= 1 FOR F5 FIRST BUFFER XMITTED
= 1 FOR F6 FIRST BUFFER FELT
= 1 FOR F5 SECOND BUFFER XMITTED
= 1 FOR F6 SECOND BUFFER FELTSUBTEST2 - TEST OF BUFFER OVERFLOW STATUS 373 FOR RECEPTION
A 32 BYTE LONG BUFFER IS AFFECTED FOR RECEIVE WHILE
A 100 BYTE LONG BUFFER IS PASSED TO XMIT.
EXPECTED RESPONSES ARE:
STATUS = 1 FOR F5 BUFFER XMITTED
STATUS = 373 FOR F6 BUFFER OVERFLOWSUBTEST3 - TEST OF NON EXISTENT MEMORY STATUS 374
TWO RECEIVE BUFFER ARE AFFECTED ONE OF WHICH WITH
NON EXISTENT ADDRESS
TWO XMIT BUFFERS ARE PASSED ONE OF WHICH WITH NON
EXISTENT ADDRESS
EXPECTED RESPONSES ARE:
STATUS = 374 FOR F6 NON EXISTENT MEMORY BUFFER
= 1 FOR F5 CORRECT BUFFER
= 374 FOR F5 NON EXISTENT MEMORY BUFFER
= 364 FOR F6 RECEIVE ABORTSUBTEST4 - TEST OF ABORT RECEIVED STATUS 364 AND ACTION OF XMIT
ABORT COMMAND.
ONE RECEIVE BUFFER IS AFFECTED THEN, TWO XMIT BUFFERS
ARE PASSED. AFTER A SHORT WAIT, XMIT ABORT IS GIVEN
TWICE.
EXPECTED STATUS ARE:
STATUS = 1 FOR F5 XMIT ABORTED
= 364 FOR F6 ABORT RECEIVED

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1231 SUBTEST5 - TEST OF ACTION OF RECEIVE ABORT COMMAND.
1232 TWO RECEIVE BUFFERS ARE AFFECTED THEN, TWO XMIT ONES
1233 ARE PASSED. AFTER A SHORT WAIT, RECEIVE ABORT IS GIVEN
1234 EXPECTED STATUS ARE:
1235 STATUS = 1 FOR F10 RECEIVE ABORTED
1236          = 1 FOR F5 FIRST BUFFER SENT
1237          = 1 FOR F5 SECOND BUFFER SENT
1238
1239 SUBTEST6 - TEST OF KHV RDB OVERFLOW DURING XMIT/RECEIVE BUFFER
1240 ONE RECEIVE BUFFER IS AFFECTED,
1241 THEN TWO XMIT BUFFER ARE PASSED THE FIRST ONE TOO LONG
1242 EXPECTED STATUS ARE:
1243 STATUS = 373 FOR FIRST F5
1244          = 1 FOR SECOND F5
1245          = 1 FOR F6
1246
1247 SUBTEST7 - TEST OF A DECONFIGURATE DURING XMIT/RECEIVE BUFFER,
1248 TWO RECEIVE BUFFERS ARE AFFECTED THEN, TWO XMIT ONES
1249 ARE PASSED. AFTER A SHORT WAIT, DECONFIGURATE IS PASSED
1250 EXPECTED STATUS IS:
1251 STATUS = 1 FOR F2 DECONFIGURATE DONE
1252          AND ALL BUFFERS ARE KILLED
1253
1254 PATTERN: INCREMENTAL
1255
1256
1257 REPORTS: ERROR 10000 KHV11 FAILS TO RESET MASTER
1258          CLEAR
1259          ERROR 10001 RUN FUNCTION NOT CORRECTLY
1260          PERFORMED
1261          ERROR 10002 WRITE FUNCTION NOT CORRECTLY
1262          PERFORMED
1263          ERROR 10003 READ FUNCTION NOT CORRECTLY
1264          PERFORMED
1265          ERROR 10004 DATA COMPARE ERROR
1266          ERROR 10005 UNEXPECTED INTERRUPT IN
1267          ERROR 10006 EXPECTED INTERRUPT OUT
1268          ERROR 10007 NO MORE INTERRUPT WHILE QIO
1269          PENDING
1270          ERROR 10008 UNEXPECTED EPROM'S ON KHV
1271          ERROR 10009 UNEXPECTED QIO RESPONSE
1272          ERROR 10010 UNEXPECTED NUMBER OF RESP-
1273          ONSES RECEIVED
1274          ERROR 10011 UNEXPECTED DATA RECEIVED
1275          ERROR 10012 LOOP BACK NOT USED
1276
1277 *****
1278
1279 *****TEST10*****
1280
1281 TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 64K
1282 WITH FULL MODEM CONTROL
1283
1284 CONFIGURATE: SDLC PROTOCOL
1285              FULL MODEM CONTROL
1286              WITHOUT ADDRESS SEARCH
1287

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CLOCK SOURCE INTERNAL
RATE = 64K

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

TEST

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

PATTERN: INCREMENTAL

REPORTS:

ERROR 10000	KHV11 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 KHV
ERROR 10009	UNEXPECTED QIO RESPONSE
ERROR 10010	UNEXPECTED NUMBER OF RESP- ONSES RECEIVED
ERROR 10011	UNEXPECTED DATA RECEIVED
ERROR 10012	LOOP BACK NOT USED

*****TEST11*****

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

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

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BEFORE TEST, A COMMAND F14 IS GIVEN FIRST
TO CONTROL MODEMS AND THE LINE STATE, SUCH AS:

STATE = S6
MODEM = S142 ON

SUBTEST1

- TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
OF 2 BUFFERS.
THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
EXPECTED RESPONSES ARE:

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

PATTERN: INCREMENTAL

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

*****TEST12*****

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

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

BEFORE TEST, A COMMAND F14 IS GIVEN FIRST

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

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

PATTERN: INCREMENTAL

REPORTS: ERROR 10000 KHV11 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 KHV
ERROR 10009 UNEXPECTED QIO RESPONSE
ERROR 10010 UNEXPECTED NUMBER OF RESP-
ONSES RECEIVED
ERROR 10011 UNEXPECTED DATA RECEIVED
ERROR 10012 LOOP BACK NOT USED

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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:

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

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

- ERROR REPORT LIST -

8.1.1 ERROR REPORTS NOTICED INSIDE SUB-ROUTINES

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

	READ	EXPECTED
SELO	040000	000000

♦♦ - ERROR REPORT 10001
RUN FUNCTION NOT CORRECTLY PERFORMED

	READ	EXPECTED
SELO	040000	000000

♦♦ - ERROR REPORT 10002
WRITE FUNCTION NOT CORRECTLY PERFORMED

	READ	EXPECTED
SELO	040000	000000

♦♦ - ERROR REPORT 10003
READ FUNCTION NOT CORRECTLY PERFORMED

	READ	EXPECTED
SELO	040000	000000

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

	ADDRESS	READ	EXPECTED
1504	34000	127000	002737
1505			
1506			
1507	** - ERROR REPORT 10005		
1508	UNEXPECTED INTERRUPT IN		
1509			
1510	SEL0	READ = 000000	
1511	SEL2	READ = 000000	
1512	SEL4	READ = 000000	
1513	SEL6	READ = 000000	
1514			
1515	NUMBER OF PENDING INPUTS = 06		
1516	NUMBER OF RESPONSES = 00		
1517			
1518	** - ERROR REPORT 10006		
1519	UNEXPECTED INTERRUPT OUT		
1520			
1521	SEL0	READ = 000000	
1522	SEL2	READ = 000000	
1523	SEL4	READ = 000000	
1524	SEL6	READ = 000000	
1525			
1526	NUMBER OF PENDING INPUTS = 06		
1527	NUMBER OF RESPONSES = 00		
1528			
1529	** - ERROR REPORT 10007		
1530	NO MORE INTERRUPT IN WHILE INPUTS ARE PENDING		
1531			
1532	NUMBER OF PENDING INPUTS = 06		
1533	NUMBER OF RESPONSES = 00		
1534			
1535	** - ERROR REPORT 10008		
1536	UNEXPECTED EPROM'S ECO LEVEL		
1537			
1538	OBTAINED ECO LEVEL = 000001		
1539	EXPECTED ONE = 000002		
1540			
1541	** - ERROR REPORT 10009		
1542	UNEXPECTED QIO RESPONSE		
1543			
1544	BAD QIO RESPONSE NUMBER = 2 (SPECIFY THE SEQUENCING NUMBER OF IT)		
1545			
1546	SEL2	READ = 000201	
1547	SEL4	READ = 000000	
1548	SEL4	READ = 000400	
1549			
1550	** - ERROR REPORT 10010		
1551	UNEXPECTED NUMBER OF RESPONSES RECEIVED		
1552			
1553	EXPECTED NUMBER OF RESPONSES = 3		
1554	NUMBER OF RESPONSES RECEIVED = 1		
1555			
1556	** - ERROR REPORT 10011		
1557	UNEXPECTED DATA RECEIVED		
1558			
1559	TRANSMIT BUFFER ADDRESS : 005512		
1560	RECEIVE BUFFER ADDRESS : 002512		

```

1561 RECORD SIZE : 100 (DECIMAL)
1562 BYTES IN ERROR : 88 (DECIMAL)
1563
1564 ADDRESS DATA
1565 XMIT BUFFER: 005552 040
1566 RCV BUFFER: 002552 000
1567
1568 XMIT BUFFER: 005553 041
1569 RCV BUFFER: 002553 000
1570
1571 .... UP TO 8 ERROR ARE REPORTED ONLY
1572
1573 ** - ERROR REPORT 10012
1574 THIS TEST IS SKIPPED BECAUSE THERE IS NO EXTERNAL LOOP
1575
1576
1577 8.1.2 ERROR REPORT NOTICED INSIDE THE TEST:
1578
1579 ** - ERROR REPORT 00001
1580 SELF TEST IS NOT CORRECTLY RUN
1581
1582 ** - ERROR REPORT 00002
1583 RDOI NOT ASSERTED BY THE KMV AFTER AN RQI
1584
1585 SEL02 = 000000 EXPECTED VALUE = 000400
1586
1587 ** - ERROR REPORT 00003
1588 RDOI NOT ASSERTED BY THE KMV FOR A VALID RESPONSE
1589
1590 SEL02 = 000000 EXPECTED VALUE = 000204

```

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9.0 HISTORY

- VERSION 01, REVISION 00 NOVEMBER 1982
 - CVKMCA → CNKMCA APRIL 9, 1984 JAKI BERG
- CHANGES WERE MADE TO CVKMCA TO PRODUCE CNKMCA FOR THE FALCON-PLUS PROJECT (SBC-11/21+). CHANGES, MARKED BY ";JB REV A-0", ARE:
- SET THE ODT BREAK VECTOR (LOCATION 140) TO THE STARTING ADDRESS OF FALCON'S ODT ROM (170000 OCTAL).
 - REMOVE THE "IS THE HOST COMPUTER AN 11/23+ SYSTEM?" QUESTION.
 - ADJUSTED WAIT MACRO FOR FALCON+ TIMING.
 - CHANGED PRIORITY LEVEL 7 TO LEVEL 6 TO ALLOW BREAK KEY TO INTERRUPT.

□

```

1620
1621      002000      .NLIST ME
1622                      . "2000
1623
1624
1625
1626
1627
1628      002000      .MCALL SVC
1629                      SVC                      ; INITIALIZE SUPERVISOR MACROS
1630
1631
1632
1633
1634      002000      BGNMOD NKMCAL
1635
1636
1637      177777      $LSTIN= -1
1638      177777      $LSTTAG= -1
1639      177777      SVCINS= -1      ; LIST INSTRUCTIONS, SHIFTED RIGHT
1640      177777      SVCTST= -1      ; LIST TEST TAGS, SHIFTED RIGHT
1641      177777      SVCSUB= -1      ; LIST SUBTEST TAGS, SHIFTED RIGHT
1642      177777      SVCGBL= -1      ; LIST GLOBAL TAGS, SHIFTED RIGHT
1643      177777      SVCTAG= -1      ; LIST OTHER TAGS, SHIFTED RIGHT
1644
1645      ;      CHANGE THE VALUES OF THE SVC... SYMBOLS TO BE ZERO IF YOU WISH
1646      ;      TO ALIGN THE MACRO CALLS AND THEIR EXPANSIONS.  CHANGE THE
1647      ;      SYMBOLS TO BE MINUS-ONE TO NOT LIST THE EXPANSIONS.  YOU MAY
1648      ;      CHANGE THE SYMBOLS AT ANY POINT IN YOUR PROGRAM.
1649
1650

```

K3

CNMCA0 KMV11 A FCTNL DIAG
PROGRAM HEADER

MACRO M1200 05-APR-84 11:29 PAGE 14

SEQ 36

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1653
1654
1655
1656
1657
1658 002000
1659
1660
1661
1679
1680 002000
1681
1692

```
.SBTTL PROGRAM HEADER
; ++
; THE PROGRAM HEADER IS THE INTERFACE BETWEEN
; THE DIAGNOSTIC PROGRAM AND THE SUPERVISOR.
; --

        POINTER BGNBU,BGNSETUP

        HEADER NKMCA0,A,0,180.,0
```

1694

1695

1696

1697

1698

1699

1700 002122

1701

1702 002122 000000

1703 002124 177777

1704 002126 177777

1705

1706

1720

1721

1722 002130

1723

; **

; 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

M3

CNKMCAQ KMV11-A FCTL DIAG
DISPATCH TABLE

MACRO M1200 05-APR-84 11:29 PAGE 16

SEQ 38

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1732 002130
1733
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1744

.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

```

1746 .SBTTL DEFAULT HARDWARE P-TABLE
1747
1748 ;////////////////////////////////////
1749 ;/ THE DEFAULT HARDWARE P-TABLE CONTAINS DEFAULT VALUES OF
1750 ;/ THE TEST-DEVICE PARAMETERS. THE STRUCTURE OF THIS TABLE
1751 ;/ IS IDENTICAL TO THE STRUCTURE OF THE RUN-TIME P-TABLE.
1752 ;/ AND IS USED AS A " TEMPLATE" FOR BUILDING THE P-TABLE
1753 ;////////////////////////////////////
1754
1755 .ENABL AMA DFPTBL
1756 002162 BGNHW
1757
1758 002164 177000 .WORD 177000 ;KMV11 CSR ADDRESS
1759 002166 000300 .WORD 300 ;KMV11 VECTOR ADDRESS IN
1760 002170 004000 .WORD 4000 ;INTERRUPT PRIORITY LEVEL
1761 002172 000001 .WORD 1 ;TEST CONNECTOR INSTALLED FLAG
1762 ; .WORD 1 ;WORD=1 FOR PDP11/23+ ;JB REV A-0
1763 002174 000000 .WORD 0 ;WORD=0 FOR NOT A PDP11/23+ ;JB REV A-0
1764
1765
1766 002176 ENDPHW

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1824 002176

.SBTTL GLOBAL EQUATES SECTION

```

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

```

.LIST ME
EQUALS

! BIT DEFINITIONS

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

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

! EVENT FLAG DEFINITIONS

! EF32:EF17 RESERVED FOR SUPERVISOR TO PROGRAM COMMUNICATION

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

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1853

000340
000300
000240
000200
000140
000100
000040
000000

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

|
| PRIORITY LEVEL DEFINITIONS
|
|
| PRI07-- 340
| PRI06-- 300
| PRI05-- 240
| PRI04-- 200
| PRI03-- 140
| PRI02-- 100
| PRI01-- 40
| PRI00-- 0
|
| OPERATOR FLAG BITS
|
| EVL--      4
| LOT--     10
| ADR--     20
| IDU--     40
| ISR--    100
| UAM--    200
| BOE--    400
| PNT--   1000
| PRI--   2000
| IXE--   4000
| IBE--  10000
| IER--  20000
| LOE--  40000
| MOE-- 100000
| NLIST ME
|
| *****
| * PROGRAM DIRECT ASSIGNMENTS
| *****
|
| CSR OFFSETS DEFINITIONS
|
|
| SEL0      = 0
| SEL2      = SEL0+2
| SEL4      = SEL2+2
| SEL6      = SEL4+2
| SEL10     = SEL6+2
| SEL12     = SEL10+2
| SEL14     = SEL12+2
| SEL16     = SEL14+2
|
| BSEL0     = 0
| BSEL1     = BSEL0+1
| BSEL2     = BSEL1+1
| BSEL3     = BSEL2+1
| BSEL4     = BSEL3+1
| BSEL5     = BSEL4+1
| BSEL6     = BSEL5+1
| BSEL7     = BSEL6+1
|
| CSRLEN    = 8,
| LENGTH OF CSR IN WORDS

```

```

1854
1855
1856      ; M.M.U. REGISTERS
1857      ;
1858
1859      172340      PAR0      = 172340      ;PAGE ADDRESS REGISTER 0
1860      172356      PAR7      = 172356      ; " " " 7
1861      172300      PDRO      = PAR0-40      ;PAGE DESCRIPTOR REGISTER 0
1862      077406      PDDEF      = 77406      ;PLF=128 ED=UP ACF=R/W
1863
1864      177572      SRO      = 177572      ;STATUS REGISTER 0
1865      172516      SR3      = 172516      ; " " 3
1866
1867      ;
1868      ; SELO BIT DEFINITIONS
1869      ;
1870
1871      100000      RUN      = BIT15      ;TO RUN APPLICATION FIRMWARE OR, IF
1872      040000      MCLR      = BIT14      ;MCLR SET, TO RUN SELF-TEST
1873      020000      WRITE     = BIT13      ;MASTER CLEAR
1874      010000      LOOE      = BIT12      ;TO LOAD APPLICATION CODE
1875      002000      READ      = BIT10      ;RESERVED
1876      001000      LOOP      = BIT09      ;TO UNLOAD APPLICATION CODE
1877      000400      ERR      = BIT08      ;TO SELECT INTERNAL LOOP
1878      000200      RQI      = BIT07      ;LOAD/UNLOAD ILLEGAL ADDRESS ERROR
1879      000020      IE0      = BIT04      ;TO REQUEST CSR TRANSACTION
1880      000001      IE1      = BIT00      ;INTERRUPT ENABLE OUT
1881
1882
1883      ;
1884      ; BSEL2 BIT DEFINITIONS
1885      ;
1886
1887      000020      RDYO      = BIT07      ;READY OUT - SET BY KMV11
1888      000020      RDI      = BIT04      ;READY IN - SET BY KMV11
1889
1890      ;
1891      ; KMV11-A COMMAND AND RESPONSE CODES
1892      ;
1893
1894      000000      F0      = 0      ;DUMMY COMMAND
1895      000001      F1      = 1      ;CONFIGURATE
1896      000002      F2      = 2      ;DECONFIGURATE
1897      000003      F3      = 3      ;DUMMY COMMAND
1898      000004      F4      = 4      ;DUMMY COMMAND
1899      000005      F5      = 5      ;TRANSMIT
1900      000006      F6      = 6      ;RECEIVE
1901      000007      F7      = 7      ;KILL TRANSMIT
1902      000010      F10     = 10     ;KILL RECEIVE
1903      000011      F11     = 11     ;DUMMY COMMAND
1904      000012      F12     = 12     ;DUMMY COMMAND
1905      000013      F13     = 13     ;MODEM CHANGE RESPONSE
1906      000014      F14     = 14     ;READ MODEM LEADS
1907      000015      F15     = 15     ;DUMMY
1908      000016      F16     = 16     ;START MODEM SURVEY
1909      000017      F17     = 17     ;STOP MODEM SURVEY
1910

```

```

1911      ;
1912      ; STATUS RETURNED RELATIVE TO EACH KMV11-A RESPONSE
1913      ;
1914
1915      000001      SUCCES      = 1      ;COMMAND CORRECTLY PERFORMED
1916      000374      NXMEM      = 374      ;NON EXISTENT BUFFER MEMORY
1917      000373      BUFOVF      = 373      ;BUFFER OVERFLOW
1918      000372      FRMLER      = 372      ;FRAME LENGTH ERROR
1919      000371      OUTSEQ      = 371      ;OUT OF SEQUENCE
1920      000370      LTCYER      = 370      ;LATENCY ERROR
1921      000367      FCSER      = 367      ;FCS ERROR
1922      000365      MODDOWN     = 365      ;MODEM DOWN
1923      000364      RXABO      = 364      ;ABORT RECEIVED
1924      000363      DBLCMD      = 363      ;DOUBLE COMMAND
1925      000360      TOOBUF      = 360      ;MORE THAN TWO BUFFERS
1926      000357      KMVER      = 357      ;KMV RESSOURCE ERROR
1927      000355      DCONFP      = 356      ;DECONFIGURATE PENDING
1928
1929      ;
1930      ; DEC STD 52 STATE OF THE LINE (FROM KMV)
1931      ;
1932
1933      000000      S1          = 0      ;OFF LINE
1934      000001      S3          = 1      ;LINE ENABLE
1935      000002      S5          = 2      ;PENDING START
1936      000003      S6          = 3      ;DATA EXCHANGE
1937      000004      S6A         = 4      ;LINE FAILURE
1938      000005      S7A         = 5      ;LINE DISCONNECT
1939      000006      S7B         = 6      ;DECONFIGURATE
1940
1941      ;
1942      ; READ MODEM LEADS
1943      ;
1944
1945      000001      S109        = BIT00      ;(CD)DATA CHANNEL RECEIVED LINE
1946      ;SIGNAL DETECTOR
1947      000002      S125        = BIT01      ;(RI)CALLING INDICATOR
1948      000004      S107        = BIT02      ;(DSR)DATA SET READY
1949      000010      S106        = BIT03      ;(CTS)READY FOR SENDING
1950      000020      S112        = BIT04      ;DATA SIGNAL RATE SELECTOR
1951      000040      S142        = BIT05      ;TEST INDICATOR
1952
1953      ;
1954      ; DEFINITIONS FOR APPLICATION FIRMWARE LOADING
1955      ;
1956
1957      030306      $START      = COMEXE      ;START ADDRESS TO RUN FIRMWARE
1958      030306      $RAM        = $BUFF      ;FIRST RAM ADDRESS TO LOAD FIRMWARE
1959      160000      $STR        = 160000      ;FIRST PROM ADDRESS IN KMV
1960      160002      ECONB       = $STR+2      ;KMV FIRMWARE ECO LEVEL ADDRESS
1961      160003      PARTNB      = $STR+4      ;KMV PROM NUMBER
1962      000400      $RDBS       = 256      ;LENGTH OF RDB'S
1963      000017      $RDBC       = 15      ;NUMBER OF RDB'S
1964
1965      ;
1966      ; CONFIGURATE PARAMETERS
1967      ; - LOADED IN SEL4

```

1968				
1969				
1970	000001	SDLC	= BIT00	;BOP SDLC SELECTED
1971				
1972	000010	S140	= BIT03	;REMOTE LOOP BACK REQUEST
1973	000020	S141	= BIT04	;LOCAL LOOP REQUEST
1974	000034	S111	= BIT02	;DATA SIGNALING RATE SELECTOR
1975				
1976	000040	DLO	= BIT05	;DATA LEADS ONLY
1977				
1978	000200	ADSRCH	= BIT07	;ONLY FRAMES WITH GLOBAL ADDRESS OR
1979				;IF ADDRESS MATCH FOUND WILL BE PASSED
1980				
1981	100000	CLKDTE	= BIT15	;CLOCK SOURCE INTERNAL
1982				
1983	000000	C1200	= 0	;1.2K
1984	000400	C2400	= BIT08	;2.4K
1985	001000	C4800	= BIT09	;4.8K
1986	001400	C9600	= BIT08!BIT09	;9.6K
1987	002000	C19K	= BIT10	;19.2K
1988	002400	C48K	= BIT10!BIT08	;48K
1989	003000	C56K	= BIT10!BIT09	;56K
1990	003400	C64K	= BIT10!BIT09!BIT08	;72K
1991				

```

1993
1994
1995
1996
1997
1998
1999
2000
2006
2007
2008
2009
2010
2011 002176
2012
2013
2014
2027
2028 002236
      002236 000000
      002240 000000
      002242 000000
      002244 000000
2029
2030
2031
2032
2033
2034 002246 000000
2035 002250 000000
2036
2037 002252 000000
2038 002254 000000
2039 002256 000000
2040
2041 002260 000000
2042 002262 000005
2043 002264 000000
2044 002266 000000
2045 002270 000015
2046 002272 000000
2047
2048
2049
2050
2051
2052 002274 000000
2053 002276 000000
2054 002300 000000
2055 002302 000000
2056 002304 000000
2057 002306 000000
2058 002310 000000
2059 002312 000000
2060 002314 000000
2061 002316 000000
2062 002320 000000

      .SBTTL GLOBAL DATA SECTION

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

      ;*****
      ;* STORAGE FOR DEVICE REGISTERS
      ;*****
      DESCRIPT <KMV11-A FUNCTIONAL DIAGNOSTIC>

      ERRTBL
      ERRTP: .WORD 0
      ERRNR: .WORD 0
      ERRMS: .WORD 0
      ERRBL: .WORD 0

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

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

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

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

```

2063	002322	000000	BAD2:	0	
2064	002324	000000	BAD4:	0	
2065	002326	000000	BAD6:	0	
2066	002330	000000	BAD10:	0	
2067	002332	000000	BAD12:	0	
2068	002334	000000	BAD14:	0	
2069	002336	000000	BAD16:	0	
2070	002340	000000	DATA:	0	; POINTER TO CURRENT PATTERN
2071	002342	000000	RATE:	0	; POINT TO THE CURRENT LINE CLOCK RATE
2072	002344	000000	LCLLOOP:	0	; LOCAL LOOP FLAG
2073	002346	000000	LENGTH:	0	; LENGTH OF BUFFER FOR DMA
2074	002350	000000	REG0:	0	; FOR GENERAL REGISTER SAVING
2075	002352	000000	REG1:	0	
2076	002354	000000	REG2:	0	
2077	002356	000000	REG3:	0	
2078	002360	000000	REG4:	0	
2079	002362	000000	REG5:	0	
2080	002364	000000	REG6:	0	
2081	002366	000000	REG7:	0	
2082	002370	000000	ERRFLG:	0	; ERROR FLAGGED UNDER IN/OUT INTERRUPTS
2083	002372	000000	REQCNT:	0	; INPUT COMMAND COUNT
2084	002374	000000	TEMP:	0,0	; TEMPORARY STORAGE
2085	002400	000000	LSTLGH:	0	; EXPECTED RESPONSE LIST LENGTH
2086	002402	000000	RSPCNT:	0	; OUTPUT RESPONSE COUNT
2087	002404	000000	TMOUT:	0	; CURRENT TIME-OUT VALUE
2088	002406	000000	INLST:	0	; POINT TO THE CURRENT INPUT LIST
2089	002410	000000	OUTLST:	0	; POINT TO THE CURRENT OUTPUT LIST
2090	002412	000000	S_LOAD:	0	; STATUS FOR APPLICATION CODE LOADING
2091	002414	000000	APPFLG:	0	; LOADING STATE OF THE APPLICATION CODE
2092	002416	000000	SELNUM:	0	; LOAD WITH CSR OFFSET
2093	002420	000000	XMTADD:	0	; XMIT BUFFER ADDRESS UNDER TEST
2094	002422	000000	RCVADD:	0	; RECEIVE BUFFER ADDRESS UNDER TEST
2095	002424	000000	XMTBUF:	0	; XMIT BUFFER
2096	002426	000000	RCVBUF:	0	; RECEIVE BUFFER
2097	002430	000000	ERRCNT:	0	; BYTES IN ERROR
2098	002432	000000	BADLOC:	.BLKW 18.	; LOAD WITH ADDRESS OF UN-CORRECT DATA
2099	002476	000000	OUTNUM:	0	; CURRENT BAD QIO RESPONSE
2100					
2101	002500	000000	LSTAD:	0	; LAST MEMORY ADDRESS(15-0)
2102	002502	000000	LSTBK:	0	; LAST MEMORY ADDRESS(21-16)
2103					
2104					;*****
2105					;* POINTERS TO KMV11 VECTORS AND REGISTERS
2106					;*****
2107					
2108	002504	000000	KMVCSR:	0	; CSR ADDRESS
2109	002506	000000	INTIN:	0	; POINTER TO INTERRUPT VECTOR XX0
2110	002510	000000	INTOUT:	0	; POINTER TO INTERRUPT VECTOR XX4
2111	002512	000000	PRILEV:	0	; INTERRUPT SERVICING RELATIVE LEVEL
2112	002514	000000	PDPTYP:	0	; PDP11/23, FLAG
2113					
2114					;*****
2115					;* PROGRAM CONTROL FLAGS
2116					;*****
2117					
2118	002516	000	INIFLG:	.BYTE 0	
2119				.EVEN	

```

2120 002520      000      LOKFLG: .BYTE      0
2121 002521      000      QV.FLG: .BYTE      0
2122                      .EVEN
2123 002522      000000      UUT:      .WORD      0
2124
2125                      ;*****
2126                      ;* DATA STORAGE
2127                      ;*****
2128
2129 002524      045      116      045      MPROM: .ASCII  /NNA  EPROM PART NUMBER:  /
      002527      101      080      040
      002532      105      120      122
      002535      117      115      040
      002540      120      101      122
      002543      124      040      116
      002546      125      115      102
      002551      105      122      072
      002554      040      040
2130 002556      PROMMB: .BLKB      11.      ;KMV PROM NUMBER TO PRINT
2131 002571      045      116      000      .ASCIZ  /N/
2132                      .EVEN
2133
2134 002574      RXBUF0: .BLKB      256.      ;RX BUFFERS FOR DMA
2135 003174      RXBUF1: .BLKB      256.
2136 003574      RXBUF2: .BLKB      512.
2137
2138 004574      TXBUF0: .BLKB      256.      ;TX BUFFERS FOR DMA
2139 005174      TXBUF1: .BLKB      256.
2140 005574      TXBUF2: .BLKB      512.
2141
2142 006574      RSPOKE: .BLKW      1.      ;UP TO 20. RESPONSES ARE POSSIBLE. RSPOKE
2143                      ;IS USED TO FLAG EXPECTED RESPONSES DURING
2144                      ;TEST
2145
2146 006620      OUTBUF: .BLKW      3*20.      ;TO SAVE QIO RESPONSES
2147
2148                      ;*****
2149                      ;* PATTERN TABLE
2150                      ;*****
2151
2152 007010      007012      PATTAB: PATTRN      ;TABLE OF DATA FOR TEST
2153 007012      000000      PATTRN: 000000
2154 007014      177777      177777
2155 007016      052525      052525
2156 007020      125252      125252
2157 007022      177776      177776
2158 007024      177775      177775
2159 007026      177773      177773
2160 007030      177767      177767
2161 007032      177757      177757
2162 007034      177737      177737
2163 007036      177677      177677
2164 007040      177577      177577
2165 007042      177377      177377
2166 007044      176777      176777
2167 007046      175777      175777
2168 007050      173777      173777

```

2169	007052	167777	167777
2170	007054	157777	157777
2171	007056	137777	137777
2172	007060	077777	077777
2173	007062	100000	100000
2174	007064	040000	040000
2175	007066	020000	020000
2176	007070	010000	010000
2177	007072	004000	004000
2178	007074	002000	002000
2179	007076	001000	001000
2180	007100	000400	000400
2181	007102	000200	000200
2182	007104	000100	000100
2183	007106	000040	000040
2184	007110	000020	000020
2185	007112	000010	000010
2186	007114	000004	000004
2187	007116	000002	000002
2188	007120	000001	000001
2189	007122	000000	000000
2190	007124	000112	

PATTERN: .-PATTRN

```

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

```

2197 007126 000001

GDREV: .WORD 1

2199
2200
2201 007130
2202
2203
2204
2205
2206
2207 007130
2208 007330

REGADR:

; * STACK USED FOR SUBROUTINE LINKAGE

SSTACK: .BLKW 100

2210
2211
2212
2213
2214
2215
2216
2217
2218
2219
2220
2221
2222
2223 007330
2224
2225
2226
2233
2234
2235
2236
2237

.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  
;*****  
;      DEVTYP  <M7500>
```

2239
2240
2241
2242
2243
2244
2245
2246
2278
2320
2321
2322
2323
2324
2325
2326
2327
2328
2329
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.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 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  CHKRSR
;* -TO COPY FROM ONE BUFFER TO ANOTHER : CALL  COPY
;* -TO ENTER APPLICATION MODE      : CALL  MODEO
;* -TO LOAD A BUFFER WITH INCREMENTAL PATTERNS : CALL  BUFLO
;* -TO INIT QIO                    : CALL  INIQIO
;* -TO PROCESS QIO                 : CALL  QIOP
;* -TO CHECK KMV PROM NUMBER       : CALL  REVCHK
;* -TO LOAD AND CHECK APPLICATION CODE : CALL  LDAPPL
;* -TO START APPLICATION           : CALL  RUNAPP
;*
;* -TO SERVE IN INTERRUPT          : ITIN
;* -TO SERVE OUT INTERRUPT         : ITOUT
;*
;*****

```

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2376
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2378
2379

```

; **
; 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      ARGLIST
        .IRPC     N,<ARGLIST>
        MOV       R'N,REG'N
        .ENDR
.ENDM

```

2381
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2386
2387
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2389
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2391
2392
2393
2394
2395
2396
2397
2398
2399
2400
2401
2402

```

***
; 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      ARGST
      .IRPC     N,<ARGST>
      MOV      REG'N,R'N
      .ENDR
.ENDM

```

2404
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2407
2408
2409
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2415
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2417
2418
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2420
2421
2422
2423

```

***
; 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

```

D5

CNKMCA0 KMV11-A ECTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 05-APR-84 11:29 PAGE 26

SEQ 55

2425
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2441
2442
2443
2444

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

```
.MACRO  ASHR  A,N,?B  
      MOV  ?N,R0  
B:     ASR  A  
      SOB  R0,B  
.ENDM
```

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2463

```
***  
; MACRO TO FILL SPACE WITH NOP  
;  
; CALL ING SEQUENCE : CHECK  
;--  
  
      .MACRO CHECK  
      .REPT 30000  
$$$ADD = .-0  
      .IF GT <30000-$$$ADD>  
      NOP  
      .IFF  
      .MEXIT  
      .ENDC  
      .ENDR  
      .ENDM
```

```

2465
2466
2467
2468      ; **
2469      ; MACRO FOR SIMPLE WAIT
2470      ; CALLING SEQUENCE : WAIT      N.
2471      ;       WHERE N INDICATES THE TIME LENGTH
2472      ;       (TIME UNIT IS 100 MICROS)
2473      ;
2474      ; INPUTS: NONE
2475      ;
2476      ; OUTPUTS: RO DESTROYED
2477      ;
2478      ; --
2479
2480      .MACRO WAIT      N
2481      .CALL .WAIT
2482      .WORD N
2483
2484      .ENDM
2485
2486 007336      .WAIT: SAVE      12
2487 007346      MOV      (SP),R1      ;GET LENGTH
2488 007350      MOV      (R1)+,R2
2489 007352      MOV      R1,(SP)      ;UP DATE RETURN PC
2490 007354
2491 007354      1$:      BREAK
2492
2493 007356      MOV      #60.,R1      ;WAIT 100 MICROS      ;JB REV A-0
2494 007362      MOV      #36.,R1      ;WAIT 100 MICROS      ;JB REV A-0
2495
2496 007364      SOB      R1,2$
2497
2498 007366      SOB      R2,1$      ;WAIT FOR N*100
2499 007376      GET      12
2500      RETURN

```

```

2502      ;**
2503      ; ROUTINE TO READ A DATA FROM KMV RAM
2504      ;
2505      ; INPUTS: R3 = RAM ADDRESS
2506      ;         R5 = CSR BASE ADDRESS
2507      ;
2508      ; OUTPUTS: SEL6 = DATA
2509      ;           CARRY SET IF ANY ERROR
2510      ;
2511      ; REPORT: ERROR 10003          KMV FAILS TO READ
2512      ;
2513      ;--
2514
2515      RDATA:
2516      007400      SAVE      1
2517      007400      MOV       R3,SEL4(R5)          ;LOAD RAM ADDRESS
2518      007404      010365      000004          ;READ WORD
2519      007410      052765      002000      000000      MOV       @R3,SEL0(R5)          ;INIT TIME-OUT
2520      007416      012701      000012
2521      007422      11$:      WAIT      10.          ;WAIT FOR 1 MS
2522      007422      BIT       @R3,SEL0(R5)          ;READ CORRECTLY DONE?
2523      007430      032765      002400      000000      BEQ       12$          ;YES, COMPARE
2524      007436      001417
2525      007440      077110      SOB      R1,11$          ;NOT, LOOP TILL TIME-OUT
2526
2527      007442      005037      002276          CLR       GOOD0          ;SET REPORT
2528      007446      016537      000000      002320      MOV       SEL0(R5),BAD0
2529      007454      FRRHRD      10003,E10003,PRSEL0          ;IF TIME-OUT
2530      007464      WAIT      10000.
2531      007472      000261      SEC
2532      007474      000401      BR       13$
2533
2534      007476      000141      12$:      CLC
2535      007500      13$:      GET       1
2536      007504      000207      RETURN
2537

```

```

2539
2540
2541      ;**
2542      ; ROUTINE TO WRITE DATA IN KMV RAM
2543      ;
2544      ; INPUTS: R3 = RAM ADDRESS
2545      ;          R4 POINTS TO THE DATA
2546      ;          R5 = CSR BASE ADDRESS
2547      ;
2548      ; OUTPUTS: CARRY SET IF ANY ERROR
2549      ;
2550      ; REPORT: ERROR 10002          KMV FAILS TO WRITE
2551      ;
2552      ;--
2553
2554
2555      WDATA:
2556      007506      SAVE      1
2557      007512      MOV      R3,SEL4(R5)          ;LOAD RAM ADDRESS
2558      007516      011465    000006      MOV      (R4),SEL6(R5)          ;LOAD WORD
2559      007522      052765    020000    000000      BIS      @WRITE,SEL0(R5)      ;WRITE IT
2560      007530      012701    000012      MOV      @10.,R1          ;INIT TIME-OUT
2561      007534      3$:
2562      007534      WAIT     10.          ;WAIT FOR 1 MS
2563      007542      032765    020400    000000      BIT      @WRITE!ERR,SEL0(R5)      ;IS IT CORRECTLY WRITE?
2564      007550      001417      BEQ      20$          ;YES,NEXT WORD
2565      007552      077110      SOB      R1,3$          ;NOT, LOOP TILL TIME-OUT
2566
2567      007554      005037    002276      CLR      G0000          ;SET REPORT
2568      007560      016537    000000    002320      MOV      SEL0(R5),BADO
2569      007566      ERRHDD    10002,E10002,PRSEL0      ;IF TIME-OUT
2570      007576      WAIT     10000.
2571      007604      000261      SEC
2572      007606      000401      BR      21$
2573
2574      007610      000241      20$:      CLC
2575      007612      21$:      GET      1
2576      007616      000207      RETURN

```

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2596 007620
2597 007640 010637 002364
2598 007644 012737 010604 000004
2599 007652 106737 000006
2600 007656 012701 003776
2601
2602
2603
2604 007662 005737 177572
2605
2606
2607
2608 007666 005046
2609 007670 012702 172340
2610 007674 012703 000010
2611 007700 012762 077406 177740 1$:
2612 007706 011622
2613 007710 062716 000200
2614 007714 077307
2615 007716 012742 177600
2616 007722 005042
2617 007724 012737 007742 000004
2618 007732 012737 000020 172516
2619 007740 000401
2620
2621 007742 022626 2$:
2622
2623 007744 005237 177572 3$:
2624 007750 012737 007774 000004
2625 007756 005737 143776 4$:
2626 007762 062712 000040
2627 007766 023712 172356
2628 007772 101371
2629
2630 007774 011202 5$:
2631 007776 005037 177572
2632 010002 000416
2633
2634

```

```

; ROUTINE TO SIZE MEMORY
;
; NOTE: THIS ROUTINE MUST RESIDE WITHIN THE
; FIRST 24K OF MEMORY.
;
; OUTPUTS:
; LSTAD WILL CONTAIN THE LAST AVAILABLE MEMORY LOCATION (BITS 15-0)
; LSTBK WILL CONTAIN THE LAST AVAILABLE MEMORY LOCATION (BITS 21-16)
;
;--
..SIZE: SAVE 0123
MOV SP,REG6 ;SAVE CURRENT SP
MOV #6$,4 ;SET TIME-OUT TRAP
MFPS 6 ;SAVE THE CURRENT PSW
MOV #3776,R1 ;INIT MEMORY ADDRESS POINTER

; CHECK IF M.M.U. INSTALLED

TST SRO ;IS IT?

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

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

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

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

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

; SIZE MEMORY WITHOUT M.M.

```

```

2635
2636 010004 012737 010034 000004 6$: MOV    08$,4      ;SET FOR TIMEOUT
2637 010012 005002                CLR    R2          ;SET UP BANK
2638 010014 062701 004000        7$: ADD    04000,R1    ;INCREMENT BY 1K
2639 010020 062702 000040                ADD    040,R2    ;1K STEP
2640 010024 005711                TST     (R1)          ;TRAP ON TIME OUT
2641 010026 022701 177776        CMP     0177776,R1    ;LAST ONE
2642 010032 001370                BNE     7$          ;NO--TRY AGAIN
2643
2644                ; TERMINATE SIZING
2645
2646 010034 162701 004000        8$: SUB     04000,R1
2647
2648 010040 162702 000040        9$: SUB     040,R2      ;DROP BACK
2649 010044 013706 002364                MOV     REG6,SP    ;RESTORE SP
2650 010050 013737 002252 000004        MOV     SAVE4,4    ;RESTORE ERROR VECTOR
2651 010056 013737 002254 000006        MOV     SAVE6,6
2652 010064 010137 002500        MOV     R1,LSTAD      ;LAST ADDRESS (BITS 10-0)
2653 010070 000241                CLC
2654 010072 006002                ROR     R2          ;ROTATE BANK
2655 010074 006002                ROR     R2
2656 010076 150237 002501        BISB    R2,LSTAD+1    ;LAST ADDRESS (BITS 15-11)
2657 010102 105002                CLRB    R2          ;CLEAR BITS 15-11
2658 010104 000302                SWAB    R2          ;SWAP R2
2659 010106 010237 002502        MOV     R2,LSTBK      ;LAST ADDRESS (BITS 21-16)
2660 010112                GET     0123      ;RESTORE REGISTERS
2661 010132 000207                RETURN
2662
2663

```

```
2665
2666
2667      ; **
2668      ; ROUTINE TO CHECK QIO RESPONSES
2669      ;
2670      ; DESCRIPTION: SUBSEQUENT RESPONSES(SEL2,SEL4,SEL6) ARE
2671      ;                  COMPARED TO THE EXPECTED ONES
2672      ;
2673      ; INPUTS: R1 EXPECTED OUT LIST LENGTH
2674      ;          R1*2 EXPECTED OUT LIST BASE ADDRESS
2675      ;          OUTBUF RECEIVED OUT LIST ADDRESS
2676      ;          RSPCNT FOR THE NUMBER OF RESPONSES
2677      ;
2678      ; OUTPUTS: R0 TO R4 ARE DESTROYED
2679      ;          CARRY BIT CLEARED IF TEST OKE
2680      ;          CARRY SET IF NOT, IN THIS CASE,
2681      ;          BAD2,4,6 GIVES UN-EXPECTED RESPONSES
2682      ;          OUTNUM = THE SEQUENTIAL NUMBER OF UN-EXPECTED RESPONSE
2683      ;
2684      ; REPORTS: ERROR 10009          NOT EXPECTED RESPONSE RECEIVED
2685      ;          ERROR 10010          NOT EXPECTED NUMBER OF RESPONSES RECEIVED
2686      ; --
2687
2688      010134      CHKRSP:
2689      010134      012137 002400      MOV      (R1)+,LSTLGH      ;GET OUT LIST LENGTH
2690      010140      SAVE      1      ;SAVE LIST POINTER
2691      010144      012703 006620      MOV      @OUTBUF,R3      ;POINT TO OUTLIST
2692      010150      005037 002476      CLR      OUTNUM      ;CLEAR BAD RESPONSE NUMBER POINTER
2693      010154      005002      CLR      R2      ;INIT RESPONSE COUNTER
2694
2695      010156      023737 002402 002400      CMP      RSPCNT,LSTLGH      ;EXPECTED NUMBER OF RESPONSES?
2696      010164      001407      BEQ      1$      ;IF YES
2697
2698      010166      013737 002400 002476      MOV      LSTLGH,OUTNUM      ;IF NOT, SET REPORT
2699      010174      ERRHRD 10010,E10010,PRBNUM
2700
2701      010204      011304      1$:      MOV      (R3),R4      ;GET RCV RESPONSE ID
2702      010206      116300 000005      MOVB     5(R3),R0      ;GET RCV STATUS
2703
2704      010212      012337 002322      MOV      (R3)+,BAD2      ;GET COMPLETE RESPONSE BEFORE
2705      010216      012337 002324      MOV      (R3)+,BAD2+2      ;ANY REPORT
2706      010222      012337 002326      MOV      (R3)+,BAD2+4
2707      010226      SAVE      3      ;SAVE POINTER
2708
2709      010232      042704 177760      BIC      @177760,R4      ;KEEP FXX ONLY
2710      010236      000241      CLC
2711      010240      006304      ASL      R4      ;ADJUST FOR WORD BOUNDARY
2712      010242      016404 010554      MOV      RSPLST(R4),R4      ;POINT TO THE RIGHT FUNCTION TEST
2713
2714      010246      122700 000001      CMPB     @SUCCESS,R0      ;THEN LOOK FOR THE RIGHT TEST
2715      010252      001444      BEQ      10$      ;ACCORDING TO THE EXPECTED STATUS
2716      010254      122700 000374      CMPB     @NXMEM,R0
2717      010260      001440      BEQ      9$
2718      010262      122700 000373      CMPB     @BUFOVF,R0
2719      010266      001434      BEQ      8$
2720      010270      122700 000372      CMPB     @RMLER,R0
2721      010274      001430      BEQ      7$
```

L5

```
2722 010276 122700 000371      CMPB    #OUTSEQ,R0
2723 010302 001424      BEQ      6$
2724 010304 122700 000364      CMPB    #RXABD,R0
2725 010310 001420      BEQ      5$
2726 010312 122700 000363      CMPB    #DBLCMD,R0
2727 010316 001414      BEQ      4$
2728 010320 122700 000360      CMPB    #TOOBUF,R0
2729 010324 001410      BEQ      3$
2730 010326 122700 000357      CMPB    #KMVER,R0
2731 010332 001404      BEQ      2$
2732 010334 122700 000356      CMPB    #DCONFP,R0
2733 010340 001055      BNE      21$      ; IF NOT EXPECTED RESPONSE
2734
2735 010342 005724      TST      (R4)+
2736 010344 005724      2$: TST      (R4)+
2737 010346 005724      3$: TST      (R4)+
2738 010350 005724      4$: TST      (R4)+
2739 010352 005724      5$: TST      (R4)+
2740 010354 005724      6$: TST      (R4)+
2741 010356 005724      7$: TST      (R4)+
2742 010360 005724      8$: TST      (R4)+
2743 010362 005724      9$: TST      (R4)+
2744 010364 005714      10$: TST     (R4)
2745 010366 001442      BEQ      21$      ; CHECK FOR ANY TEST TYPE?
2746                                     ; IF NOT, REPORT ERROR
2747 010370 011404      MOV      (R4),R4
2748 010372                                     ; GET TEST TYPE ADDRESS IN R4
2749 010376                                     ; SAVE IT
2750 010402 005003      CLR      R3
2751 010404 005003      CLR      R0
2752                                     ; RESTORE EXPECTED LIST POINTER
2753 010406 012137 002300      11$: MOV     (R1)+,GOOD2
2754 010412 012137 002302      MOV     (R1)+,GOOD2+2
2755 010416 012137 002304      MOV     (R1)+,GOOD2+4
2756 010422 122760 000077 006574      CMPB    #77,RSPOKE(R0)
2757                                     ; SEE IF THIS RESPONSE
2758 010430 001413      BEQ      14$      ; NOT RECEIVED YET, IS IT?
2759                                     ; IF NOT, GET IT
2760 010432 105714      12$: TSTB     (R4)
2761 010434 100004      BPL      13$      ; IF YES, LOOK FOR BYTE TEST TERMINATOR?
2762 010436 112760 000077 006574      MOV     #77,RSPOKE(R0)
2763 010444 000423      BR       22$      ; BRANCH IF IT IS NOT
2764                                     ; RESPONSE CORRECT, SET FLAG
2765 010446 112403      13$: MOV     (R4)+,R3
2766 010450 126363 002300 002322      CMPB    GOOD2(R3),BAD2(R3)
2767 010456 001765      BEQ      12$      ; THEN SELECT NEXT RESPONSE
2768
2769 010460      14$: GET      4
2770 010464 005200      INC      R0
2771 010466 020037 002400      CMP      R0,LSTLGH
2772 010472 001345      BNE      11$      ; SET INDEX FOR BYTE TEST
2773                                     ; IF YES, TEST IF THE SAME ?
2774                                     ; IF YES, LOOP
2775
2776 010474      21$: GET      4
2777 010474 010237 002476      MOV     R2,OUTNUM
2778 010500 005237 002476      INC      OUTNUM      ; GET RESPONSE NUMBER
; UNEXPECTED RESPONSES, REPORT
```

```

2779 010504      ERRHRD  10009,E10009,PBRSP      ;REPORT
2780
2781 010514      22$:  GET      3                ;RESTORE RCV RESPONSE POINTER
2782 010520 005202      INC      R2              ;INC RESPONSE COUNTER
2783 010522 005337 002402  DEC      RSPCNT       ;ANY MORE RESPONSE?
2784 010526 001226      BNE      1$              ;IF YES, LOOP
2785
2786 010530 005737 002476  TST      OUTNUM       ;TEST COMPLETELY OKE?
2787 010534 001002      BNE      40$             ;NOT, SET CARRY
2788 010536 000241      CLC                      ;YES, CLEAR CARRY
2789 010540 000207      RETURN
2790
2791 010542      40$:  WAIT      10000.
2792 010550 000261      SEC
2793 010552 000207      RETURN
2794
2795

```

2797
2798
2799
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; POSSIBLE RESPONSE POINTER LIST

2802 010554 010614
2803 010556 010640
2804 010560 010664
2805 010562 010710
2806 010564 010734
2807 010566 010760
2808 010570 011004
2809 010572 011030
2810 010574 011124
2811 010576 011150
2812 010600 011174
2813 010602 011200
2814 010604 011224
2815 010606 011270
2816 010610 011314
2817 010612 011340

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

```

2819
2820      ,NLIST BEX
2821
2822      ; RESPONSE TEST TABLE IN FUNCTION OF STATUS RECEIVED
2823      ;
2824      ;STAT.      1   374   373   372   371   364   363   360   357   356
2825
2826 010614 000000 000000 000000 TSTF0: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2827 010640 011364 000000 000000 TSTF1: TYP00,00000,00000,00000,TYP00,00000,TYP00,00000,TYP00,TYP00
2828 010664 011364 000000 000000 TSTF2: TYP00,00000,00000,00000,TYP00,00000,TYP00,00000,TYP00,00000
2829 010710 000000 000000 000000 TSTF3: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2830 010734 011367 000000 000000 TSTF4: TYP01,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2831 010760 011364 011364 011364 TSTF5: TYP00,TYP00,TYP00,TYP00,TYP00,00000,00000,TYP00,TYP00,00000
2832 011004 011367 011364 011367 TSTF6: TYP01,TYP00,TYP01,00000,TYP00,TYP00,00000,TYP00,TYP00,00000
2833 011030 011364 000000 000000 TSTF7: TYP00,00000,00000,00000,TYP00,00000,00000,00000,TYP00,00000
2834 011054 000000 000000 000000 TSTF8: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2835 011100 000000 000000 000000 TSTF9: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2836 011124 011364 000000 000000 TSTF10: TYP00,00000,00000,00000,TYP00,00000,00000,00000,TYP00,00000
2837 011150 000000 000000 000000 TSTF11: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2838 011174 000000 000000 000000 TSTF12: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2839 011220 000000 000000 000000 TSTF13: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2840 011244 011367 000000 000000 TSTF14: TYP01,00000,00000,00000,TYP00,00000,00000,00000,TYP00,00000
2841 011270 000000 000000 000000 TSTF15: 00000,00000,00000,00000,00000,00000,00000,00000,TYP00,00000
2842 011314 011367 000000 000000 TSTF16: TYP01,00000,00000,00000,00000,00000,TYP00,00000,TYP00,00000
2843 011340 011364 000000 000000 TSTF17: TYP00,00000,00000,00000,00000,00000,TYP00,00000,TYP00,00000
2844
2845      ; POSSIBLE TYPE OF TESTS
2846
2847 011364      000      005      TYP00: .BYTE 0,5      ;TEST OF BSEL2 AND BSEL7
2848 011366      200
2849
2850 011367      000      002      003 TYP01: .BYTE 0,2,3,5      ;TEST OF BSEL2,SEL4 AND BSEL7
2851 011373      200      .BYTE 200
2852
2853      ,EVEN

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```

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

2880	011374			COMPAR: SAVE	34	
2881	011404	005037	002430	CLR	ERRCNT	INIT ERROR COUNTER
2882	011410	010137	002424	MOV	R1,XMTBUF	SAVE ADDRESSES
2883	011414	010237	002426	MOV	R2,RCVBUF	
2884	011420	012704	002432	MOV	BADLOC,R4	POINT TO ERROR TABLE
2885	011424	013703	002346	MOV	LENGTH,R3	GET NUMBER OF BYTE
2886						
2887	011430	121112		1: CMPB	(R1),(R2)	THE SAME DATA?
2888	011432	001010		BNE	3:	IF NOT
2889						
2890	011434	005201		2: INC	R1	NEXT LOCATION
2891	011436	005202		INC	R2	
2892	011440	077305		SUB	R3,1:	DEC R3 AND CONTINUE IF NOT NULL
2893						
2894	011442	005737	002430	TST	ERRCNT	ANY ERROR?
2895	011446	001013		BNE	4:	YES, SET CARRY
2896	011450	000241		CLC		NO, CLEAR CARRY
2897	011452	000421		BR	5:	TERMINATE
2898						
2899	011454	005237	002430	3: INC	ERRCNT	INC ERROR COUNT
2900	011460	022737	000010 002430	CMP	BADLOC,ERRCNT	8 ERRORS?
2901	011466	103762		BLO	2:	YES, JUST LOOP
2902						
2903	011470	010124		MOV	R1,(R4):	IF NOT, SAVE BAD ADDRESS
2904	011472	010224		MOV	R2,(R4):	
2905	011474	000757		BR	2:	THEN LOOP BACK
2906						
2907	011476			4: ERRORD	10011,E10011,PRBCOM	REPORT
2908	011506			WAIT	10000,	
2909	011514	000261		SEC		
2910						
2911	011516			5: GET	34	

D6

CMKCAO KHV11-A ECTM DIAG
GLOBAL SUBROUTINES

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SEQ 68

2912 011526 000207

RETURN

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2927 011530
2928 011534 013703 002346
2929 011540 005021
2930 011542 077302
2931 011544
2932 011550 000207

```

***
; ROUTINE TO CLEAR A SPECIFIED BUFFER
;
; INPUTS: R1 BUFFER ADDRESS
;         LENGTH = NUMBER OF WORDS
;
; OUTPUTS: R1 DESTROYED
;
---
```

```

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

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2953

011552
011556 013703 002346
011562 112122
011564 077302
011566
011572 000207

```

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

```

```

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

```

```

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

```

```

2955
2956
2957      ;**
2958      ; ROUTINE TO ENTER THE APPLICATION MODE
2959      ;
2960      ; DESCRIPTION: RESET ON Q-BUS THEN WAIT FOR 5 MS
2961      ;                SET APPLICATION MODE AND MCLR BITS. THEN, CHECK
2962      ;                IF MCLR CLEARED BY THE KMV. IF NOT, REPORT ERROR 2
2963      ;
2964      ; INPUTS: NONE
2965      ;
2966      ; OUTPUTS: R5 = CSR BASE ADDRESS
2967      ;                CARRY BIT SET IN CASE OF ERROR
2968      ;
2969      ; ERROR REPORT: ERROR 10000          KMV11 FAILS TO RESET MCLR
2970      ;
2971      ;--
2972
2973
2974 011574      MODE0:  SAVE      1
2975
2976 011600 013705 002504      MOV      KMVCSR,R5          ;GET CSR ADDRESS IN R5
2977
2978 011604 005065 000000      CLR      SELO(R5)          ;RESET SELO
2979 011610 012765 040000 000000  MOV      #MCLR,SELO(R5)      ;SET MODE 0 AND MCLR
2980 011616 012701 000012      MOV      #10.,R1          ;SET WAIT OF 10 MS
2981 011622      1$:
2982 011622      WAIT      10.          ;WAIT 1 MS
2983 011630 032765 040000 000000  BIT      #MCLR,SELO(R5)      ;MCLR CLEARED?
2984 011636 001417      BEQ      2$          ;IF YES
2985 011640 077110      SOB      R1,1$          ;IF NOT, LOOP TILL TIME-OUT
2986
2987 011642 005037 002276      CLR      G0000          ;SET REPORT FOR TIME OUT
2988 011646 016537 000000 002320  MOV      SELO(R5),BADO
2989 011654      ERRO RD 10000,E10000,PRSELO      ;REPORT
2990 011664      WAIT      10000,
2991 011672 000261      SEC
2992 011674 000401      BR      3$
2993
2994 011676 000241      2$:  CLC
2995 011700      3$:  GET      1
2996
2997 011704 000207      RETURN
2998

```

```

3000
3001
3002      ;**
3003      ; ROUTINE TO TEST IF LOOP BACK CONNECTOR PLUGGED
3004      ;
3005      ; INPUT: LCLOOP = LOOP FLAG, LOADED FROM P.TABLE
3006      ;
3007      ; OUTPUT: CARRY SET IF NOT INSERTED
3008      ;          CARRY CLEARED IF YES
3009      ;
3010      ; REPORT: ERROR 10012          LOOP CONNECTOR NOT INSTALLED
3011      ;
3012      ; --
3013
3014 011706 000241      LPBACK: CLC
3015 011710 005737 002344      TST      LCLOOP      ;TEST IF PLUGGED?
3016 011714 001010      BNE      1$      ;YES
3017
3018 011716      ERRHRD 10012,E10012      ;NO, REPORT
3019 011726      WAIT   10000.
3020 011734 000261      SEC      ;SET CARRY IF NOT
3021 011736
3022 011736 000207      1$:
3023      RETURN

```

```

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3037 011740
3038 011750 013702 002346
3039 011754 005003
3040 011756
3041 011756 110321
3042 011760 005203
3043 011762 077203
3044
3045 011764
3046 011774 000207
3047
3048

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

BUFLO:  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

```

```
3050
3051
3052 ; **
3053 ; ROUTINE TO INIT IN/OUT HANDSHAKING
3054 ;
3055 ; INPUTS: INTIN = POINTS TO THE FIRST VECTOR ADDRESS
3056 ;          PRILEV = POINT TO THE KMV DEVICE PRIORITY LEVEL
3057 ;
3058 ; OUTPUTS: RSPCNT,REQCNT AND ERRFLG ARE RESET
3059 ;          XX0 AND XX4 VECTORS ARE SET
3060 ;          HOST PRIORITY LEVEL = (PRILEV)-1
3061 ;          OUTLST POINTS TO TOP OF OUT BUFFER
3062 ;          IN/OUT INTERRUPT ENABLE BITS SET
3063 ;          ALL SAVE BUFFERS ARE CLEARED
3064 ;          XMIT BUFFERS ARE FILL WITH INCREMENTAL BYTES
3065 ; --
3066
3067 011776 005037 002372      INICIO: CLR      REQCNT      ;CLEAR INPUT COUNT
3068 012002 005037 002402      CLR      RSPCNT      ;CLEAR OUTPUT COUNT
3069 012006 005037 002370      CLR      ERRFLG     ;CLEAR ERROR FLAG REG
3070 012012 012737 006620 002410 MOV      @OUTBUF,OUTLST ;POINT TO TOP OF OUT BUFFER
3071
3072 012020 012700 000010      MOV      @CSRIEN,R0      ;CLEAR ALL CSR'S
3073 012024 013702 002504      MOV      KMVCSR,R2
3074 012030 005022           1$: CLR      (R2)+
3075 012032 077002           SOB      R0,1$
3076
3077 012034 012737 002106 002346 MOV      @3*20.+10.+1024.,LENGTH ;CLEAR BUFFERS
3078 012042 012701 002574      MOV      @RXBUF0,R1
3079 012046 004737 011530      CALL     BUFCLE
3080
3081 012052 012701 004574      MOV      @TXBUF0,R1      ;POINT TO XMIT BUFFERS
3082 012056 012737 002000 002346 MOV      @1024.,LENGTH ;SET BUFFER LENGTH
3083 012064 004737 011740      CALL     BUFLD ;LOAD INCREMENTAL BYTES
3084
3085 012070           SAVE      1
3086 012074 013701 002506      MOV      INTIN,R1      ;POINT TO XX0
3087 012100 012721 012710      MOV      @ITIN,(R1)+ ;LOAD IN SERVICE ROUTINE
3088 ;          MOV      @PRI07,(R1)+ ;THEN HIGHEST PRIORITY ;JB REV A-0
3089 012104 012721 000300      MOV      @PRI06,(R1)+ ;THEN HIGH PRIORITY ;JB REV A-0
3090 012110 012721 013044      MOV      @ITOUT,(R1)+ ;LOAD OUT SERVICE ROUTINE IN XX4
3091 ;          MOV      @PRI07,(R1)+ ;THEN HIGHEST PRIORITY ;JB REV A-0
3092 012114 012711 000300      MOV      @PRI06,(R1)+ ;THEN HIGH PRIORITY ;JB REV A-0
3093
3094 012120 013701 002512      MOV      PRILEV,R1      ;GET DEVICE PRIORITY
3095 012124           ASHR      R1,4 ;ADJUST
3096 012134 162701 000040      SUB      @40,R1 ;ONE LESS
3097 012140 106401           MTPS     R1 ;MODIFY HOST PRIORITY LEVEL
3098
3099 012142           GET      1
3100 012146 000207           RETURN
3101
```

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3103
3104
3105      ;++
3106      ; ROUTINE TO LOAD APPLICATION FIRMWARE
3107
3108      ; DESCRIPTION: LOAD ALL THE FIRMWARE
3109      ;                  TEST IF CORRECTLY LOADED
3110      ;                  THEN SET FLAG
3111
3112      ; INPUTS: $BUFF = APPLICATION CODE FILE
3113      ;          BUFLGH = APPLICATION FIRMWARE LENGTH
3114      ;          $RAM = KMV RAM LOAD ADDRESS
3115      ;          APPFLG = SET WHEN CODE IS CORRECTLY LOADED
3116      ;          S_LOAD = FLAG TO INDICATE LOAD(0) OR COMPARE(1)
3117      ;          R5 = CSR BASE ADDRESS
3118
3119      ;          USING OF R1 TO R4,
3120      ;          R1 = TIME-OUT COUNTER
3121      ;          R2 = WORD LOADING COUNTER
3122      ;          R3 = RAM LOAD ADDRESS
3123      ;          R4 = BUFFER ADDRESS
3124
3125      ; OUTPUTS: APPFLG = 1 IF CORRECTLY LOADED
3126      ;          CARRY SET IF ANY ERROR
3127
3128      ; REPORT: ERROR 10002      WRITE FAILURE
3129      ;          ERROR 10003      READ FAILURE
3130      ;          ERROR 10004      DATA COMPARE ERROR
3131
3132      ;--
3133
3134
3135
3136 012150      LDAPPL: SAVE      1234
3137
3138      ; WRITE PHASE
3139
3140 012170      005037      002412      CLR      S_LOAD      ;0 FOR LOAD
3141 012174
3142 012174      012704      030306      1$:      MOV      $BUFF,R4      ;POINT TO SOURCE BUFFER
3143 012200      013702      043660      MOV      BUFLGH,R2      ;SET LENGTH
3144 012204      012703      030306      MOV      $RAM,R3      ;POINT TO DESTINATION
3145 012210
3146 012210      005737      002412      2$:      TST      S_LOAD      ;IS IT A LOAD?
3147 012214      001004      DNE      10$      ;BR IF COMPARE
3148
3149 012216      004737      007506      CALL      WDATA      ;WRITE DATA
3150 012222      103436      BCS      30$      ;IF ERROR
3151 012224      000422      BR      20$      ;IF OKE, WRITE NEXT DATA
3152
3153      ; TO COMPARE
3154
3155 012226      10$:
3156 012226      004737      007400      CALL      RDATA      ;READ DATA
3157 012232      103432      BCS      30$
3158
3159 012234      021465      000006      12$:      CMP      (R4),SEL6(R5)      ;THE SAME?
```

```
3160 012240 001414          BEQ      20$          ;YES, NEXT WORD
3161
3162 012242 011437 002304    MOV      (R4),GOOD6    ;SET REPORT
3163 012246 016537 000006 002326    MOV      SEL6(R5),BAD6
3164 012254 010337 002432    MOV      R3,BADLOC
3165 012260          ERRHRD  10004,E10004,PRDAT    ;IF NOT, REPORT
3166 012270 000413          BR       30$
3167
3168 012272 062703 000002    20$:   ADD      #2,R3          ;NEXT RAM ADDRESS
3169 012276 005724          TST      (R4)+          ;NEXT SOURCE ADDRESS
3170 012300 005302          DEC      R2              ;NEXT
3171 012302 001342          BNE      2$              ;LOOP TILL BUFFER END
3172
3173          ; BUFFER END - TEST IF COMPARE DONE
3174
3175 012304 005737 002412    TST      S.LOAD          ;IS IT?
3176 012310 001010          BNE      40$          ;YES, LOAD COMPLETED
3177 012312 005237 002412    INC      S.LOAD          ;NOT, COMPARE RAM AND SOURCE BUFFER
3178 012316 000726          BR       1$
3179
3180 012320          30$:   WAIT      10000.
3181 012326 000261          SEC
3182 012330 000403          BR       50$          ;SET CARRY IF ERROR
3183          ;THEN EXIT
3184 012332 000241          40$:   CLC
3185 012334 005237 002414    INC      APPFLG          ;IF OKE, SET FLAG FOR LOADED
3186 012340          50$:   GET      1234
3187 012340          RETURN
3188 012360 000207
3189
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3224 012362
3225
3226 012402 012703 160002
3227
3228 012406 004737 007400
3229 012412 103441
3230
3231 012414 016537 000006 002326
3232 012422 023737 002326 007126
3233 012430 001437
3234
3235 012432
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3239 012442 012703 160004
3240 012446 012704 002556
3241 012452
3242 012452 004737 007400
3243 012456 103417
3244
3245 012460 016524 000006
3246 012464 062703 000002
3247 012470 020427 002572

; **
; ROUTINE TO CHECK KMV PROM ECO LEVEL AND PRINT PART NUMBER
;
; DESCRIPTION: BEGIN
;               READ ACTUAL ECO LEVEL AT ADDRESS=ECONB
;               COMPARE TO GDLVL
;               IF NOT EQUAL THEN REPORT ERROR
;               FOR KMV ADDRESS=PARTNB TO LAST CHR DO
;                   READ ASCII CHR
;               NEXT
;               PRINT PART NUMBER
;               END
;
; INPUTS: R5 = CSR BASE ADDRESS
;         PARTNB IS THE KMV PROM PART NUMBER ADDRESS
;         PROMNB IS THE ADDRESS OF GOOD ONE
;         ECONB IS THE ADDRESS OF ACTUAL PROM ECO LEVEL
;         GDLVL IS THE LEVEL EXPECTED BY THE DIAG.
;
;         USING OF R1 TO R4
;         R1=TIME-OUT COUNTER
;         R3=ROM LOAD ADDRESS
;         R4=GOOD CHR ADDRESS
;
; OUTPUTS: CARRY SET IF ANY ERROR
;
; REPORTS: ERROR 10003          READ FAILURE
;          ERROR 10008          BAD EPROM ECO LEVEL
;
; --
REVCHK: SAVE    1234
;
; PRINT PART NUMBER
1$: MOV    #ECONB,R3          ; INIT R3
   MOV    #PROMNB,R4         ; INIT R4
2$: CALL   RDATA              ; READ DATA
   BCS    30$
   MOV    SEL6(R5),BAD6       ; GET SEL6
   CMP    BAD6,GDREV          ; THE SAME LEVEL?
   BEQ    40$                 ; IF YES
   ERRHRD 10008,E10008,PRBECD ; IF NOT, REPORT
;
; PRINT PART NUMBER
```

N6

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GLOBAL SUBROUTINES

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3248	012474	001366	BNE	2\$	;LOOP IF NOT
3249					
3250	012476		PRINTF	#MPROM	;PRINT PART NUMBER
3251					
3252	012516		30\$: WAIT	10000.	
3253	012524	000261	SEC		;SET CARRY IF ERROR
3254	012526	000401	BR	50\$	;THEN EXIT
3255					
3256	012530	000241	40\$: CLC		;IF TEST OKE
3257					
3258	012532		50\$: GET	1234	
3259	012552	000207	RETURN		
3260					

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3285 012554 005737 002414
3286 012560 001006
3287
3288 012562 004737 012362
3289 012566 103434
3290
3291 012570 004737 012150
3292 012574 103431
3293
3294 012576 012765 030306 000004 11:
3295 012604 012765 100000 000000
3296 012612 012701 000012
3297 012616
3298 012616
3299 012624 032765 100400 000000
3300 012632 001421
3301 012634 077110
3302
3303 012636 005037 002276
3304 012642 013537 000000 002320
3305 012650
3306 012660
3307 012660 005037 002414
3308 012664
3309 012672 000261
3310 012674 000207
3311
3312 012676
3313 012676
3314 012704 000241
3315 012706 000207
3316

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

RUNAPP: TST      APPFLG      ;CODE ALREADY LOADED?
        BNE      11          ;YES, START IT
        CALL     REVCHK      ;CHECK KMV PROM NUMBER
        BCS      201         ;EXIT IF ERROR
        CALL     LDAPPL      ;NOT, LOAD IT
        BCS      201         ;EXIT IF LOAD ERROR
        MOV      #START,SEL4(R5) ;OKE, LOAD START ADDRESS
        MOV      #RUN,SEL0(R5)  ;START
        MOV      #10.,R1       ;SET TIME-OUT
        21:
        WAIT     10.          ;WAIT FOR 1 MS
        BIT      #RUN!ERR,SEL0(R5) ;IS CORRECTLY STARTED?
        BEQ      301          ;YES, EXIT
        SOB      R1,21        ;NOT, LOOP TILL TIME-OUT
        CLR      G0000        ;SET REPORT
        MOV      SEL0(R5),BAD0
        ERMRD    10001,E10001,PRSEL0 ;IF TIME-OUT
        201:
        CLR      APPFLG      ;CLEAR FLAG
        WAIT     10000.
        SFC
        RETURN
        301:
        WAIT     100.
        CLC
        RETURN

```

```

3318
3319
3320      *** INPUT INTERRUPT SERVICE ROUTINE
3321
3322      DESCRIPTION: BEGIN
3323                    IF RQI NOT SET
3324                      THEN REPORT ERROR
3325                    IF RDYI NOT SET
3326                      THEN REPORT ERROR
3327                    IF NO QIO
3328                      THEN INPUT DUMMY COMMAND
3329                    POINT TO CURRENT COMMAND IN LIST
3330                    INPUT PARAMETERS
3331                    IF NO MORE COMMAND IN LIST
3332                      THEN CLEAR RQI
3333                    INPUT COMMAND NUMBER
3334                    CLEAR RDYI
3335                    END
3336
3337      INPUTS: R5 = KHV CSR ADDRESS
3338              INLIST POINT TO THE CURRENT COMMAND TO INPUT
3339              REQNT INDICATES THE NUMBER OF INPUT STILL TO DO
3340              THOUT INDICATES INTERRUPT TIME-OUT LENGTH
3341
3342      OUTPUTS: ERRFLG SET SUCH AS,
3343               BIT2 SET IF NO RQI OR RDYI
3344
3345      ---
3346
3347
3348 012710 010146      ITIN:  MOV     R1, -(SP)          ;SAVE R1,R2
3349 012712 010246      MOV     R2, -(SP)
3350
3351 012714 032765 000001 000000      BIT     #IEI,SEL0(R5)      ;INT. ENABLE?
3352 012722 001410      BEQ      1$                          ;NOT, SET ERROR
3353 012724 032765 000200 000000      BIT     #RQI,SEL0(R5)      ;IS RQI SET?
3354 012732 001404      BEQ      1$                          ;NOT, SET ERROR
3355 012734 032765 000020 000002      BIT     #RDYI,SEL2(R5)     ;IS RDYI SET?
3356 012742 001004      BNE      2$                          ;YES, SERVE INT.
3357 012744      1$:
3358 012744 052737 000004 002370      BIS     #BIT2,ERRFLG      ;SET ERROR FLAG
3359 012752 000427      BR       30$                          ;THEN EXIT
3360
3361 012754 005737 002372      2$:  TST     REQNT              ;ANY MORE COMMAND?
3362 012760 001003      BNE      3$                          ;YES, PROCESS
3363 012762 012702 000000      MOV     #F0,R2                ;NOT, SET DUMMY COMMAND
3364 012766 000417      BR       20$                          ;THEN CLEAR RDYI AND EXIT
3365
3366 012770 013701 002406      3$:  MOV     INLIST,R1          ;POINT TO COMMAND PARAMETERS
3367 012774 012102      MOV     (R1)+,R2                    ;READ COMMAND NUMBER
3368
3369 012776 012165 000004      MOV     (R1)+,SEL4(R5)         ;SET SEL4
3370 013002 012165 000006      MOV     (R1)+,SEL6(R5)         ;SET SEL6
3371
3372 013006 010137 002406      MOV     R1,INLIST              ;SAVE NEW POINTER
3373
3374 013012 005337 002372      DEC     REQNT                  ;NEXT COMMAND?

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D7

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GLOBAL SUBROUTINES

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3375 013016 001003      BNE      204      ;ANY-MORE COMMAND, DON'T CLEAR RQI
3376 013020 042765 000200 000000      BIC      #RQI,SEL0(R5) ;NO-MORE COMMAND, CLEAR RQI
3377
3378 013026      204:      MOV      R2,SEL2(R5) ;SET SEL2 WITH COMMAND NUMBER
3379 013026 010265 000002
3380
3381 013032      304:      MOV      TMOUT,R4 ;INIT AGAIN TIME-OUT
3382 013032 013704 002404      MOV      (SP)+,R2 ;RSTORE R1,R2
3383 013036 012602      MOV      (SP)+,R1
3384 013040 012601      RTI
3385 013042 000002
3386

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E7

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3388
3389
3390      ;**
3391      ; OUTPUT INTERRUPT SERVICE ROUTINE
3392      ;
3393      ; DESCRIPTION: BEGIN
3394      ;                  IF RDYO NOT SET
3395      ;                      THEN REPORT ERROR
3396      ;                  IF NO RESPONSE AWAITED
3397      ;                      THEN REPORT ERROR
3398      ;                  SAVE RESPONSE IN BUFFER
3399      ;                  UP-DATE RESPONSE COUNT
3400      ;                  CLEAR RDYO
3401      ;                  END
3402      ;
3403      ; INPUTS: R5 = KHV CSR ADDRESS
3404      ;          TMOUT INDICATES THE TIME-OUT VALUE FOR INT.
3405      ;          OUTLST POINTS TO THE CURRENT FREE BUFFER
3406      ;          RSPCNT CURRENT RESPONSE COUNT
3407      ;
3408      ; OUTPUTS: R4 = TMOUT
3409      ;          ERRFLG SET WITH BIT0 IF ANY ERROR
3410      ;
3411      ;--
3412
3413 013044 010146      ITOUT:  MOV      R1, -(SP)          ;SAVE R1
3414
3415 013046 032765 000020 000000      BIT      #IE0,SEL0(R5)      ;INT. ENABLE?
3416 013054 001404      BEQ          1$                    ;NOT, SET ERROR
3417 013056 032765 000200 000002      BIT      #RDYO,SEL2(R5)     ;IS RDYO SET?
3418 013064 001004      BNE          2$                    ;YES, SAVE
3419 013066 052737 000001 002370 1$:  BIS      #BIT0,ERRFLG      ;NOT, SET ERROR
3420 013074 000423      BR           30$                    ;THEN EXIT
3421
3422 013076 022737 000024 002402 2$:  CMP      #20,,RSPCNT        ;OUTBUF FULL?
3423 013104 001417      BEQ          30$                    ;YES,TERMINATE
3424 013106 013701 002410      MOV      OUTLST,R1            ;POINT TO FREE BUFFER
3425 013112 016521 000002      MOV      SEL2(R5),(R1)+        ;SAVE SEL2 TILL SEL6
3426 013116 016521 000004      MOV      SEL4(R5),(R1)+
3427 013122 016521 000006      MOV      SEL6(R5),(R1)+
3428
3429 013126 010137 002410      MOV      R1,OUTLST            ;POINT TO NEXT FREE BUFFER
3430 013132 005237 002402      INC      RSPCNT                ;ONE RESPONSE MORE
3431 013136 042765 000200 000002      BIC      #RDYO,SEL2(R5)    ;CLEAR RDYO
3432
3433 013144 013704 002404      30$:  MOV      TMOUT,R4          ;INIT AGAIN TIME-OUT
3434 013150 012601      MOV      (SP)+,R1                    ;RESTORE R1
3435 013152 000002      RTI
3436

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3438
3439
3440      ;**
3441      ; ROUTINE TO PROCESS QIO WITH INTERRUPTS
3442      ;
3443      ; DESCRIPTION: BEGIN
3444      ;                 SET POINTERS
3445      ;                 SET RQI
3446      ;                 INIT INTERRUPT WATCH DOG
3447      ;                 REPEAT
3448      ;                     WAIT FOR 500MICROS
3449      ;                     IF ERRFLG SET
3450      ;                         THEN REPORT ERROR
3451      ;                     IF REQCNT & RSPCNT = 0
3452      ;                         THEN END
3453      ;                     UNTIL WATCH DOG DONE
3454      ;                     IF WATCH DOG DONE
3455      ;                         THEN REPORT ERROR
3456      ;                     END
3457      ;
3458      ; INPUTS: R5 = KMV CSR ADDRESS
3459      ;          ERRFLG INDICATES IN IT ERROR(BIT2) OR/AND OUT IT ERROR(BIT0)
3460      ;          R1 POINTS TO A TABLE WHICH CONTENTS:
3461      ;          REQCNT COMMAND BASE ADDRESS
3462      ;          TIME-OUT LENGTH
3463      ;
3464      ; OUTPUTS: CARRY SET IF ANY ERROR
3465      ;
3466      ; REPORTS: ERROR 10005      UN-EXPECTED IN IT
3467      ;          ERROR 10006      UN-EXPECTED OUT IT
3468      ;          ERROR 10007      NO MORE IN/OUT IT WHILE QIO ARE PENDING
3469      ;
3470      ; --
3471
3472 013154 012102      QIOP:  MOV      (R1)+,R2      ;GET BASE ADDRESS
3473 013156 011137 002404  MOV      (R1),TMOUT      ;GET TIME-OUT LENGTH
3474 013162 012237 002372  MOV      (R2)+,REQCNT      ;GET IN LIST LENGTH
3475 013166 010237 002406  MOV      R2,INLST      ;POINT TO IN LIST
3476
3477 013172 013704 002404      MOV      TMOUT,R4      ;SET TIME OUT
3478 013176 052765 000221 000000  BIS      @RQI!IEI!IEO,SEL0(R5) ;SET REQUEST AND ENABLE INT.
3479 013204      1$:
3480 013204      WAIT      10.      ;WAIT FOR 1 MS
3481 013212 005737 002370      IST      ERRFLG      ;ANY ERROR?
3482 013216 001011      BNE      10$      ;YES, REPORT
3483
3484 013220 077407      SOB      R4,1$      ;NOT, LOOP TILL TIME-OUT
3485
3486 013222 005737 002372      TST      REQCNT      ;NO-MORE REQUEST?
3487 013226 001451      BEQ      30$      ;YES, END OF QIO
3488 013230      ERRLWD      10007,E10007,PRQION ;REPORT
3489 013240 000437      BR      20$      ;SET CARRY AND EXIT
3490
3491 013242 016537 000000 002320 10$:  MOV      SEL0(R5),BADO      ;SET BADO
3492 013250 016537 000002 002322      MOV      SEL2(R5),BAD2      ;SET BAD2
3493 013256 016537 000004 002324      MOV      SEL4(R5),BAD4      ;SET BAD4
3494 013264 016537 000006 002326      MOV      SEL6(R5),BAD6      ;SET BAD6

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3527 013356
3528 013360
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3530 013362 012700 100000
3531 013366 077001
3532
3533 013370
3534 013372 032700 000040
3535 013376 001026
3536
3537 013400 005237 002264
3538 013404 023737 002262 002264
3539 013412 003020
3540
3541 013414
3542 013444
3543
3544 013452
3545
3546 013454 000207
3547
3548
3549 013456 045 116 045 MERR: .ASCIZ /%N% A MORE THAN %D3% A ERRORS ON UNIT %D2% N/
3550 .EVEN
3551

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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
        CMP      MAXERR,ERCNTR
        BGT      2$
; UPDATE ERROR COUNTER
; TOO MANY ERRORS?
; IF NOT, EXIT
        PRINTF   #MERR,MAXERR,LOGDEV
        DODU     LOGDEV
; IF YES, REPORT
; THEN DROP UNIT
        DOCLN
; END THE SUBPASS
2$:     RETURN

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3583
3584
3585
3586

```

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

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

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

```

```

3588 .SBTTL GLOBAL ERROR REPORT SECTION
3589
3590 ;////////////////////////////////////
3591 ;/ ERROR MESSAGE SECTION
3592 ;////////////////////////////////////
3593 .NLIST BEX
3594
3595 013532 045 116 045 MRDEXP: .ASCIZ /#N#A READ EXPECTED/
3596 013572 045 116 045 MSEL0: .ASCIZ /#N#A SEL0 #06#A #06#N/
3597 013626 045 116 045 MSEL2: .ASCIZ /#N#A SEL2 #06#A #06#N/
3598 013660 045 116 045 MSEL4: .ASCIZ /#N#A SEL4 #06#A #06#N/
3599 013712 045 116 045 MSEL6: .ASCIZ /#N#A SEL6 #06#A #06#N/
3600 013746 045 116 045 MSEL10: .ASCIZ /#N#A SEL10 #06#A #06#N/
3601 014002 045 116 045 MSEL12: .ASCIZ /#N#A SEL12 #06#A #06#N/
3602 014036 045 116 045 MSEL14: .ASCIZ /#N#A SEL14 #06#A #06#N/
3603 014072 045 116 045 MSEL16: .ASCIZ /#N#A SEL16 #06#A #06#N/
3604
3605 014126 045 116 045 MECO: .ASCII /#N#A OBTAINED ECU LEVEL = #06/
3606 014165 045 116 045 .ASCIZ /#N#A EXPECTED ONE = #06#N/
3607
3608 014227 045 116 045 MSEL: .ASCIZ /#N#A SEL#02#A = #06#A EXPECTED VALUE = #06#N/
3609
3610 014315 045 116 045 MQIO: .ASCII /#N#A NUMBER OF PENDING INPUTS = #D2/
3611 014362 045 116 045 .ASCIZ /#N#A NUMBER OF RESPONSES = #D2#N/
3612
3613 014425 045 116 045 MBNUM: .ASCII /#N#A EXPECTED NUMBER OF RESPONSES = #D2/
3614 014474 045 116 045 .ASCIZ /#N#A NUMBER OF RESPONSES RECEIVED = #D2#N/
3615
3616 014546 045 116 045 MCSR0: .ASCII /#N#A SEL0 READ = #06/
3617 014575 045 116 045 MCSR2: .ASCIZ /#N#A SEL2 READ = #06/
3618 014625 045 116 045 MCSR1: .ASCII /#N#A SEL4 READ = #06/
3619 014654 045 116 045 .ASCIZ /#N#A SEL6 READ = #06#N/
3620
3621 014706 045 116 045 MQION: .ASCIZ /#N#A UNEXPECTED QIO RESPONSE NUMBER = #D2#N/
3622
3623 014764 045 116 045 MDAT0: .ASCIZ /#N#A ADDRESS READ EXPECTED/
3624 015044 045 116 045 MDAT1: .ASCIZ /#N#A #06#A #06#A #06#N/
3625
3626 015117 045 116 045 MBBUF0: .ASCII /#N#A TRANSMIT BUFFER ADDRESS : #06/
3627 015161 045 116 045 .ASCIZ /#N#A RECEIVE BUFFER ADDRESS : #06/
3628 015224 045 116 045 MBBUF1: .ASCII /#N#A RECORD SIZE : #D3/
3629 015265 045 116 045 .ASCIZ /#N#A BYTES IN ERROR : #D3#N/
3630 015333 045 116 045 CDBFER: .ASCIZ /#N#A ADDRESS DATA#N/
3631
3632 015411 045 116 045 MXMTER: .ASCIZ /#N#A TRANSMIT BUF: #06#A #D3/
3633 015463 045 116 045 MRCVER: .ASCIZ /#N#A RECEIVE BUF: #06#A #D3#N/
3634
3635 015537 045 116 045 TFM36: .ASCIZ /#N#A ADDRESS = #06#A UNIT = #D2#N/
3636
3637 015610 113 115 126 E10000: .ASCIZ /KMV11 FAILS TO RESET MASTER CLEAR/
3638 015652 122 125 116 E10001: .ASCIZ /RUN FUNCTION NOT CORRECTLY PERFORMED IN APPL. MODE/
3639 015735 127 122 111 E10002: .ASCIZ /WRITE FUNCTION NOT CORRECTLY PERFORMED IN APPL. MODE/
3640 016022 122 105 101 E10003: .ASCIZ /READ FUNCTION NOT CORRECTLY PERFORMED IN APPLIC. MODE/
3641 016106 104 101 124 E10004: .ASCIZ /DATA COMPARE ERROR DURING APPLICATION CODE LOADING/
3642 016171 125 116 105 E10005: .ASCIZ /UNEXPECTED INTERRUPT IN/
3643 016221 125 116 105 E10006: .ASCIZ /UNEXPECTED INTERRUPT OUT/
3644 016252 116 117 040 E10007: .ASCIZ /NO MORE INPUT INTERRUPTS WHILE INPUTS ARE PENDING/

```

3645	016334	125	116	105	E10008: .ASCIIZ	/UNEXPECTED EPROM'S ECO LEVEL/
3646	016371	125	116	105	E10009: .ASCIIZ	/UNEXPECTED QIO RESPONSE/
3647	016421	125	116	105	E10010: .ASCIIZ	/UNEXPECTED NUMBER OF RESPONSES RECEIVED/
3648	016471	125	116	105	E10011: .ASCIIZ	/UNEXPECTED DATA RECEIVED/
3649	016522	124	110	111	E10012: .ASCIIZ	/THIS TEST IS SKIPPED BECAUSE THERE IS NO EXTERNAL LOOP/
3650						
3651	016611	124	111	115	E00000: .ASCIIZ	/TIME-OUT TRAP ON REFERENCING Q-BUS DEVICE REGISTER/
3652	016674	124	110	105	E00001: .ASCIIZ	/THE KMV11-A FAILS TO RUN THE SELF TEST/
3653	016743	122	104	131	E00002: .ASCIIZ	/RDYI NOT ASSERTED BY THE KMV AFTER AN INPUT REQUEST/
3654	017027	122	104	131	E00003: .ASCIIZ	/RDYO NOT ASSERTED BY THE KMV IN RESPONSE TO A VALID COMMAND/
3655	017123	125	116	105	E00004: .ASCIIZ	/UNEXPECTED INTERRUPT WHEN IEI AND IEO CLEARED/
3656					.EVEN	

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3667 017202
3668 017202
3669 017232 004737 013356
3670 017236
3671
3672 017240
3673 017240
3674 017260
3675 017310 004737 013356
3676 017314
3677
3678 017316
3679 017316
3680 017346 004737 013356
3681 017352
3682
3683 017354
3684 017354
3685 017374
3686 017430 004737 013356
3687 017434
3688
3689 017436
3690 017436
3691 017466
3692 017516
3693 017546 004737 013356
3694 017552
3695
3696 017554
3697 017554
3698 017610 004737 013356
3699 017614
3700
3701 017616
3702 017616
3703 017646 004737 013356
3704 017652
3705
3706 017654
3707 017654
3708 017700
3709 017720
3710 017750
3711 020000
3712 020030 004737 013356
3713 020034
3714
```

```

////////////////////////////////////
//      ERROR REPORT SECTION
////////////////////////////////////

***
; ERROR REPORT FOR KHV11 CSR TEST
***

BGNMSG  BADAD
        PRINTB  #TFM36,BADLOC,UNIT
        CALL    CHKMAX

ENDMSG

BGNMSG  PRSELO
        PRINTB  #MRDEXP
        PRINTB  #MSELO,BAD0,GOOD0
        CALL    CHKMAX

ENDMSG

BGNMSG  PRBECO
        PRINTB  #MECO,BAD6,GDREV
        CALL    CHKMAX

ENDMSG

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

ENDMSG

BGNMSG  PRSTAT
        PRINTB  #MCSRO,BAD0,BAD2
        PRINTB  #MCSR1,BAD4,BAD6
        PRINTB  #MQIO,REQCNT,RSPCNT
        CALL    CHKMAX

ENDMSG

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

ENDMSG

BGNMSG  PRQION
        PRINTB  #MQIO,REQCNT,RSPCNT
        CALL    CHKMAX

ENDMSG

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

ENDMSG
```

```
3715 020036          BGNMSG  PBRSP
3716 020036          PRINTB  #MQION,OUTNUM
3717 020062          PRINTB  #MCSR2,BAD2
3718 020106          PRINTB  #MCSP1,BAD4,BAD6
3719 020136 004737 013356 CALL  CHKMAX
3720 020142          ENDMSG
3721
3722 020144          BGNMSG  PRBCOM
3723 020144 005037 002274 CLR    GOOD
3724 020150 005037 002316 CLR    BAD
3725 020154 013704 002430 MOV    ERRCNT,R4
3726 020160 012703 002432 MOV    #BADLOC,R3
3727 020164          PRINTB  #RBBUF0,XMTBUF,RCVBUF
3728 020214          PRINTB  #RBBUF1,LENGTH,ERRCNT
3729 020244          PRINTB  #CDBFER
3730
3731 020264 012702 000010 MOV    #8.,R2
3732 020270          1$:
3733 020270 012337 002420 MOV    (R3)+,XMTADD
3734 020274 012337 002422 MOV    (R3)+,RCVADD
3735 020300 117737 162114 002274 MOVB  #XMTADD,GOOD
3736 020306 117737 162110 002316 MOVB  #RCVADD,BAD
3737 020314          PRINTB  #MXINTER,XMTADD,GOOD
3738 020344          PRINTB  #MRCVER,RCVADD,BAD
3739 020374 005304          DEC    R4
3740 020376 001401          BEQ    2$
3741 020400 077245          SCB    R2,1$
3742 020402 004737 013356 2$: CALL  CHKMAX
3743 020406          ENDMSG
3744
3745 020410          BGNMSG  PRBNUM
3746 020410          PRINTB  #MBNUM,OUTNUM,RSPCNT
3747 020440 004737 013356 CALL  CHKMAX
3748 020444          ENDMSG
```

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3757 020446
3758
3759 020446
3760
3761 020452
3762

.SBTTL REPORT CODING SECTION

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

BGNRPT

EXIT RPT

ENDRPT

```
3764      .SBTTL  INITIALIZE SECTION
3765
3766      ;++
3767      ; THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
3768      ; AT THE BEGINNING OF EACH PASS.
3769      ;--
3770
3771 020454      BGNINIT
3772
3773
3774
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3780
3781
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3801
3802
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3806
3807
3808
3809
3810
3811 020454      SETVEC  #140,#170000,#340      ;OOT ROM ADDRESS      ;JB REV A-0
3812
3813 020502 012705 007330      MOV      #SSTACK,R5      ;INITIALIZE STACK
3814 020506 010637 002250      MOV      SP,PSTACK      ;STORE STACK POINTER
3815
3816 020512 005037 002414      CLR      APPFLG      ;CLEAR FLAG TO REQUEST LOAD OF THE
3817                                     ;APPLICATION FIRMWARE
3818
3819 020516 005737 002256      TST      FTIME      ;IS THE FIRST PASS?
3820 020522 001011             BNE      1$      ;IF NOT
3821 020524 013737 000004 002252      MOV      @#4,SAVE4      ;SAVE TIME-OUT TRAP VECTOR IF YES
3822 020532 013737 000006 002254      MOV      @#6,SAVE6
3823 020540 012737 000001 002256      MOV      #1,FTIME      ;THEN SET FIRST PASS FLAG
3824
3825 020546 013737 002252 000004 1$:      MOV      SAVE4,@#4      ;RESTORE TRAP VECTOR
3826 020554 013737 002254 000006      MOV      SAVE6,@#6
3827
3828      ;SEE IF PROGRAM JUST STARTED, BR IF YES
3829 020562      READEP  #EF.START
3830 020570      BCOMPLETE      SETUP
3831
3832      ;SEE IF PROGRAM WAS JUST CONTINUED
3833 020572      READEP  #EF.CONTINUE
3834 020600      BCOMPLETE      END
3835
3836      ;SEE IF THIS IS A NEW PASS, BR IF NOT
3837 020602      READEP  #EF.NEW
3838 020610      BNCOMPLETE      NEXT
3839
3840 020612      SETUP:
3841 020612 012737 177777 002522      MOV      #-1,OUT      ;SET LOGICAL DEVICE TO -1
```

```

3843
3844
3845 020620          NEXT:
3846
3847          ;TEST IF ALL UNITS TESTED
3848
3849 020620 005237 002522      INC      UUT
3850 020624 023737 002522 002270  CMP      UUT,L#UIT
3851 020632 001443          BEQ      ABORT          ;YES ABORT THE PASS
3852
3853 020634 013701 002522      MOV      UUT,R1
3854 020640          PRINTF  #RUNNING,R1
3855
3856          ;
3857          ;
3858          ;
3859          ;
3860
3861          ;GET P-TABLE IF AVAILABLE FOR THIS UNIT
3862 020662          GPHARD  UUT,P1
3863 020672          BNCOMPLETE      NEXT          ;IF NOT, TRY THE NEXT ONE
3864
3865          ;GET KMV11-C CSR ADDRESS
3866 020674 012137 002504      MOV      (R1)+,KMVCSR          ;LOAD CSR ADDRESS
3867
3868          ;GET KMV11 INTERRUPT VECTORS
3869 020700 011137 002506      MOV      (R1),INTIN
3870 020704 012137 002510      MOV      (R1)+,INTOUT
3871 020710 062737 000004 002510  ADD      #4,INTOUT
3872
3873          ;GET KMV11 PRIORITY
3874 020716 012137 002512      MOV      (R1)+,PRILEV
3875
3876          ;GET LOOP INDICATOR
3877 020722 012137 002344      MOV      (R1)+,LCLOOP
3878
3879          ;GET PDP11/23 TYPE
3880 020726 012137 002514      MOV      (R1)+,PDPTYP
3881
3882          ;RESET ERROR COUNTER
3883 020732 005037 002264      CLR      ERCNTR
3884
3885 020736          EXIT      INIT
3886
3887 020742          ABORT:  DOCLN
3888 020744          EXIT      INIT          ;CLEAN UP THEN ABORT PASS
3889
3890 020750 000472          END:  BR      END1
3891 020752          045      116      045  RUNNING:  .ASCIZ  /#N#A RUNNING ON UNIT #02#A /
3892 021006          045      116      045  RMARK0:  .ASCIZ  /#N#A SUBTEST 3 OF TEST 8 AND 9 ARE SKIPPED IF/
3893 021064          045      116      045  RMARK1:  .ASCIZ  /#N#A THE SYSTEM IS A PDP11-23 WITH 128K#N# /
3894
3895          .EVEN
3896
3897 021136          END1:  ENDINIT
3898

```

```

3900          .SBTTL  AUTODROP SECTION
3901
3902          ;++
3903          ; THIS CODE IS EXECUTED IMMEDIATELY AFTER THE INITIALIZE CODE IF
3904          ; THE "ADR" FLAG WAS SET.  THE UNIT(S) UNDER TEST ARE CHECKED TO
3905          ; SEE IF THEY WILL RESPOND.  THOSE THAT DON'T ARE IMMEDIATELY
3906          ; DROPPED FROM TESTING.
3907          ;--
3908          .EVEN
3909          BGNAUTO
3910
3911
3912
3913
3914
3915
3916
3917
3918
3919
3920          ;DEVICE DOES NOT HAVE A "READY"
3921
3922          021140 013701 002504          MOV    KMVCSR,R1      ;R1 CONTAINS BASE KMV11 ADDRESS
3923          021144 012705 000010          MOV    #CSLEN,R5      ;NUMBER OF REGISTERS TO BE TESTED
3924          021150 012737 021200 000004          MOV    #2,R4      ;SET OUT TIMEOUT TRAP
3925          021156 012737 000300 000006          MOV    #340,R6      ;LEVEL 7
3926          021164 005711 000002          MOV    #300,R6      ;LEVEL 6
3927          021166 000240 000002          1$:  TST    (R1)          ;REFERENCE DEVICE REGISTERS
3928          021170 062701 000002          NOP
3929          021174 077505          ADD    #2,R1      ;NEXT REGISTER
3930          021176 000405          SOB    R5,R1      ;LOOP WILL ALL ADDRESSED
3931          021200 062706 000004          2$:  ADD    #4,SP
3932          021204          DDDU    LOGDEV
3933
3934
3935
3936          021212 013737 002252 000004          3$:  MOV    SAVE4,4
3937          021220 013737 002254 000006          MOV    SAVE6,6
3938          021226          ENDAUTO
3939
3940
3941
3942

```

E8

CNMCA0 KMV11-A FCTNL DIAG
CLEANUP CODING SECTION

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SEQ 95

3944
3945
3946
3947
3948
3949
3950
3951 021230
3952
3953
3973
3974
3975
3976 021230
3977
3978 021232
3979
3980
3981
3982
3983

.SBTTL CLEANUP CODING SECTION

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

BGNCLN

BRESET

ENDCLN

```

3985          .SBTTL  DROP UNIT SECTION
3986
3987          ;//////////
3988          ;// THE DROP-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
3989          ;// TO NO LONGER BE TESTED.
3990          ;//////////
3991
3992 021234          BGNDU
3993
3994
3995
4004 021234          PRINTF  @MDROP,RO          ;UNIT DROPPED
4005 021256          EXIT    DU
4006
4018 021262          045      116      045 MDROP: .ASCIZ  /#N#A UNIT #D2#A DROPPED#N/
4019                  .EVEN
4020
4021
4022 021314          ENDDU
4023
4024
4025
4026
4027

```

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4031
4032
4033
4034
4035
4036
4037
4038
4047
4048 021316
4049 021316
4050
4051

.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

```
4053
4054
4058
4067
4101
4102
4103 021320      BADHEAD
                   ;          ** TEST1 **
4104             ; VERIFY THAT THE KMV11-A CAN BE RESTARTED
4105             ;
4106             ; FIRST, VERIFY THAT REFERENCING Q-BUS DEVICE DOESN'T
4107             ; CAUSE A TIME OUT TRAP
4108             ; THEN, SELO IS LOADED FOR APPLICATION MODE
4109             ;
4110             ; MODE:          APPLICATION MODE
4111             ;
4112             ; REPORTS:      ERROR 10000      KMV11 FAILS TO RESET MASTER CLEAR
4113 021320      BADHEAD
                   ;          ** TEST1 **
4114
4115 021320      BGNTST
4116 021320      013701 002504      MOV      KMVCSR,R1      ;R1 CONTAINS BASE KMV11 ADDRESS
4117 021324      012737 021346 000004      MOV      #2#,4      ;SET OUT TIMEOUT TRAP
4118             ;          MOV      #340,6      ;LEVEL 7      ;JB REV A-0
4119 021332      012737 000300 000006      MOV      #300,6      ;LEVEL 6      ;JB REV A-0
4120 021340      005711      1$:      TST      (R1)      ;REFERENCE DEVICE REGISTERS
4121 021342      000240      NOP
4122 021344      000423      BR      3$      ;IF ADDRESS EXISTS
4123
4124 021346      062706 000004      2$:      ADD      #4,SP      ;ELSE, REPORT
4125 021352      010137 002432      MOV      R1,BADLOC      ;ADDRESS LOCATION
4126 021356      013737 002522 002272      MOV      OUT,UNIT      ;UNIT NUMBER
4127 021364      ERRHRD 0,E00000,BADAD      ;BUS TIMEOUT,ADDRESS PROBLEM
4128 021374      013737 002252 000004      MOV      SAVE4,4      ;THEN RESTORE VECTOR AND EXIT
4129 021402      013737 002254 000006      MOV      SAVE6,6
4130 021410      EXIT      TST
4131
4132 021414      013737 002252 000004      3$:      MOV      SAVE4,4
4133 021422      013737 002254 000006      MOV      SAVE6,6
4134
4135
4136 021430      004737 011574      CALL      MODE0      ;SET MASTER CLEAR AND APPLICATION MODE
4137                                     ;AND WAIT FOR SELO CLEARED BY THE KMV
4138
4139 021434      WAIT      10000.
4140 021442      ENDTST
```

```

4142 021444      BADHEAD
4143              ;
4144              ; ** TEST2 **
4145              ; SELF-TEST RUNNING TEST
4146              ;
4147              ; WHEN SELF TEST IS SELECTED, THIS TEST PERMITS TO SEE
4148              ; IF THE KVM11-A CAN RUN IT BY ASSERTING RUN BIT IN THE SAME
4149              ; TIME THAN MASTER CLEAR IN BSEL1(IN THIS CASE THE SELF TEST
4150              ; RUNS ONE PASS ONLY.THEN, IF SELF TEST CORRECTLY RUNS, APPLICATION
4151              ; MODE IS ACCESSED AND BSEL1 IS CLEARED.
4152              ;
4153              ; MODE:          APPLICATION MODE
4154              ;
4155              ; REPORTS:      ERROR 1          SELF TEST DIDNOT RUN CORRECTLY
4156              ;              ERROR 10000      KVM11 FAILS TO RESET MASTER CLEAR
4157 021444      BADHEAD
4158              ; ** TEST2 **
4159              ;
4160              ; BGNTST
4161              ;
4162              ; CALL      MODE0
4163              ; BCC      1$
4164              ;
4165              ; EXIT      TST
4166              ;
4167              ; SET APPLICATION MODE
4168              ; IF NO ERROR, JUMP
4169              ; ELSE, REPORT ERROR
4170              ; RUN SELF TEST
4171              ;
4172              ; 1$:      CLR      SELO(R5)
4173              ;          BIS      #MCLR!RUN,SELO(R5)
4174              ;          MOV      #12.,R1
4175              ;          ;RESET SELO
4176              ;          ;RUN IT
4177              ;          ;INIT TIME OUT(20 S)
4178              ; 2$:      WAIT     10000.
4179              ;          BIT      #MCLR!RUN,SELO(R5)
4180              ;          BEQ      3$
4181              ;          SOB      R1,2$
4182              ;          ;WAIT FOR 1S
4183              ;          ;TEST FOR SELO CLEARED?
4184              ;          ;IF YES
4185              ;          ;IF NOT, LOOP TILL TIME-OUT
4186              ; 3$:      CLR      00000
4187              ;          MOV      SELO(R5),BADO
4188              ;          ERRHRD  1,E00001,PRSELO
4189              ;          ;IF TIME OUT
4190              ;
4191              ; 3$:      WAIT     10000.
4192              ;
4193              ; ENDTST

```

```

4182 021546      BADHEAD
4183              ;          ** TEST3 **
4184              ; TEST IF APPLICATION PROGRAM CAN BE LOADED AND STARTED
4185              ; MODE:      APPLICATION MODE
4186              ;
4187              ; REPORTS:    ERROR 10000   KMV11 FAILS TO RESET MASTER CLEAR
4188              ;           ERROR 10001   RUN FUNCTION NOT CORRECTLY PERFORMED
4189              ;           ERROR 10002   WRITE FUNCTION NOT CORRECTLY PERFORMED
4190              ;           ERROR 10003   READ FUNCTION NOT CORRECTLY PERFORMED
4191              ;           ERROR 10004   DATA COMPARE ERROR
4192              ;           ERROR 10008   UNEXPECTED EPROM'S ON KMV11-A (ECO LEVEL
4193              ;           OF EPROM'S IS BAD)
4194 021546      BADHEAD
4195              ;          ** TEST3 **
4196
4197 021546      BGNTST
4198 021546      004737 011574      CALL   MODE0          ;SET APPLICATION MODE
4199 021552      103002              BCC     1$           ;IF CORRECTLY DONE
4200
4201 021554              EXIT    TST              ;IF NOT, REPORT
4202
4203 021560      004737 012554      1$:   CALL   RUNAPP          ;LOAD AND RUN APPLICATION
4204
4205 021564      ENDTST

```

4207 021566

BADHEAD

** TEST4 **

4208

; TEST THE CSR HANDSHAKING WITHOUT INTERRUPT

4209

4210

; COMMAND LOADED: READ MODEM (F14)

4211

4212

; RESPONSE EXPECTED: READ MODEM RESPONSE WITH :

4213

STATUS = 371

4214

MODEM = ALL OFF

4215

4216

; REPORTS:

ERROR 10000

KMV11 FAILS TO RESET MASTER CLEAR

4217

ERROR 10001

RUN FUNCTION NOT CORRECTLY PERFORMED

4218

ERROR 10002

WRITE FUNCTION NOT CORRECTLY PERFORMED

4219

ERROR 10003

READ FUNCTION NOT CORRECTLY PERFORMED

4220

ERROR 10004

DATA COMPARE ERROR

4221

ERROR 10005

UNEXPECTED INTERRUPT IN

4222

ERROR 10006

UNEXPECTED INTERRUPT OUT

4223

ERROR 10007

NO MORE INTERRUPT WHILE QIO PENDING

4224

ERROR 10008

UNEXPECTED EPROM'S ECO LEVEL ON KMV11-A

4225

ERROR 10009

UNEXPECTED QIO RESPONSE

4226

ERROR 00002

RDYI NOT ASSERTED BY THE KMV AFTER AN INPUT REQ

4227

ERROR 00003

RDYO NOT ASSERTED BY THE KMV IN RESPONSE

4228

ERROR 00004

UNEXPECTED INTERRUPT RECEIVED WHEN IEI&IEO

4229

ARE DISABLED

4230 021566

BADHEAD

** TEST4 **

4231

4232

4233 021566

BGNTST

4234 021566 004737 011574

CALL

MODEO

;SET APPLICATION MODE

4235 021572 103002

BCC

1\$

;IF CORRECTLY DONE

4236

4237 021574

EXIT

TST

4238

4239 021600 004737 012554

1\$:

CALL

RUNAPP

;LOAD AND RUN APPLICATION

4240 021604 103002

BCC

2\$

;IF CORRECTLY DONE

4241

4242 021606

EXIT

TST

4243

4244 021612 004737 011776

2\$:

CALL

INIQIO

;INIT QIO PROCESSING

4245 021616 012704 000005

MOV

#5,R4

;SET WATCH DOG

4246 021622 012765 000200 000000

MOV

#RQI,SEL0(R5)

;REQUEST CSR TRANSACTION

4247 021630

3\$:

WAIT

100.

;WAIT FOR 1MS

4248 021630

BIT

#RDYI,SEL2(R5)

;IS RDYI SET BY KMV?

4249 021636 032765 000020 000002

BNE

4\$

;IF YES

4250 021644 001020

SOB

R4,3\$

;NOT. LOOP TILL TIME-OUT

4251 021646 077410

4252

4253 021650 012737 000002 002416

MOV

#2,SELNUM

;RDYI NEVER SET, REPORT

4254 021656 016537 000002 002316

MOV

SEL2(R5),BAD

4255 021664 012737 000020 002274

MOV

#RDYI,GOOD

4256 021672

ERRHRD

2,E00002,PRSEL

4257

4258 021702

EXIT

TST

4259

4260 021706 012701 022066

4\$:

MOV

#7\$+2,R1

;RDYI SET, POINT TO COMMAND

4261 021712 012102

MOV

(R1)+,R2

;SAVE COMMAND NUMBER

Address	Offset	Hex	Hex	Hex	Hex	Assembly	Comment
4262	021714	012165	000004			MOV (R1)+,SEL4(R5)	;SET SEL4
4263	021720	012165	000006			MOV (R1)+,SEL6(R5)	;SET SEL6
4264	021724	042765	000200	000000		BIC #RQI,SEL0(R5)	;THEN CLEAR RQI
4265	021732	010265	000002			MOV R2,SEL2(R5)	;AND SET SEL2
4266							
4267	021736	012704	000005			MOV #5,R4	;SET WATCH DOG
4268	021742				5\$:		
4269	021742					WAIT 100.	;WAIT 1MS
4270	021750	032765	000200	000002		BIT #RDY0,SEL2(R5)	;IS RDY0 SET BY KMV?
4271	021756	001020				BNE 6\$	;IF YES
4272	021760	077410				SOB R4,5\$	;NOT, LOOP TILL TIME-OUT
4273							
4274	021762	012737	000002	002416		MOV #2,SELNUM	;RDY0 NEVER SET, REPORT
4275	021770	016537	000002	002316		MOV SEL2(R5),BAD	
4276	021776	012737	000200	002274		MOV #RDY0,GOOD	
4277	022004					ERRHRD 3,E00003,PRSEL	
4278	022014					EXIT TST	
4279							
4280	022020	016537	000002	006620	6\$:	MOV SEL2(R5),OUTBUF	;RDY0 SET, SAVE RESPONSE
4281	022026	016537	000004	006622		MOV SEL4(R5),OUTBUF+2	
4282	022034	016537	000006	006624		MOV SEL6(R5),OUTBUF+4	
4283	022042	005237	002402			INC RSPCNT	
4284							
4285	022046	012701	022074			MOV #8\$,R1	;LOAD CORRECT RESPONSE FOR TEST
4286	022052	004737	010134			CALL CHKRSP	;THEN CHECK RESPONSE
4287	022056	103012				BCC 9\$	;IF RESPONSE CORRECT
4288							
4289	022060					EXIT TST	
4290							
4291							
4292						; COMMAND LIST	
4293	022064				7\$:		
4294	022064	000001				1	
4295	022066	000014	000000	000000		14,0,0	;READ MODEM
4296							
4297						; RESPONSE LIST	
4298							
4299	022074				8\$:		
4300	022074	000001				1	
4301	022076	000214	000000	174400		14+RDY0,0,371+400	;READ MODEM RESPONSE
4302							
4303	022104				9\$:		
4304	022104					ENDTST	

4306 022106

BADHEAD

4307

; ** TEST5 **
; TEST THE CSR HANDSHAKING WITH INTERRUPTS

4308

4309

; COMMAND LOADED: READ MODEM (F14)

4310

4311

; RESPONSE EXPECTED: READ MODEM RESPONSE WITH :

4312

STATUS = 371

4313

MODEM = ALL OFF

4314

4315

; REPORTS:

ERROR 10000

KMV11 FAILS TO RESET MASTER CLEAR

4316

ERROR 10001

RUN FUNCTION NOT CORRECTLY PERFORMED

4317

ERROR 10002

WRITE FUNCTION NOT CORRECTLY PERFORMED

4318

ERROR 10003

READ FUNCTION NOT CORRECTLY PERFORMED

4319

ERROR 10004

DATA COMPARE ERROR

4320

ERROR 10005

UNEXPECTED INTERRUPT IN

4321

ERROR 10006

UNEXPECTED INTERRUPT OUT

4322

ERROR 10007

NO MORE INTERRUPT WHEN QIO IS PENDING

4323

ERROR 10008

UNEXPECTED EPROM'S ON KMV11-A

4324

ERROR 10009

UNEXPECTED QIO RESPONSE

4325 022106

BADHEAD

4326

** TEST5 **

4327

4328 022106

BGNTST

4329 022106 004737 011574

CALL

MODEO

;SET APPLICATION MODE

4330 022112 103002

BCC

1\$

;IF CORRECTLY DONE

4331

4332 022114

EXIT

TST

4333

4334 022120 004737 012554

1\$:

CALL

RUNAPP

;LOAD AND RUN APPLICATION

4335 022124 103002

BCC

2\$

;IF CORRECTLY DONE

4336

4337 022126

EXIT

TST

4338

4339 022132 004737 011776

2\$:

CALL

INIPIO

;INIT QIO PROCESSING

4340

4341 022136 012701 022154

MOV

*60\$,R1

;TABLE ADDRESS IN R1

4342 022142 004737 013154

CALL

QIOP

;PROCESS QIO

4343 022146 103014

BCC

5\$

;IF CORRECTLY DONE

4344

4345 022150

EXIT

TST

4346

4347

; PARAMETERS FOR QIO PROCESSING

4348

4349 022154 022160

60\$:

3\$

;IN LIST TABLE BASE ADDRESS

4350 022156 000062

50.

;TIME-OUT LENGTH(N*10 MS)

4351

4352

; COMMAND LIST

4353

4354 022160

3\$:

4355 022160 000001

1

4356 022162 000014 000000 000000

14,0,0

;READ MODEM

4357

4358

; RESPONSE LIST

4359

4360 022170

4\$:

N8

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HARDWARE TESTS

SEQ 104

```
4361 022170 000001      1
4362 022172 000214 000000 174400 14+RDY0,0,371*400      ;READ MODEM RESPONSE
4363
4364 022200      5$:
4365 022200 012701 022170      MOV      #4$,R1      ;SAVE RESPONSE LIST ADDRESS
4366 022204 004737 010134      CALL     CHKRSP      ;THEN CHECK RESPONSES
4367
4368 022210      6$:
4369 022210      ENDTST
```

4371 022212

4372

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4387

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4389

4390

4391

4392

4393

4394 022212

4395

4396

4397 022212

4398 022212 004737 011574

4399 022216 103430

4400

4401

4402

4403 022220 013737 030742 002374

4404 022226 013737 030704 002376

4405 022234 012737 000207 030742

4406 022242 012737 000207 030704

4407

4408 022250 005037 002414

4409 022254 004737 012554

4410 022260 103407

4411

4412 022262 004737 011776

4413

4414 022266 012701 022302

4415 022272 004737 013154

4416 022276 103153

4417

4418 022300 000556

4419

4420

4421

4422 022302 022306

4423 022304 001274

4424

4425

BADHEAD

| ** TEST6 **

| TEST OF QIO PROCESSING IN CASE OF KMV RESOURCE ERROR

| TO DO THIS TEST, THE KMV POOL IS EMPTIED BY MAKING ITS LENGTH=0
| THEN THE APPLICATION CODE IS LOADED IN THE KMV11-A

| COMMAND LOADED: ALL COMMANDS

| RESPONSE EXPECTED: FOR EACH COMMAND,

| STATUS = 357

| STATE = 51 (READ COMMAND ONLY)

| MODEM = ALL OFF(MODEM SURVEY & READ CMD ONLY)

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

BADHEAD

| ** TEST6 **

BGNTST

CALL MODE0 ;SET APPLICATION MODE
BCS 41 ;IF NOT CORRECTLY DONE

| EMPTIED KMV POOL

MOV \$ROBIN,TEMP ;SAVE THIS LOCATION
MOV \$CCBIN,TEMP+2 ;SAVE IT TOO
MOV \$207,\$ROBIN ;SET RETURN INSTEAD OF IT
MOV \$207,\$CCBINCLR APPFLG ;CLEAR FLAG
CALL RUNAPP ;LOAD APPLI. CODE
BCS 41 ;EXIT IF ANY ERROR

31: CALL INIQIO ;INIT QIO PROCESSING

MOV \$601,R1 ;TABLE ADDRESS IN R1
CALL QIOP ;PROCESS QIO
BCC 71 ;IF CORRECTLY DONE

41: BR 81 ;EXIT

| PARAMETERS FOR QIO PROCESSING

601: 51 ;IN LIST TABLE BASE ADDRESS
700. ;TIME-OUT LENGTH(N*10 MS)

| COMMAND LIST

```

4426
4427 022306          54:
4428 022306 000020          16.
4429 022310 000000 000000 000000 0,0,0          ; DUMMY
4430 022316 000001 000000 000000 1,0,0          ; CONFIGURATE
4431 022324 000002 000000 000000 2,0,0          ; DECONFIGURATE
4432 022332 000003 000000 000000 3,0,0          ; DUMMY
4433 022340 000004 000000 000000 4,0,0          ; DUMMY
4434 022346 000005 000000 000000 5,0,0          ; XMIT BUFFER
4435 022354 000006 000000 000000 6,0,0          ; RECEIVE BUFFER
4436 022362 000007 000000 000000 7,0,0          ; XMIT KILL
4437 022370 000010 000000 000000 10,0,0         ; RECEIVE KILL
4438 022376 000011 000000 000000 11,0,0         ; DUMMY
4439 022404 000012 000000 000000 12,0,0         ; DUMMY
4440 022412 000013 000000 000000 13,0,0         ; DUMMY
4441 022420 000014 000000 000000 14,0,0         ; READ MODEM
4442 022426 000015 000000 000000 15,0,0         ; DUMMY
4443 022434 000016 000000 000000 16,0,0         ; ENABLE MODEM SURVEY
4444 022442 000017 000000 000000 17,0,0         ; DISABLE MODEM SURVEY
4445
4446          ; RESPONSE LIST
4447
4448 022450          64:
4449 022450 000020          16.
4450 022452 000200 000000 167400 0+RDY0,0,357+400          ; DUMMY
4451 022460 000201 000000 167400 1+RDY0,0,357+400          ; KMV RESOURCE ERROR FOR F1
4452 022466 000202 000000 167400 2+RDY0,0,357+400          ; KMV RESOURCE ERROR FOR F2
4453 022474 000203 000000 167400 3+RDY0,0,357+400          ; DUMMY
4454 022502 000204 000000 167400 4+RDY0,0,357+400          ; DUMMY
4455 022510 000205 000000 167400 5+RDY0,0,357+400          ; KMV RESOURCE ERROR FOR F5
4456 022516 000206 000000 167400 6+RDY0,0,357+400          ; KMV RESOURCE ERROR FOR F6
4457 022524 000207 000000 167400 7+RDY0,0,357+400          ; KMV RESOURCE ERROR FOR F7
4458 022532 000210 000000 167400 10+RDY0,0,357+400         ; KMV RESOURCE ERROR FOR F10
4459 022540 000211 000000 167400 11+RDY0,0,357+400         ; DUMMY
4460 022546 000212 000000 167400 12+RDY0,0,357+400         ; DUMMY
4461 022554 000213 000000 167400 13+RDY0,0,357+400         ; DUMMY
4462 022562 000214 000000 167400 14+RDY0,0,357+400         ; KMV RESOURCE ERROR FOR F14
4463 022570 000215 000000 167400 15+RDY0,0,357+400         ; DUMMY
4464 022576 000216 000000 167400 16+RDY0,0,357+400         ; KMV RESOURCE ERROR FOR F16
4465 022604 000217 000000 167400 17+RDY0,0,357+400         ; KMV RESOURCE ERROR FOR F17
4466 022612 000000 000000 000000 .WORD 0,0,0,0,0,0
4467
4468          74:
4469 022626 012701 022450      MOV      #64,R1          ; SAVE RESPONSE LIST ADDRESS
4470 022632 004737 010134      CALL     CHKRSP         ; THEN CHECK RESPONSES
4471
4472
4473 022636 005037 002414          84:      CLR      APPFLG          ; TO LOAD AGAIN CODE
4474 022642 013737 002374 030742      MOV      TEMP,1,RDBIN      ; RESTORE INITIAL CONTENTS
4475 022650 013737 002376 030704      MOV      TEMP,2,1CCBIN
4476
4477 022656          ENDTST

```

4479 022660

4480
4481
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4533
4534

```
BADHEAD
      ** TEST7 **
      TEST OF QIO PROCESSING AS BELOW:
      SUBTEST1 - STATE = S1          ALL THE COMMANDS EXCEPT F1 ARE PASSED
                                      WHILE THE LINE IS NOT CONFIGURED.
                                      EXPECTED STATUS ARE:
                                      STATUS = 371 FOR F2,F5,F6,F7,F10,F14
                                              = 1   FOR F16,F17
                                              = NONE FOR DUMMY COMMANDS

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

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

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

      SUBTEST3 - DECONFIGURE THE LINE
                  ENTER COMMAND F17 TWICE
                  ENTER COMMAND F14 TWICE
                  ENTER COMMAND F16 TWICE
                  ENTER COMMAND F1
                  "      "      F2 TWICE
                  "      "      F1

                  EXPECTED RESPONSES ARE:
                  STATUS = 363 FOR F17
                          = 363 FOR F16
                          = 371 FOR F1
                          = 1 FOR F17
                          = 363 FOR F2
                          = 350 FOR F1
                          = 1 FOR F14 WITH STATE=S6 AND S142+S112+S109+S106
                                      +S107 ON
                          = 1 FOR F16 WITH THE SAME PARAMETERS
                          = 1 FOR F4 WITH S106 & S109 CHANGE
                          = 1 FOR F4 WITH S107 CHANGE
                          = 1 FOR F2 COMPLETED

                  THEN CURRENT STATE = S1
                  MODEM = ALL OFF

      SUBTEST4 - TEST THAT WE ARE OFF LINE AGAIN
```

```

4535                                     ENTER COMMAND F17      FOR STATUS = 1
4536                                     F14      FOR STATUS = 371
4537
4538                                     ;
4539                                     ;
4540                                     ; REPORTS:
4541                                     ; ERROR 10000 KHV11 FAILS TO RESET MASTER CLEAR
4542                                     ; ERROR 10001 RUN FUNCTION NOT CORRECTLY PERFORMED
4543                                     ; ERROR 10002 WRITE FUNCTION NOT CORRECTLY PERFORMED
4544                                     ; ERROR 10003 READ FUNCTION NOT CORRECTLY PERFORMED
4545                                     ; ERROR 10004 DATA COMPARE ERROR
4546                                     ; ERROR 10005 UNEXPECTED INTERRUPT IN
4547                                     ; ERROR 10006 UNEXPECTED INTERRUPT OUT
4548                                     ; ERROR 10007 NO MORE INTERRUPT WHILE QIO PENDING
4549 022660 BADHEAD ; ERROR 10008 UNEXPECTED EPROM'S ON KHV11-A
4550                                     ; ERROR 10009 UNEXPECTED QIO RESPONSE
4551                                     ; ERROR 10010 UNEXPECTED NUMBER OF RESPONSES
4552                                     ;
4553                                     ; ** TEST7 **
4554
4555 BGNTST
4556 022660 004737 011574 CALL MODE0 ;SET APPLICATION MODE
4557 022664 103406 BCS 1$ ;IF NOT CORRECTLY DONE
4558
4559 022666 004737 011706 CALL LPBACK ;CHECK LOOP BACK
4560 022672 103403 BCS 1$ ;IF NOT
4561
4562 022674 004737 012554 CALL RUNAPP ;LOAD AND RUN APPLICATION
4563 022700 103002 BCC 2$ ;IF CORRECTLY DONE
4564
4565 1$: EXIT TST
4566
4567 2$:
4568 BGNSUB
4569 022710 004737 011776 CALL INIQIO ;INIT QIO PROCESSING
4570 022714 012701 022732 MOV #60$,R1 ;TABLE ADDRESS IN R1
4571 022720 004737 013154 CALL QIOP ;PROCESS QIO
4572 022724 103116 BCC 5$ ;IF CORRECTLY DONE
4573
4574 EXIT SUB
4575
4576 ; PARAMETERS FOR QIO PROCESSING
4577
4578 60$: 3$ ;IN LIST TABLE BASE ADDRESS
4579 500. ;TIME-OUT LENGTH(N*10 MS)
4580
4581 ; COMMAND LIST
4582 3$:
4583 14.
4584 14,0,0 ;READ MODEM
4585 16,0,0 ;ENABLE MODEM SURVEY
4586 17,0,0 ;DISABLE MODEM SURVEY
4587 2,0,0 ;DECONFIGURATE
4588 5,TXBUF0,#RDBS ;TRANSMIT BUFFER
4589 6,RXBUF0,#RDBS ;RECEIVE BUFFER
4590 7,0,0 ;TRANSMIT ABORT
4591 10,0,0 ;RECEIVE ABORT

```

```

4591 023020 000000 000000 000000      0,0,0      ; DUMMY COMMANDS
4592 023026 000003 000000 000000      3,0,0
4593 023034 000004 000000 000000      4,0,0
4594 023042 000011 000000 000000     11,0,0
4595 023050 000012 000000 000000     12,0,0
4596 023056 000015 000000 000000     15,0,0
4597
4598      ; RESPONSE LIST
4599
4600 023064      4$:
4601 023064 000010      8.
4602 023066 000214 000000 174400     14*RDY0,0,371*400      ; F14 OUT OF SEQUENCE
4603 023074 000202 000000 174400     2*RDY0,0,371*400      ; F2 OUT OF SEQUENCE
4604 023102 000205 000000 174400     5*RDY0,0,371*400      ; F5 OUT OF SEQUENCE
4605 023110 000206 000000 174400     6*RDY0,0,371*400      ; F6 OUT OF SEQUENCE
4606 023116 000207 000000 174400     7*RDY0,0,371*400      ; F7 OUT OF SEQUENCE
4607 023124 000210 000000 174400    10*RDY0,0,371*400      ; F10 OUT OF SEQUENCE
4608 023132 000216 000000 000400    16*RDY0,0,1*400      ; CORRECT RESPONSE FOR F16
4609 023140 000217 000000 000400    17*RDY0,0,1*400      ; CORRECT RESPONSE FOR F17
4610 023146 000000 000000 000000      .WORD 0,0,0,0,0,0
4611
4612 023162      5$:
4613 023162 012701 023064      MOV      #4$,R1      ; SAVE RESPONSE LIST ADDRESS
4614 023166 004737 010134      CALL     CHKRSR      ; THEN CHECK RESPONSES
4615
4616 023172      ENDSUB
4617
4618 023174      BGNSUB
4619 023176 004737 011776      CALL     INIQIO      ; INIT QIO PROCESSING
4620
4621 023202 012701 023220      MOV      #60$,R1      ; TABLE ADDRESS IN R1
4622 023206 004737 013154      CALL     QIOP      ; PROCESS QIO
4623 023212 103055      BCC      5$      ; IF CORRECTLY DONE
4624
4625 023214      EXIT      SUB
4626
4627      ; PARAMETERS FOR QIO PROCESSING
4628
4629 023220 023224      60$:      3$      ; IN LIST TABLE BASE ADDRESS
4630 023222 001274      700.      ; TIME-OUT LENGTH(N*10 MS)
4631
4632      ; COMMAND LIST
4633
4634 023224      3$:
4635 023224 000004      4
4636 023226 007416 000000 000000     16*<<S106+S109+S125+S107>*400>,0,0      ; ENABLE MODEM SURVEY
4637 023234 007416 000000 000000     16*<<S106+S109+S125+S107>*400>,0,0      ; ENABLE MODEM SURVEY
4638 023242 000001 100425 000000     1,SDLC+S111+S141+CLKDTE+C2400,0      ; CONFIGURATE
4639 023250 000001 100401 000000     1,SDLC+CLKDTE+C2400,0      ; CONFIGURATE
4640
4641      ; RESPONSE LIST
4642
4643 023256      4$:
4644 023256 000007      7
4645 023260 000216 000000 171400     16*RDY0,0,363*400      ; DOUBLE COMMAND FOR F16
4646 023266 000201 000000 171400     1*RDY0,0,363*400      ; DOUBLE COMMAND F1
4647 023274 000216 000000 000400     16*RDY0,0,1*400      ; CORRECT RESPONSE FOR F16

```

```

4648 023302 000204 000401 000400      4+RDY0,S109*400+S109,1*400      ;S109 MODEM CHANGE
4649 023310 000204 004011 000400      4+RDY0,S106*400+S109+S106,1*400      ;S106 MODEM CHANGE
4650 023316 000204 002015 000400      4+RDY0,S107*400+S109+S107+S106,1*400      ;S107 MODEM CHANGE
4651 023324 000201 000000 000400      1+RDY0,0,1*400      ;CORRECT RESPONSE FOR F1
4652
4653 023332 000000 000000 000000      .WORD      0,0,0,0,0,0
4654
4655 023346      5$:
4656 023346 012701 023256      MOV      #4$,R1      ;SAVE RESPONSE LIST ADDRESS
4657 023352 004737 010134      CALL     CHKCRSP      ;THEN CHECK RESPONSES
4658
4659 023356      ENDSUB
4660
4661 023360      BGNSUB
4662 023362 004737 011776      CALL     INIQIO      ;INIT QIO PROCESSING
4663
4664 023366 012701 023404      MOV      #60$,R1      ;TABLE ADDRESS IN R1
4665 023372 004737 013154      CALL     QIOP      ;PROCESS QIO
4666 023376 103110      BCC      5$      ;IF OKE
4667
4668 023400      EXIT      SUB
4669
4670      ; PARAMETERS FOR QIO PROCESSING
4671
4672 023404 023410      60$:      3$      ;IN LIST TABLE BASE ADDRESS
4673 023406 000764      500.      ;TIME-OUT LENGTH(N*10 MS)
4674
4675      ; COMMAND LIST
4676
4677 023410      3$:
4678 023410 000011      9.
4679 023412 000017 000000 000000      17,0,0      ;DISABLE MODEM SURVEY
4680 023420 000017 000000 000000      17,0,0      ;DISABLE MODEM SURVEY
4681 023426 000014 000000 000000      14,0,0      ;READ MODEM
4682 023434 006016 000000 000000      16+<<S107+S106>*400>,0,0      ;ENABLE MODEM SURVEY
4683 023442 006016 000000 000000      16+<<S107+S106>*400>,0,0      ;ENABLE MODEM SURVEY
4684 023450 000001 101440 000377      1,CLKDTE+C9600+DLO,377      ;CONFIGURATE
4685 023456 000002 000000 000000      2,0,0      ;DECONFIGURATE
4686 023464 000002 000000 000000      2,0,0      ;DECONFIGURATE
4687 023472 000001 101400 000000      1,CLKDTE+C9600,0      ;CONFIGURATE
4688
4689      ; RESPONSE LIST
4690
4691 023500      4$:
4692 023500 000013      11.
4693 023502 000217 000000 171400      17+RDY0,0,363*400      ;DOUBLE COMMAND FOR F17
4694 023510 000216 000000 171400      16+RDY0,0,363*400      ;DOUBLE COMMAND FOR F16
4695 023516 000201 000000 174400      1+RDY0,0,371*400      ;F1 OUT OF SEQ
4696 023524 000217 000000 000400      17+RDY0,0,1*400      ;OKE FOR F17
4697 023532 000202 000000 171400      2+RDY0,0,363*400      ;DOUBLE COMMAND FOR F2
4698 023540 000201 000000 167000      1+RDY0,0,356*400      ;CONFIGURATE PENDING
4699 023546 000214 001475 000400      14+RDY0,S6*400+S142+S112+S106+S107+S109,1*400      ;READ MODEM RESPONSE
4700 023554 000216 001475 000400      16+RDY0,S6*400+S142+S112+S106+S107+S109,1*400      ;F16 CORRECT RESPONSE
4701 023562 000204 004004 000400      4+RDY0,S106*400+S107,1*400      ;S106 MODEM CHANGE
4702 023570 000204 002000 000400      4+RDY0,S107*400,1*400      ;S107 " "
4703 023576 000202 000000 000400      2+RDY0,0,1*400      ;CORRECT RESPONSE FOR F2
4704

```

```

4705 023604 000000 000000 000000      .WORD  0,0,0,0,0,0
4706
4707 023620
4708 023620 012701 023500      5$:      MOV    #4$,R1      ;SAVE RESPONSE LIST ADDRESS
4709 023624 004737 010134      CALL    CHKRSP      ;CHECK QIO
4710
4711 023630      ENDSUB
4712
4713 023632      BGNSUB
4714 023634 004737 011776      CALL    INIQIO      ;INIT QIO PROCESSING
4715
4716 023640 012701 023656      MOV    #60$,R1      ;TABLE ADDRESS IN R1
4717 023644 004737 013154      CALL    QIOP      ;PROCESS QIO
4718 023650 103030      BCC    5$      ;IF OKE
4719
4720 023652      EXIT    SUB
4721
4722      ; PARAMETERS FOR QIO PROCESSING
4723
4724 023656 023662      60$:      3$      ;IN LIST TABLE BASE ADDRESS
4725 023660 000310      200.      ;TIME-OUT LENGTH(N*10 MS)
4726
4727      ; COMMAND LIST
4728
4729 023662      3$:
4730 023662 000002      2
4731 023664 000014 000000 000000      14,0,0      ;READ MODEM
4732 023672 000017 000000 000000      17,0,0      ;DISABLE MODEM SURVEY
4733
4734      ; RESPONSE LIST
4735
4736 023700      4$:
4737 023700 000002      2
4738 023702 000214 000000 174400      14*RDY0,0,371*400      ;OUT OF SEQ. FOR F14
4739 023710 000217 000000 171400      17*RDY0,0,363*400      ;DOUBLE COMMAND FOR F17
4740
4741 023716 000000 000000 000000      .WORD  0,0,0,0,0,0
4742
4743 023732      5$:
4744 023732 012701 023700      MOV    #4$,R1      ;SAVE RESPONSE LIST ADDRESS
4745 023736 004737 010134      CALL    CHKRSP      ;THEN CHECK RESPONSES
4746
4747 023742      ENDSUB
4748
4749 023744      ENDTST

```

4751 023746

BADHEAD

** TEST8 **

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

: STATE = S6

: MODEM = S142+S112+S109+S106+S107 ON

: SUBTEST1

: - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
: OF 2 BUFFERS.
: THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
: XMIT BUFFERS ARE GIVEN ONE OF WHICH IS 1 BYTE LONG
: EXPECTED RESPONSES ARE:

: STATUS = 360 FOR F6 THIRD BUFFER PASSED

: = 372 FOR F5 1 BYTE LONG BUFFER

: = 360 FOR F5 THIRD BUFFER PASSED

: = 1 FOR F5 FIRST BUFFER XMITTED

: = 1 FOR F6 FIRST BUFFER FELT

: = 1 FOR F5 SECOND BUFFER XMITTED

: = 1 FOR F6 SECOND BUFFER FELT

: SUBTEST2

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

: STATUS = 1 FOR F5 BUFFER XMITTED

: = 373 FOR F6 BUFFER OVERFLOW

: SUBTEST3

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

: STATUS = 374 FOR F6 NON EXISTENT MEMORY BUFFER

: = 1 FOR F5 CORRECT BUFFER

: = 374 FOR F5 NON EXISTENT MEMORY BUFFER

: = 364 FOR F6 RECEIVE ABORT

: SUBTEST4

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

: STATUS = 1 FOR F7 XMIT ABORTED

: = 364 FOR F6 ABORT RECEIVED

: SUBTEST5

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

```
4807      ARE USED. AFTER A SHORT WAIT, RECEIVE ABORT IS GIVEN
4808      EXPECTED STATUS ARE:
4809          STATUS = 1 FOR F10 RECEIVE ABORTED
4810          " 1 FOR F5 FIRST BUFFER SENT
4811          " 1 FOR F5 SECOND BUFFER SENT
4812
4813      SUBTEST6      - TEST OF KMV OVERFLOW DURING XMIT/RECEIVE BUFFER
4814      ONE RECEIVE BUFFER IS USED,
4815      THEN TWO XMIT BUFFER ARE SENT, THE FIRST ONE TOO
4816      LONG.
4817      EXPECTED STATUS ARE:
4818          STATUS = 373 FOR FIRST F5
4819          " 1 FOR SECOND F5
4820          " 1 FOR F6
4821
4822      SUBTEST7      - TEST OF A DECONFIGURATE DURING XMIT/RECEIVE BUFFER,
4823      TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS
4824      ARE PASSED. AFTER A SHORT WAIT, DECONFIGURATE COMMAND
4825      IS ISSUED. EXPECTED STATUS IS:
4826          STATUS = 1 FOR F2 DECONFIGURATE DONE
4827          AND ALL BUFFERS ARE KILLED
4828
4829      PATTERN:      INCREMENTAL
4830      FOR EACH TEST WHERE A CORRECT BUFFER IS OBTAINED, THIS BUFFER
4831      IS COMPARED TO THE CORRESPONDING XMIT BUFFER
4832
4833      REPORTS:      ERROR 10000      KMV11 FAILS TO RESET MASTER CLEAR
4834                      ERROR 10001      RUN FUNCTION NOT CORRECTLY PERFORMED
4835                      ERROR 10002      WRITE FUNCTION NOT CORRECTLY PERFORMED
4836                      ERROR 10003      READ FUNCTION NOT CORRECTLY PERFORMED
4837                      ERROR 10004      DATA COMPARE ERROR
4838                      ERROR 10005      UNEXPECTED INTERRUPT IN
4839                      ERROR 10006      UNEXPECTED INTERRUPT OUT
4840                      ERROR 10007      NO MORE INTERRUPT WHILE QIO PENDING
4841                      ERROR 10008      UNEXPECTED EPROM'S ON KMV11-A
4842                      ERROR 10009      UNEXPECTED QIO RESPONSE
4843                      ERROR 10010      UNEXPECTED NUMBER OF RESPONSES RECEIVED
4844                      ERROR 10011      UNEXPECTED DATA RECEIVED
4845      023746      BADHEAD
4846
4847
4848      BGNTST
4849      023746      004737      011574      CALL      MODE0      ;SET APPLICATION MODE
4850      023752      103406      BCS      1$      ;IF NOT CORRECTLY DONE
4851
4852      023754      004737      011706      CALL      LPBACK      ;TEST OF LOOP
4853      023760      103403      BCS      1$      ;IF NOT
4854
4855      023762      004737      012554      CALL      RUNAPP      ;LOAD AND RUN APPLICATION
4856      023766      103002      BCC      2$      ;IF CORRECTLY DONE
4857
4858      023770      1$:      EXIT      TST
4859
4860      023774      004737      011776      2$:      CALL      INIQIO      ;INIT QIO PROCESSING
4861
4862      024000      012701      024016      MOV      #60$,R1      ;TABLE ADDRESS IN R1
```

```
4863 024004 004737 013154          CALL    QIOP          ;PROCESS QIO
4864 024010 103022          BCC      5$          ;IF CORRECTLY DONE
4865
4866 024012          EXIT    TST
4867
4868          ; PARAMETERS FOR QIO PROCESSING
4869
4870 024016 024022          60$:    3$          ;IN LIST TABLE BASE ADDRESS
4871 024020 000764          500.          ;TIME-OUT LENGTH(N*10 MS)
4872
4873          ; COMMAND LIST
4874
4875 024022          3$:
4876 024022 000001          1
4877 024024 000001 100421 000000          1,SDLC+C2400+CLKDTE+S141,0          ;CONFIGURATE
4878
4879          ; RESPONSE LIST
4880
4881 024032          4$:
4882 024032 000001          1
4883 024034 000201 000000 000400          1,RDY0,0,1*400          ;CONFIGURATE DONE
4884 024042 000000 000000 000000          .WORD 0,0,0,0,0,0
4885
4886 024056          5$:
4887 024056 012701 024032          MOV     #4$,R1          ;SAVE RESPONSE LIST ADDRESS
4888 024062 004737 010134          CALL    CHKRSF          ;THEN CHECK RESPONSES
4889 024066 103002          BCC      6$          ;IF TEST IS CORRECT
4890
4891 024070          EXIT    TST
4892
4893 024074 004737 011776          6$:    CALL    INIQIO          ;INIT QIO PROCESSING
4894
4895 024100 012701 024116          MOV     #61$,R1          ;TABLE ADDRESS IN R1
4896 024104 004737 013154          CALL    QIOP          ;PROCESS QIO
4897 024110 103022          BCC      9$          ;IF CORRECTLY DONE
4898
4899 024112          EXIT    TST
4900
4901          ; PARAMETERS FOR QIO PROCESSING
4902
4903 024116 024122          61$:    7$          ;IN LIST TABLE BASE ADDRESS
4904 024120 000144          100.          ;TIME-OUT LENGTH(N*10 MS)
4905
4906          ; COMMAND LIST
4907
4908 024122          7$:
4909 024122 000001          1
4910 024124 000014 000000 000000          14,0,0          ;READ MODEM
4911
4912          ; RESPONSE LIST
4913
4914 024132          8$:
4915 024132 000001          1
4916 024134 000214 001455 000400          14,RDY0,S6*400+S142+S106+S107+S109,1*400          ;RESPONSE FOR F14
4917 024142 000000 000000 000000          .WORD 0,0,0,0,0,0
4918
4919 024156          9$:
```

```
4920 024156 012701 024132      MOV    #8,R1      ;SAVE RESPONSE LIST ADDRESS
4921 024162 004737 010134      CALL   CHKRSP    ;THEN CHECK RESPONSES
4922 024166 103002              BCC     10$        ;IF TEST CORRECTLY DONE
4923
4924 024170              EXIT   TST
4925
4926 024174              10$:
4927 024174              BGNSUB
4928 024176 004737 024606      CALL   SUB1      ;SUBTEST1
4929 024202              ENDSUB
4930
4931 024204              BGNSUB
4932 024206 004737 025064      CALL   SUB2      ;SUBTEST2
4933 024212              ENDSUB
4934
4935 024214              BGNSUB
4936 024216 004737 025220      CALL   SUB3      ;SUBTEST3
4937 024222              ENDSUB
4938
4939 024224              BGNSUB
4940 024226 004737 025514      CALL   SUB4      ;SUBTEST4
4941 024232              ENDSUB
4942
4943 024234              BGNSUB
4944 024236 004737 025654      CALL   SUB5      ;SUBTEST5
4945 024242              ENDSUB
4946
4947 024244              BGNSUB
4948 024246 004737 026030      CALL   SUB6      ;SUBTEST6
4949 024252              ENDSUB
4950
4951 024254              BGNSUB
4952 024256 004737 026166      CALL   SUB7      ;SUBTEST7
4953 024262              ENDSUB
4954
4955 024264              ENDTST
```

4957 024266

BADHEAD

```

4958      ; ** TEST9 **
4959      ; TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 2.4K
4960      ; WITH DATA LEADS ONLY
4961      ;
4962      ; CONFIGURATE: SDLC PROTOCOL
4963      ;                  DATA LEADS ONLY
4964      ;                  WITHOUT ADDRESS SEARCH
4965      ;                  CLOCK SOURCE INTERNAL
4966      ;                  RATE = 2.4K
4967      ;
4968      ; FOR EACH SUBTEST A COMMAND F14 IS GIVEN FIRST TO CONTROL
4969      ; THE LINE STATE AND MODEM SUCH AS:
4970      ;             STATE = S6
4971      ;             MODEM = S142 ONLY
4972      ; SUBTEST1      - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
4973      ;                  OF 2 BUFFERS.
4974      ;                  THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
4975      ;                  XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
4976      ;                  EXPECTED RESPONSES ARE:
4977      ;                      STATUS = 360 FOR F6 THIRD BUFFER PASSED
4978      ;                      = 372 FOR F5 1 BYTE LONG BUFFER
4979      ;                      = 360 FOR F5 THIRD BUFFER PASSED
4980      ;                      = 1   FOR F5 FIRST BUFFER XMITTED
4981      ;                      = 1   FOR F6 FIRST BUFFER RECEIVED
4982      ;                      = 1   FOR F5 SECOND BUFFER XMITTED
4983      ;                      = 1   FOR F6 SECOND BUFFER RECEIVED
4984      ;
4985      ; SUBTEST2      - TEST OF BUFFER OVERFLOW STATUS 373 FOR RECEPTION
4986      ;                  A 32 BYTE LONG BUFFER IS AFFECTED FOR RECEIVE WHILE
4987      ;                  A 100 BYTE LONG BUFFER IS PASSED TO XMIT.
4988      ;                  EXPECTED RESPONSES ARE:
4989      ;                      STATUS = 1   FOR F5 BUFFER XMITTED
4990      ;                      STATUS = 373 FOR F6 BUFFER OVERFLOW
4991      ;
4992      ; SUBTEST3      - TEST OF NON EXISTENT MEMORY STATUS 374
4993      ;                  TWO RECEIVE BUFFER ARE AFFECTED ONE OF WHICH CONTAINS
4994      ;                  A NON EXISTENT ADDRESS
4995      ;                  TWO XMIT BUFFERS ARE PASSED ONE OF WHICH CONTAINS A NON
4996      ;                  EXISTENT ADDRESS
4997      ;                  EXPECTED RESPONSES ARE:
4998      ;                      STATUS = 374 FOR F6 NON EXISTENT MEMORY BUFFER
4999      ;                      = 1   FOR F5 CORRECT BUFFER
5000      ;                      = 374 FOR F5 NON EXISTENT MEMORY BUFFER
5001      ;                      = 364 FOR F6 RECEIVE ABORT
5002      ;
5003      ; SUBTEST4      - TEST OF ABORT RECEIVED STATUS 364 AND ACTION OF XMIT
5004      ;                  ABORT COMMAND.
5005      ;                  ONE RECEIVE BUFFER IS USED THEN, TWO XMIT BUFFERS
5006      ;                  ARE PASSED. AFTER A SHORT WAIT, XMIT ABORT IS GIVEN
5007      ;                  TWICE.
5008      ;                  EXPECTED STATUS ARE:
5009      ;                      STATUS = 1   FOR F7 XMIT ABORTED
5010      ;                      = 364 FOR F6 ABORT RECEIVED
5011      ;
5012      ; SUBTEST5      - TEST OF ACTION OF RECEIVE ABORT COMMAND.
```

```
5013      : TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS
5014      : ARE PASSED. AFTER A SHORT WAIT, RECEIVE ABORT IS GIVEN
5015      : EXPECTED STATUS ARE:
5016      :   STATUS = 1 FOR F10 RECEIVE ABORTED
5017      :   = 1 FOR F5 FIRST BUFFER SENT
5018      :   = 1 FOR F5 SECOND BUFFER SENT
5019      :
5020      : SUBTEST6      - TEST OF KMV RDB OVERFLOW DURING XMIT/RECEIVE BUFFER
5021      : ONE RECEIVE BUFFER IS USED
5022      : THEN TWO XMIT BUFFER ARE PASSED THE FIRST ONE TOO LONG
5023      : EXPECTED STATUS ARE:
5024      :   STATUS = 373 FOR FIRST F5
5025      :   = 1 FOR SECOND F5
5026      :   = 1 FOR F6
5027      :
5028      : SUBTEST7      - TEST OF A DECONFIGURATE DURING XMIT/RECEIVE BUFFER,
5029      : TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS
5030      : ARE PASSED. AFTER A SHORT WAIT, DECONFIGURATE COMMAND
5031      : IS USED. EXPECTED STATUS IS:
5032      :   STATUS = 1 FOR F2 DECONFIGURATE DONE
5033      :   AND ALL BUFFERS ARE KILLED
5034      :
5035      : PATTERN:      INCREMENTAL
5036      :
5037      : REPORTS:      ERROR 10000      KMV11 FAILS TO RESET MASTER CLEAR
5038      :               ERROR 10001      RUN FUNCTION NOT CORRECTLY PERFORMED
5039      :               ERROR 10002      WRITE FUNCTION NOT CORRECTLY PERFORMED
5040      :               ERROR 10003      READ FUNCTION NOT CORRECTLY PERFORMED
5041      :               ERROR 10004      DATA COMPARE ERROR
5042      :               ERROR 10005      UNEXPECTED INTERRUPT IN
5043      :               ERROR 10006      UNEXPECTED INTERRUPT OUT
5044      :               ERROR 10007      NO MORE INTERRUPT WHILE QIO PENDING
5045      :               ERROR 10008      UNEXPECTED EPROM'S ON KMV11-A
5046      :               ERROR 10009      UNEXPECTED QIO RESPONSE
5047      :               ERROR 10010      UNEXPECTED NUMBER OF RESPONSES RECEIVED
5048      :               ERROR 10011      UNEXPECTED DATA RECEIVED
5049 024266      : BADHEAD
5050      :
5051      :               ** TEST9 **
5052      :
5053 024266      BGNTST      CALL      MODE0      ;SET APPLICATION MODE
5054 024272      103406      BCS      1$      ;IF NOT CORRECTLY DONE
5055      :
5056 024274      004737      011706      CALL      LPBACK      ;TEST OF LOOP
5057 024300      103403      BCS      1$      ;IF NOT
5058      :
5059 024302      004737      012554      CALL      RUNAPP      ;LOAD AND RUN APPLICATION
5060 024306      103002      BCC      2$      ;IF CORRECTLY DONE
5061      :
5062 024310      1$:      EXIT      1$T
5063      :
5064 024314      004737      011776      2$:      CALL      INIQIO      ;INIT QIO PROCESSING
5065      :
5066 024320      012701      024336      MOV      0601,R1      ;TABLE ADDRESS IN R1
5067 024324      004737      013154      CALL      QIOP      ;PROCESS QIO
5068 024330      103022      BCC      5$      ;IF CORRECTLY DONE
```

```
5069
5070 024332          EXIT    TST
5071
5072          ; PARAMETERS FOR QIO PROCESSING
5073
5074 024336 024342    601:    31          ; IN LIST TABLE BASE ADDRESS
5075 024340 000764          500.        ; TIME-OUT LENGTH(N*10 MS)
5076
5077          ; COMMAND LIST
5078
5079 024342          31:
5080 024342 000001          1
5081 024344 000001 100461 000000          1,DLO+SDLC+C2400+CLKDTE+S141,0          ; CONFIGURATE
5082
5083          ; RESPONSE LIST
5084
5085 024352          41:
5086 024352 000001          1
5087 024354 000201 000000 000400          1+RDY0,0,1+400          ; CONFIGURATE DONE
5088 024356 000000 000000 000000          .WORD 0,0,0,0,0,0
5089
5090 024376          51:
5091 024376 012701 024352          MOV     #41,R1          ; SAVE RESPONSE LIST ADDRESS
5092 024402 004737 010134          CALL    CHKRSR          ; THEN CHECK RESPONSES
5093 024406 103002          BCC     61          ; IF TEST IS CORRECT
5094
5095 024410          EXIT    TST
5096
5097 024414 004737 011776          61:    CALL    INIQIO          ; INIT QIO PROCESSING
5098
5099 024420 012701 024436          MOV     #61,R1          ; TABLE ADDRESS IN R1
5100 024424 004737 013154          CALL    QIOP          ; PROCESS QIO
5101 024430 103022          BCC     91          ; IF CORRECTLY DONE
5102
5103 024432          EXIT    TST
5104
5105          ; PARAMETERS FOR QIO PROCESSING
5106
5107 024436 024442    611:    71          ; IN LIST TABLE BASE ADDRESS
5108 024440 000144          100.        ; TIME-OUT LENGTH(N*10 MS)
5109
5110          ; COMMAND LIST
5111
5112 024442          71:
5113 024442 000001          1
5114 024444 000014 000000 000000          14,0,0          ; READ MODEM
5115
5116          ; RESPONSE LIST
5117
5118 024452          81:
5119 024452 000001          1
5120 024454 000214 001440 000400          14+RDY0,S6+400+S142,1+400          ; RESPONSE FOR F14
5121 024462 000000 000000 000000          .WORD 0,0,0,0,0,0
5122
5123 024476          91:
5124 024476 012701 024452          MOV     #81,R1          ; SAVE RESPONSE LIST ADDRESS
5125 024502 004737 010134          CALL    CHKRSR          ; THEN CHECK RESPONSES
```

C10

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SEQ 119

5126	024506	103002		BCC	104		; IF TEST IS CORRECT
5127							
5128	024510			EXIT	TST		
5129							
5130	024514			104:			
5131	024514			BGNSUB			
5132	024515	004737	024606	CALL	SUB1		; SUBTEST1
5133	024522			ENDSUB			
5134							
5135	024524			BGNSUB			
5136	024526	004737	025064	CALL	SUB2		; SUBTEST2
5137	024532			ENDSUB			
5138							
5139	024534			BGNSUB			
5140	024536	004737	025220	CALL	SUB3		; SUBTEST3
5141	024542			ENDSUB			
5142							
5143	024544			BGNSUB			
5144	024546	004737	025514	CALL	SUB4		; SUBTEST4
5145	024552			ENDSUB			
5146							
5147	024554			BGNSUB			
5148	024556	004737	025654	CALL	SUB5		; SUBTEST5
5149	024562			ENDSUB			
5150							
5151	024564			BGNSUB			
5152	024566	004737	026030	CALL	SUB6		; SUBTEST6
5153	024572			ENDSUB			
5154							
5155	024574			BGNSUB			
5156	024576	004737	026166	CALL	SUB7		; SUBTEST7
5157	024602			ENDSUB			
5158							
5159	024604			ENDTST			

```

5161
5162
5163      ; COMPLETE XMIT/RECEIVE BUFFER TEST COMMON TO TEST08 AND TEST09
5164
5165
5166      SUB1:
5167      024606 004737 011776      CALL      INIQIO      ;INIT QIO PROCESSING
5168
5169      024612 012701 024626      MOV       #60,R1      ;TABLE ADDRESS IN R1
5170      024616 004737 013154      CALL      QIOP       ;PROCESS QIO
5171      024622 103085              BCC       5$         ;IF OKE
5172
5173      024624 000207              RETURN
5174
5175      ; PARAMETERS FOR QIO PROCESSING
5176
5177      024626 024632      60$:    3$         ;IN LIST TABLE BASE ADDRESS
5178      024630 007640      4000.          ;TIME-OUT LENGTH(N*10 MS)
5179
5180      ; COMMAND LIST
5181
5182      024632      3$:
5183      024632 000007              7.
5184      024634 000006 002574 000376      6,RXBUF0,#RDBS-2      ;FIRST RECEIVE BUFFER
5185      024642 000006 003174 000367      6,RXBUF1,#RDBS-9.      ;SECOND "
5186      024650 000006 003574 000066      6,RXBUF2,54.          ;THIRD "
5187      024656 000005 004574 000001      5,TXBUF0,1            ;FIRST XMIT BUFFER
5188      024664 000005 004574 000366      5,TXBUF0,#RDBS-10.     ;SECOND "
5189      024672 000005 005174 000367      5,TXBUF1,#RDBS-9.      ;THIRD "
5190      024700 000005 005574 000400      5,TXBUF2,#RDBS          ;FORTH "
5191
5192      ; RESPONSE LIST
5193
5194      024706      4$:
5195      024706 000007              7.
5196      024710 000206 000000 170000      6,RDY0,0,360*400      ;TOO MANY BUFFERS FOR F6
5197      024716 000205 000000 175000      5,RDY0,0,372*400      ;BUFFER TOO SHORT FOR F5
5198      024724 000205 000000 170000      5,RDY0,0,360*400      ;TOO MANY BUFFERS FOR F5
5199      024732 000205 000000 000400      5,RDY0,0,1*400        ;FIRST BUFFER SENT
5200      024740 000206 000366 000400      6,RDY0,#RDBS-10.,1*400 ;FIRST RECEIVE BUFFER
5201      024746 000205 000000 000400      5,RDY0,0,1*400        ;SECOND BUFFER SENT
5202      024754 000206 000367 000400      6,RDY0,#RDBS-9.,1*400 ;SECOND BUFFER RECEIVED
5203      024762 000000 000000 000000      .WORD 0,0,0,0,0,0
5204
5205      024776      5$:
5206      024776 012701 024706      MOV       #4,R1          ;SAVE RESPONSE LIST ADDRESS
5207      025002 004737 010134      CALL      CHKRSR        ;THEN CHECK RESPONSES
5208      025006 103001              BCC       6$         ;IF TEST IS CORRECT
5209
5210      025010 000207              RETURN
5211
5212      025012 012701 004574      6$:      MOV       #TXBUF0,R1      ;CHECK FIRST RECEIVE BUFFER
5213      025016 012702 002574      MOV       #RXBUF0,R2
5214      025022 012737 000366 002346      MOV       #RDBS-10.,LENGTH
5215      025030 004737 011374      CALL      COMPAR
5216      025034 103001              BCC       7$         ;IF CORRECT
5217

```

```
5218 025036 000207 RETURN
5219
5220 025040 012701 005174 7$: MOV 0TXBUF1,R1 ;CHECK SECOND RECEIVE BUFFER
5221 025044 012702 003174 MOV 0RXBUF1,R2
5222 025050 012737 000367 002346 MOV 0RDBS-9.,LENGTH
5223 025056 004737 011374 CALL COMPAR
5224
5225 025062 000207 RETURN
5226
5227 025064 004737 011776 SUB2: CALL INIQIO ;INIT QIO PROCESSING
5228 025070 012701 025104 MOV 060$,R1 ;TABLE ADDRESS IN R1
5229 025074 004737 013154 CALL QIOP ;PROCESS QIO
5230 025100 103027 BCC 5$ ;IF CORRECT
5231
5232 025102 000207 RETURN
5233
5234 ; PARAMETERS FOR QIO PROCESSING
5235
5236 60$: 3$ ;IN LIST TABLE BASE ADDRESS
5237 400. ;TIME-OUT LENGTH(N*10 MS)
5238
5239 ; COMMAND LIST
5240
5241 3$:
5242 2
5243 6,RXBUF0,32. ;SET RECEIVE BUFFER
5244 5,TXBUF2,100. ;SET XMIT BUFFER
5245
5246 ; RESPONSE LIST
5247
5248 4$:
5249 2
5250 5,RDY0,0,1*400 ;BUFFER SENT FOR F5
5251 6,RDY0,100.,373*400 ;OVERFLOW ERROR FOR F6
5252 .WORD 0,0,0,0,0,0
5253
5254 5$:
5255 MOV 04$,R1 ;SAVE RESPONSE LIST ADDRESS
5256 CALL CHKRSR ;THEN CHECK RESPONSES
5257 BCC 6$ ;IF TEST CORRECT
5258
5259 RETURN
5260
5261 6$:
5262 MOV 0TXBUF2,R1 ;CHECK RECEIVE BUFFER
5263 MOV 0RXBUF0,R2
5264 MOV 032.,LENGTH
5265 CALL COMPAR
5266
5267 RETURN
5268
5269 SUB3:
5270 CALL INIQIO ;INIT QIO PROCESSING
5271 ..SIZE
5272 PDP11/23+?
5273
5274
```

```

5275 025234 001024      BNE      1$      ; IF YES
5276
5277 025236 022737 157776 002500      CMP      #157776,LSTAD      ; NO, CHECK LAST ADDRESS FOR IO PAGE
5278 025244 001020      BNE      1$      ; IF NOT
5279 025246 013701 002502      MOV      LSTBK,R1
5280 025252 042701 177774      BIC      #177774,R1
5281 025256 022701 000003      CMP      #3,R1
5282 025262 001011      BNE      1$      ; IF NOT
5283
5284 025264      PRINTF  #MNONEX      ; IF YES, REPORT THAT SUBTEST IS DROPPED
5285
5286 025304 000207      RETURN      ; THEN EXIT
5287
5288 025306 013701 002500      1$: MOV      LSTAD,R1      ; GET LAST MEMORY ADDRESS
5289 025312 162701 000012      SUB      #10.,R1      ; POSITION 10 BYTES BEFORE
5290 025316 010137 025366      MOV      R1,3$+4      ; SET BAD ADDRESS IN TABLE FOR F6
5291 025322 010137 025402      MOV      R1,3$+20      ; " " " " F5
5292 025326 013701 002502      MOV      LSTBK,R1      ; GET LAST MEMORY ADDRESS(21-16)
5293 025332 110137 025365      MOVB     R1,3$+3      ; SET BAD ADDRESS IN TABLE FOR F6
5294 025336 110137 025401      MOVB     R1,3$+17      ; " " " " F5
5295
5296 025342 012701 025356      MOV      #60$,R1      ; TABLE ADDRESS IN R1
5297 025346 004737 013154      CALL     QIOP      ; PROCESS QIO
5298 025352 103035      BCC      5$      ; IF CORRECT
5299
5300      RETURN
5301
5302      ; PARAMETERS FOR QIO PROCESSING
5303
5304 025356 025362      60$: 3$      ; IN LIST TABLE BASE ADDRESS
5305 025360 001750      1000.      ; TIME-OUT LENGTH(N*10 MS)
5306
5307      ; COMMAND LIST
5308
5309 025362      3$:      ;
5310 025362 000003      3      ;
5311 025364 000006 000000 000400      6,0,$RDBS      ; FIRST RECEIVE BUFFER WITH BAD ADDRESS
5312 025372 000005 004574 000371      5, TXBUF0, $RDBS-7      ; FIRST XMIT BUFFER
5313 025400 000005 000000 000400      5,0,$RDBS      ; SECOND XMIT BUFFER WITH BAD ADDRESS
5314
5315      ; RESPONSE LIST
5316
5317 025406      4$:      ;
5318 025406 000003      3      ;
5319 025410 000205 000000 000400      5+RDY0,0,1+400      ; FIRST BUFFER SENT
5320 025416 000205 000000 176000      5+RDY0,0,374+400      ; NON EXISTENT ADDRESS FOR F5
5321 025424 000206 000000 176000      6+RDY0,0,374+400      ; NON EXISTENT ADDRESS FOR F6
5322 025432 000000 000000 000000      .WORD 0,0,0,0,0,0
5323
5324 025446      5$:      ;
5325 025446 012701 025406      MOV      #4$,R1      ; SAVE RESPONSE LIST ADDRESS
5326 025452 004737 010134      CALL     CHKRESP      ; THEN CHECK RESPONSES
5327
5328 025456 000207      RETURN
5329
5330 025460 045 116 045 MNONEX: .ASCIZ /MNA SUBTEST 3 IS SKIPPED/
5331      .EVEN

```

```

5332
5333 025514
5334 025514 004737 011776
5335
5336 025520 012701 025544
5337 025524 004737 013154
5338
5339 025530 012701 025550
5340 025534 004737 013154
5341 025540 103040
5342
5343 025542 000207
5344
5345
5346
5347 025544 025554
5348 025546 000150
5349
5350 025550 025600
5351 025552 000620
5352
5353
5354
5355 025554
5356 025554 000003
5357 025556 000006 003174 000144
5358 025564 000005 005174 000376
5359 025572 000005 005574 000144
5360
5361 025600 000001
5362 025602 000007 000000 000000
5363
5364
5365
5366 025610
5367 025610 000002
5368 025612 000207 000000 000400
5369 025620 000206 000030 172000
5370 025626 000000 000000 000000
5371
5372 025642
5373 025642 012701 025610
5374 025646 004737 010134
5375
5376 025652 000207
5377
5378 025654
5379 025654 004737 011776
5380
5381 025660 012701 025704
5382 025664 004737 013154
5383
5384 025670 012701 025710
5385 025674 004737 013154
5386 025700 103046
5387
5388 025702 000207

SUB4:
CALL INIQIO
; INIT QIO PROCESSING

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

MOV #61$,R1
CALL QIOP
; TABLE ADDRESS IN R1
; PROCESS QIO
BCC 5$
; IF OKE

RETURN

; PARAMETERS FOR QIO PROCESSING

60$: 3$
104.
; IN LIST TABLE BASE ADDRESS
; TIME-OUT LENGTH(N*10 MS)

61$: 33$
400.
;
;

; COMMAND LIST

3$:
3
6,RXBUF1,100.
5,TXBUF1,$RDBS-2
5,TXBUF2,100.
; SECOND RX BUFFER
; FIRST XMIT BUFFER
; SECOND XMIT BUFFER

33$: 1
7,0,0
; XMIT ABORT

; RESPONSE LIST

4$:
2
7,RDY0,0,1*400
6,RDY0,24.,364*400
; OKE FOR F7
; ABORT RECEIVED FOR F6
.WORD 0,0,0,0,0,0

5$:
MOV #4$,R1
CALL CHKRSP
; SAVE RESPONSE LIST ADDRESS
; THEN CHECK RESPONSES

RETURN

SUB5:
CALL INIQIO
; INIT QIO PROCESSING

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

MOV #61$,R1
CALL QIOP
; TABLE ADDRESS IN R1
; PROCESS QIO
BCC 5$
; IF OKE

RETURN

```

```
5389
5390 ; PARAMETERS FOR QIO PROCESSING
5391
5392 025704 025714 60$: 3$ ;IN LIST TABLE BASE ADDRESS
5393 025706 000170 120. ;TIME-OUT LENGTH(N*10 MS)
5394
5395 025710 025746 61$: 33$ ;
5396 025712 001130 600. ;
5397
5398 ; COMMAND LIST
5399
5400 025714 3$:
5401 025714 000004 4
5402 025716 000006 002574 000400 6,RXBUF0,$RDBS ;FIRST RX BUFFER
5403 025724 000006 003174 000144 6,RXBUF1,100. ;SECOND RX BUFFER
5404 025732 000005 005174 000400 5,TXBUF1,$RDBS ;FIRST XMIT BUFFER
5405 025740 000005 005574 000144 5,TXBUF2,100. ;SECOND XMIT BUFFER
5406
5407 025746 000001 33$: 1
5408 025750 000010 000000 000000 10,0,0 ;RECEIVE ABORT
5409
5410 ; RESPONSE LIST
5411
5412 025756 4$:
5413 025756 000003 3
5414 025760 000210 000000 000400 10+RDY0,0,1*400 ;OKE FOR F10
5415 025766 000205 000000 000400 5+RDY0,0,1*400 ;OKE FOR F5
5416 025774 000205 000000 000400 5+RDY0,0,1*400 ;OKE FOR F5
5417 026002 000000 000000 000000 .WORD 0,0,0,0,0,0
5418
5419 026016 5$:
5420 026016 012701 025756 MOV #4$,R1 ;SAVE RESPONSE LIST ADDRESS
5421 026022 004737 010134 CALL CHKRSF ;THEN CHECK RESPONSES
5422
5423 026026 000207 RETURN
5424
5425 026030 SUB6:
5426 026030 004737 011776 CALL INIQIO ;INIT QIO PROCESSING
5427
5428 026034 012737 000424 026076 MOV #RDBS+20.,3$+6 ;OVERFLOW THE RDB BY 20.
5429 026042 012737 000424 026104 MOV #RDBS+20.,3$+14
5430
5431 026050 012701 026064 MOV #60$,R1 ;TABLE ADDRESS IN R1
5432 026054 004737 013154 CALL QIOP ;PROCESS QIO
5433 026060 103035 BCC 5$ ;IF OKE
5434
5435 026062 000207 RETURN
5436
5437 ; PARAMETERS FOR QIO PROCESSING
5438
5439 026064 026070 60$: 3$ ;IN LIST TABLE BASE ADDRESS
5440 026066 001750 1000. ;TIME-OUT LENGTH(N*10 MS)
5441
5442 ; COMMAND LIST
5443
5444 026070 3$:
5445 026070 000003 3
```

```

5446 026072 000006 003174 000000      6,RXBUF1,0      ;SECOND RX BUFFER
5447 026100 000005 005174 000000      5,TXBUF1,0      ;FIRST XMIT BUFFER
5448 026106 000005 005574 000144      5,TXBUF2,100.   ;SECOND XMIT BUFFER
5449
5450      ; RESPONSE LIST
5451
5452 026114      4$:
5453 026114 000003      3
5454 026116 000205 000000 175400      5,RDY0,0,373*400
5455 026124 000205 000000 000400      5,RDY0,0,1*400
5456 026132 000206 000144 000400      6,RDY0,100.,1*400
5457 026140 000000 000000 000000      .WORD 0,0,0,0,0,0
5458
5459 026154      5$:
5460 026154 012701 026114      MOV  #4$,R1      ;SAVE RESPONSE LIST ADDRESS
5461 026160 004737 010134      CALL  CHKCRSP    ;THEN CHECK RESPONSES
5462
5463 026164 000207      RETURN
5464
5465 026166      SUB7:
5466 026166 004737 011776      CALL  INIQIO      ;INIT QIO PROCESSING
5467
5468 026172 012701 026216      MOV  #60$,R1      ;TABLE ADDRESS IN R1
5469 026176 004737 013154      CALL  QIOP      ;PROCESS QIO
5470
5471 026202 012701 026222      MOV  #61$,R1
5472 026206 004737 013154      CALL  QIOP
5473 026212 103040      BCC  5$      ;IF OKE
5474
5475 026214 000207      RETURN
5476
5477      ; PARAMETERS FOR QIO PROCESSING
5478
5479 026216 026226      60$: 3$      ;IN LIST TABLE BASE ADDRESS
5480 026220 000310      200.      ;TIME-OUT LENGTH(N*10 MS)
5481
5482 026222 026260      61$: 33$      ;
5483 026224 001274      700.      ;
5484
5485      ; COMMAND LIST
5486
5487 026226      3$:
5488 026226 000004      4
5489 026230 000006 002574 000400      6,RXBUF0,$RDBS    ;FIRST RX BUFFER
5490 026236 000006 003174 000144      6,RXBUF1,100.   ;SECOND RX BUFFER
5491 026244 000005 005174 000400      5,TXBUF1,$RDBS    ;FIRST XMIT BUFFER
5492 026252 000005 005574 000144      5,TXBUF2,100.   ;SECOND XMIT BUFFER
5493
5494 026260 000001      33$: 1
5495 026262 000002 000000 000000      2,0,0      ;DECONFIGURATE
5496
5497      ; RESPONSE LIST
5498
5499 026270      4$:
5500 026270 000001      1
5501 026272 000202 000000 000400      2,RDY0,0,1*400      ;DECONFIGURATE DONE
5502 026300 000000 000000 000000      .WORD 0,0,0,0,0,0

```

J10

CNKMCA0 KMV11 A FCTNL DIAG
HARDWARE TESTS

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SEQ 126

5503

5504 026314

5505 026314 012701 026270

5506 026320 004737 010134

5507

5508 026324 000207

5509

S\$:

MOV 04\$,R1

CALL CHKRSP

RETURN

;SAVE RESPONSE LIST ADDRESS

;THEN CHECK RESPONSES

```
5511
5512 026326      BADHEAD
                    ;
                    ; ** TEST10 **
5513      ; TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 64K
5514      ; WITH FULL MODEM CONTROL
5515      ;
5516      ; CONFIGURATE:  SDLC PROTOCOL
5517      ;                  FULL MODEM CONTROL
5518      ;                  WITHOUT ADDRESS SEARCH
5519      ;                  CLOCK SOURCE INTERNAL
5520      ;                  RATE * 64K
5521      ;
5522      ; TEST          - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
5523      ;                  OF 2 BUFFERS.
5524      ;                  THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
5525      ;                  XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
5526      ;                  EXPECTED RESPONSES ARE:
5527      ;                  STATUS = 360 FOR F6 THIRD BUFFER PASSED
5528      ;                  = 372 FOR F5 1 BYTE LONG BUFFER
5529      ;                  = 360 FOR F5 THIRD BUFFER PASSED
5530      ;                  = 1   FOR F5 FIRST BUFFER XMITTED
5531      ;                  = 1   FOR F6 FIRST BUFFER RECEIVED
5532      ;                  = 1   FOR F5 SECOND BUFFER XMITTED
5533      ;                  = 1   FOR F6 SECOND BUFFER RECEIVED
5534      ;
5535      ; PATTERN:      INCREMENTAL
5536      ;
5537      ; REPORTS:      ERROR 10000  KHV11 FAILS TO RESET MASTER CLEAR
5538      ;                  ERROR 10001  RUN FUNCTION NOT CORRECTLY PERFORMED
5539      ;                  ERROR 10002  WRITE FUNCTION NOT CORRECTLY PERFORMED
5540      ;                  ERROR 10003  READ FUNCTION NOT CORRECTLY PERFORMED
5541      ;                  ERROR 10004  DATA COMPARE ERROR
5542      ;                  ERROR 10005  UNEXPECTED INTERRUPT IN
5543      ;                  ERROR 10006  UNEXPECTED INTERRUPT OUT
5544      ;                  ERROR 10007  NO MORE INTERRUPT WHILE QIO PENDING
5545      ;                  ERROR 10008  UNEXPECTED EPROM'S ON KHV11-A
5546      ;                  ERROR 10009  UNEXPECTED QIO RESPONSE
5547      ;                  ERROR 10010  UNEXPECTED NUMBER OF RESPONSES RECEIVED
5548      ;                  ERROR 10011  UNEXPECTED DATA RECEIVED
5549      ;                  ERROR 10012  NO LOOP BACK
5550 026326      BADHEAD
                    ;
                    ; ** TEST10 **
5551
5552
5553 026326      BGNTEST
5554 026326 004737 011574      CALL MODE0      ;SET APPLICATION MODE
5555 026332 103406              BCS 1$          ;IF NOT CORRECT
5556
5557 026334 004737 011706      CALL LPBACK      ;ANY LOOP?
5558 026340 103403              BCS 1$          ;IF NOT
5559
5560 026342 004737 012554      CALL RUNAPP      ;LOAD AND RUN APPLICATION
5561 026346 103002              BCC 2$          ;IF CORRECT
5562
5563 026350      1$: EXIT TST
5564
5565 026354 004737 011776      2$: CALL INIQIO    ;INIT QIO PROCESSING
```

```
5566
5567 026360 012701 026376      MOV      #60$,R1      ;TABLE ADDRESS IN R1
5568 026364 004737 013154      CALL     QIOP      ;PROCESS QIO
5569 026370 103022              BCC      5$          ;IF CORRECT
5570
5571 026372              EXIT     TST
5572
5573      ; PARAMETERS FOR QIO PROCESSING
5574
5575 026376 026402      60$:      3$          ;IN LIST TABLE BASE ADDRESS
5576 026400 000764          500.          ;TIME-OUT LENGTH(N*10 MS)
5577
5578      ; COMMAND LIST
5579
5580 026402      3$:
5581 026402 000001          1
5582 026404 000001 103421 000000      1,SDLC+C64K+CLKDTE+S141,0      ;CONFIGURATE
5583
5584      ; RESPONSE LIST
5585
5586 026412      4$:
5587 026412 000001          1
5588 026414 000001 000000 000400      1+RDY0,0,1+400      ;CONFIGURATE DONE
5589 026422 000000 000000 000000      .WORD 0,0,0,0,0,0
5590
5591 026436      5$:
5592 026436 012701 026412      MOV      #4$,R1      ;SAVE RESPONSE LIST ADDRESS
5593 026442 004737 010134      CALL     CHKRSR      ;THEN CHECK RESPONSES
5594 026446 103002          BCC      6$          ;IF TEST CORRECT
5595
5596 026450              EXIT     TST
5597
5598
5599 026454 004737 011776      6$:      CALL     INIQIO      ;INIT QIO PROCESSING
5600
5601 026460 012701 026476      MOV      #61$,R1      ;TABLE ADDRESS IN R1
5602 026464 004737 013154      CALL     QIOP      ;PROCESS QIO
5603 026470 103022          BCC      9$          ;IF CORRECT
5604
5605 026472              EXIT     TST
5606
5607      ; PARAMETERS FOR QIO PROCESSING
5608
5609 026476 026502      61$:      7$          ;IN LIST TABLE BASE ADDRESS
5610 026500 000144          100.          ;TIME-OUT LENGTH(N*10 MS)
5611
5612      ; COMMAND LIST
5613
5614 026502      7$:
5615 026502 000001          1
5616 026504 000014 000000 000000      14,0,0      ;READ MODEM
5617
5618      ; RESPONSE LIST
5619
5620 026512      8$:
5621 026512 000001          1
5622 026514 000214 001455 000400      14+RDY0,S6+400+S142+S106+S107+S109,1+400      ;RESPONSE FOR F14
```

```
5623 026522 000000 000000 000000      .WORD  0,0,0,0,0,0
5624
5625 026536                      9$:
5626 026536 012701 026512      MOV    #8$,R1      ;SAVE RESPONSE LIST ADDRESS
5627 026542 004737 010134      CALL   CHKCRSP    ;THEN CHECK RESPONSES
5628 026546 103002              BCC     10$        ;IF TEST CORRECT
5629
5630 026550                      EXIT   TST
5631
5632 026554                      10$:
5633 026554 004737 027016      CALL   SHORTST      ;FOR SHORT XMIT/RECEIVE BUFFER TEST
5634
5635 026560                      ENDTST
```

5637 026562

BADHEAD

5638

; ** TEST11 **
; TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 64K
; WITH DATA LEADS ONLY

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5675 026562

; CONFIGURATE:

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

; SUBTEST1

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

; PATTERN:

INCREMENTAL

; REPORTS:

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

BADHEAD

** TEST11 **

5676

5677

5678 026562

5679 026562 004737 011574

5680 026566 103406

5681

5682 026570 004737 011706

5683 026574 103403

5684

5685 026576 004737 012554

5686 026602 103002

5687

5688 026604

5689

5690 026610 004737 011776

5691

BGNTST

CALL
BCSMODE0
1\$;SET APPLICATION MODE
;IF NOT CORRECTCALL
BCSLPBACK
1\$;ANY LOOP?
;IF NOTCALL
BCCRUNAPP
2\$;LOAD AND RUN APPLICATION
;IF CORRECT

1\$:

EXIT

TST

2\$:

CALL

INIPIO

;INIT QIO PROCESSING

B11

CNKMC00 KMV11-A FCTNL DIAG
HARDWARE TESTS

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SEQ 131

```

5692 026614 012701 026632      MOV      #601,R1      ;TABLE ADDRESS IN R1
5693 026620 004737 013154      CALL     QIOP      ;PROCESS QIO
5694 026624 103022              BCC      51      ;IF CORRECT
5695
5696 026626              EXIT     TST
5697
5698      ; PARAMETERS FOR QIO PROCESSING
5699
5700 026632 026636      601:      31      ;IN LIST TABLE BASE ADDRESS
5701 026634 000764              500.      ;TIME-OUT LENGTH(N*10 MS)
5702
5703      ; COMMAND LIST
5704
5705 026636      31:
5706 026636 000001              1
5707 026640 000001 103460 000000      1,DLO+C64K+CLKDTE+S141,0      ;CONFIGURATE
5708
5709      ; RESPONSE LIST
5710
5711 026646      41:
5712 026646 000001              1
5713 026650 000201 000000 000400      1,RDY0,0,1*400      ;CONFIGURATE DONE
5714 026656 000000 000000 000000      .WORD 0,0,0,0,0,0
5715
5716 026672      51:
5717 026672 012701 026646      MOV      #41,R1      ;SAVE RESPONSE LIST ADDRESS
5718 026676 004737 010134      CALL     CHKRSF      ;THEN CHECK RESPONSES
5719 026702 103002              BCC      61      ;IF TEST CORRECT
5720
5721 026704              EXIT     TST
5722
5723 026710 004737 011776      61:      CALL     INIQIO      ;INIT QIO PROCESSING
5724
5725 026714 012701 026732      MOV      #611,R1      ;TABLE ADDRESS IN R1
5726 026720 004737 013154      CALL     QIOP      ;PROCESS QIO
5727 026724 103022              BCC      91      ;IF CORRECT
5728
5729 026726              EXIT     TST
5730
5731      ; PARAMETERS FOR QIO PROCESSING
5732
5733 026732 026736      611:      71      ;IN LIST TABLE BASE ADDRESS
5734 026734 000144              100.      ;TIME-OUT LENGTH(N*10 MS)
5735
5736      ; COMMAND LIST
5737
5738 026736      71:
5739 026736 000001              1
5740 026740 000014 000000 000000      14,0,0      ;READ MODEM
5741
5742      ; RESPONSE LIST
5743
5744 026746      81:
5745 026746 000001              1
5746 026750 000214 001440 000400      14,RDY0,S6*400+S142,1*400      ;RESPONSE FOR F14
5747 026756 000000 000000 000000      .WORD 0,0,0,0,0,0
5748

```

C11

CNMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

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SEQ 132

5749	026772			9#:		
5750	026772	012701	026746		MOV	#8#,R1
5751	026776	004737	010134		CALL	CHKRSP
5752	027002	103002			BCC	10#
5753						
5754	027004				EXIT	TST
5755						
5756	027010			10#:		
5757	027010	004737	027016		CALL	SHORTST
5758						
5759	027014			ENDTST		

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

;FOR SHORT XMIT/RECEIVE BUFFER TEST

```
5761
5762
5763          ; SHORT XMIT/RECEIVE BUFFER TEST COMMON TO TEST10 AND TEST11
5764
5765 027016    SHORTST:
5766
5767 027016    004737    011776          CALL      INIQIO          ;INIT QIO PROCESSING
5768
5769 027022    012701    027036          MOV       #60,R1          ;TABLE ADDRESS IN R1
5770 027026    004737    013154          CALL      QIOP           ;PROCESS QIO
5771 027032    103065          BCC       5#           ;IF CORRECT
5772
5773 027034    000207          RETURN
5774
5775          ; PARAMETERS FOR QIO PROCESSING
5776
5777 027036    027042          60#:      3#           ;IN LIST TABLE BASE ADDRESS
5778 027040    000620          400.         ;TIME-OUT LENGTH(N*10 MS)
5779
5780          ; COMMAND LIST
5781
5782 027042          3#:
5783 027042    000007          7.
5784 027044    000006    002574    000376          6,RXBUF0,#RDBS-2          ;FIRST RECEIVE BUFFER
5785 027052    000006    003174    000367          6,RXBUF1,#RDBS-9.          ;SECOND "
5786 027060    000006    003574    000066          6,RXBUF2,54.          ;THIRD "
5787 027066    000005    004574    000001          5,TXBUF0,1          ;FIRST XMIT BUFFER
5788 027074    000005    004574    000366          5,TXBUF0,#RDBS-10.          ;SECOND "
5789 027102    000005    005174    000367          5,TXBUF1,#RDBS-9.          ;THIRD "
5790 027110    000005    005574    000400          5,TXBUF2,#RDBS          ;FORTH "
5791
5792          ; RESPONSE LIST
5793
5794 027116          4#:
5795 027116    000007          7.
5796 027120    000206    000000    170000          6,RDY0,0,360*400          ;TOO MANY BUFFERS FOR F6
5797 027126    000205    000000    175000          5,RDY0,0,372*400          ;TOO SHORT BUFFER FOR F5
5798 027134    000205    000000    170000          5,RDY0,0,360*400          ;TOO MANY BUFFERS FOR F5
5799 027142    000206    000366    000400          6,RDY0,#RDBS-10.,1*400          ;FIRST RECEIVE BUFFER
5800 027150    000205    000000    000400          5,RDY0,0,1*400          ;FIRST BUFFER SENT
5801 027156    000206    000367    000400          6,RDY0,#RDBS-9.,1*400          ;SECOND BUFFER RECEIVED
5802 027164    000205    000000    000400          5,RDY0,0,1*400          ;SECOND BUFFER SENT
5803 027172    000000    000000    000000          .WORD      0,0,0,0,0,0
5804
5805 027206          5#:
5806 027206    012701    027116          MOV       #4,R1          ;SAVE RESPONSE LIST ADDRESS
5807 027212    004737    010134          CALL      CHKRSP         ;THEN CHECK RESPONSES
5808 027216    103001          BCC       6#           ;IF TEST CORRECT
5809
5810 027220    000207          RETURN
5811
5812 027222    012701    004574          6#:      MOV       #TXBUF0,R1          ;CHECK FIRST RECEIVE BUFFER
5813 027226    012702    002574          MOV       #RXBUF0,R2
5814 027232    012737    000366    002346          MOV       #RDBS-10.,LENGTH
5815 027240    004737    011374          CALL      COMPAR
5816 027244    103001          BCC       7#           ;IF CORRECT
5817
```

E11

CNKMCA0 KMV11-A FCTNL DIAG
HARDWARE TESTS

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SEQ 134

```
5818 027246 000207 RETURN
5819
5820 027250 012701 005174 7$: MOV TXBUF1,R1 ;CHECK SECOND RECEIVE BUFFER
5821 027254 012702 003174 MOV RXBUF1,R2
5822 027260 012737 000367 002346 MOV RDBS-9.,LENGTH
5823 027266 004737 011374 CALL COMPAR
5824
5825 027272 010207 RETURN
```

5827 027274

BADHEAD

** TEST12 **

5828

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

5829

5830

5831

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5851

5852

5853

5854

5855

5856

5857

5858

5859

5860

5861

5862

5863

5864

5865 027274

; PATTERN:

INCREMENTAL

; REPORTS:

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

BADHEAD

** TEST12 **

5866

5867

5868 027274

5869 027274 004737 011574

5870 027300 103406

5871

5872 027302 004737 011706

5873 027306 103403

5874

5875 027310 004737 012554

5876 027314 103002

5877

5878 027316

5879

5880 027322 004737 011776

5881

BGNTST

CALL
BCSMODE0
1\$;SET APPLICATION MODE
;IF NOT CORRECTCALL
BCSLPBACK
1\$;ANY LOOP?
;IF NOTCALL
BCCRUNAPP
2\$;LOAD AND RUN APPLICATION
;IF CORRECT

1\$: EXIT

TST

2\$: CALL

INIPIO

;INIT QIO PROCESSING

```

5882 027326 012701 027344      MOV      #60$,R1      ;TABLE ADDRESS IN R1
5883 027332 004737 013154      CALL     QIOP      ;PROCESS QIO
5884 027336 103022              BCC      5$          ;IF CORRECT
5885
5886 027340              EXIT     TST
5887
5888      ; PARAMETERS FOR QIO PROCESSING
5889
5890 027344 027350      60$:      3$          ;IN LIST TABLE BASE ADDRESS
5891 027346 000764              500.          ;TIME-OUT LENGTH(N*10 MS)
5892
5893      ; COMMAND LIST
5894
5895 027350      3$:
5896 027350 000001              1
5897 027352 000001 102621 000252      1,SDLC+C48K+ADSRCH+CLKDTE+S141,252      ;CONFIGURATE
5898
5899      ; RESPONSE LIST
5900
5901 027360      4$:
5902 027360 000001              1
5903 027362 000201 000000 000400      1+RDY0,0,1*400      ;CONFIGURATE DONE
5904 027370 000000 000000 000000      .WORD 0,0,0,0,0,0
5905
5906 027404      5$:
5907 027404 012701 027360      MOV      #4$,R1      ;SAVE RESPONSE LIST ADDRESS
5908 027410 004737 010134      CALL     CHKRESP      ;THEN CHECK RESPONSES
5909 027414 103002              BCC      6$          ;IF TEST CORRECT
5910
5911 027416      EXIT     TST
5912
5913 027422 004737 011776      6$:      CALL     INIQIO      ;INIT QIO PROCESSING
5914
5915 027426 012701 027444      MOV      #61$,R1      ;TABLE ADDRESS IN R1
5916 027432 004737 013154      CALL     QIOP      ;PROCESS QIO
5917 027436 103022              BCC      9$          ;IF CORRECT
5918
5919 027440      EXIT     TST
5920
5921      ; PARAMETERS FOR QIO PROCESSING
5922
5923 027444 027450      61$:      7$          ;IN LIST TABLE BASE ADDRESS
5924 027446 000144              100.          ;TIME-OUT LENGTH(N*10 MS)
5925
5926      ; COMMAND LIST
5927
5928 027450      7$:
5929 027450 000001              1
5930 027452 000014 000000 000000      14,0,0      ;READ MODEM
5931
5932      ; RESPONSE LIST
5933
5934 027460      8$:
5935 027460 000001              1
5936 027462 000214 001455 000400      14+RDY0,S6*400,S142+S106+S107+S109,1*400      ;RESPONSE FOR F14
5937 027470 000000 000000 000000      .WORD 0,0,0,0,0,0
5938

```

```

5939 027504          9$:      MOV      #8$,R1          ;SAVE RESPONSE LIST ADDRESS
5940 027504 012701 027460      CALL     CHKRSP        ;THEN CHECK RESPONSES
5941 027510 004737 010134      BCC      10$          ;IF TEST CORRECT
5942 027514 103002
5943
5944 027516          10$:     EXIT     TST
5945 027522
5946 027522 004737 011776      CALL     INIQIO        ;INIT QIO PROCESSING
5947
5948 027526 112737 000252 005174      MOVB     #252,TXBUF1    ;SET GOOD STATION ADDRESS IN BUFFER 1
5949
5950 027534 012701 027552      MOV      #62$,R1
5951 027540 004737 013154      CALL     QIOP
5952 027544 103063      BCC      13$          ;PROCESS QIO
5953                                     ;IF CORRECT
5954 027546          EXIT     TST
5955
5956          ; PARAMETERS FOR QIO PROCESSING
5957
5958 027552 027556      62$:     11$          ;IN LIST TABLE BASE ADDRESS
5959 027554 001750      1000.          ;TIME-OUT LENGTH(N*10 MS)
5960
5961          ; COMMAND LIST
5962
5963 027556          11$:
5964 027556 000007          7.
5965 027560 000006 002574 000376      6,RXBUF0,#RDBS-2    ;FIRST RECEIVE BUFFER
5966 027566 000006 003174 000367      6,RXBUF1,#RDBS-9.    ;SECOND "
5967 027574 000006 003574 000066      6,RXBUF2,54.        ;THIRD "
5968 027602 000005 004574 000001      5,TXBUF0,1          ;FIRST XMIT BUFFER
5969 027610 000005 004574 000366      5,TXBUF0,#RDBS-10.   ;SECOND "
5970 027616 000005 005174 000367      5,TXBUF1,#RDBS-9.    ;THIRD "
5971 027624 000005 005574 000400      5,TXBUF2,#RDBS
5972                                     ;FORTH "
5973
5974          ; RESPONSE LIST
5975
5975 027632          12$:
5976 027632 000006          6
5977 027634 000206 000000 170000      6*RDY0,0,360*400    ;TOO MANY BUFFERS FOR F6
5978 027642 000205 000000 175000      5*RDY0,0,372*400    ;TOO SHORT BUFFER FOR F5
5979 027650 000205 000000 170000      5*RDY0,0,360*400    ;TOO MANY BUFFERS FOR F5
5980 027656 000205 000000 000400      5*RDY0,0,1*400      ;FIRST BUFFER SENT
5981 027664 000206 000367 000400      6*RDY0,#RDBS-9.,1*400 ;SECOND BUFFER RECEIVED
5982 027672 000205 000000 000400      5*RDY0,0,1*400      ;SECOND BUFFER SENT
5983 027700 000000 000000 000000      .WORD 0,0,0,0,0,0
5984
5985 027714          13$:
5986 027714 012701 027632      MOV      #12$,R1          ;SAVE RESPONSE LIST ADDRESS
5987 027720 004737 010134      CALL     CHKRSP        ;THEN CHECK RESPONSES
5988 027724 103002      BCC      14$          ;IF TEST CORRECT
5989
5990 027726          EXIT     TST
5991
5992 027732 012701 005174      14$:     MOV      #TXBUF1,R1    ;CHECK RECEIVE BUFFER
5993 027736 012702 002574      MOV      #RXBUF0,R2
5994 027742 012737 000367 002346      MOV      #RDBS-9.,LENGTH
5995 027750 004737 011374      CALL     COMPAR

```

CNKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

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I11

SEQ 138

5996
5997 027754

ENDTST

5999

6000

6001

6002

6003

6004

6005

6006

6007

6008

6009

6010

6011

6012

6013

6014

6015 027756

6016

6017 027760

6018 027770

6019 030000

6020 030012

6021

6022

6023 030024

6024

6025

6026

6033

6034

6035 030024

6036 030051

6037 030107

6038 030137

6039 030226

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6058

6065

6066

6067

.SBTTL HARDWARE PARAMETER CODING SECTION

```

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

```

BGNHRD

GPRMA ADDRES,0,0,160000,177776,YES

GPRMA VECTOR,2,0,0,774,YES

GPRMD PRIRTY,4,0,7000,4,7,YES

GPRMD LOOPBK,6,0,1,0,1,YES

GPRMD PDPTST,10,0,1,0,1,YES

;JB REV A-0

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 EXTERNAL LOOP BACK CONNECTOR INSERTED? 0=NO,1=YES: /
111 123 040 PDPTST: .ASCIZ \IS THE HOST COMPUTER A PDP11/23+? 0=NO,1=YES: \

```

.EVEN

```
6069
6070      .SBTTL
6071      .SBTTL  KMV11-A APPLICATION FIRMWARE SOURCE
6072
6073      ;////////////////////////////////////
6074      ;/  THIS SECTION CONTAINS  THE KMV11-A APPLICATION FIRMWARE
6075      ;////////////////////////////////////
6076
6077 030306      CHECK
6078 030306      $BUFF::
```

L11

KIMP MACRO M1200 05-APR-84 11:29 PAGE 174
** - IMPURE DATA AREA

SEQ 141

```

2
3      043660
4 043660 013352      BUFLGH: .WORD .-$BUFF      ;FIRMWARE CODE LENGTH
5 043662 000000      .WORD 0
6 043664 000000      .WORD 0
7 043666 000000      .WORD 0
8
9 043670      $PATCH::
10 043670      .BLK 50
11
12 044010      LASTA,
13      044014      L$LAST::
14 044014      ENDMOD
15
```

M11

KIMP MACRO M1200 05-APR-84 11:29 PAGE 175
** - IMPURE DATA AREA

SEQ 142

17			
18			
19	044014	BGNSETUP	1
20	044014	BGNPTAB	
21	044020	.WORD	177000
22	044022	.WORD	300
23	044024	.WORD	4000
24	044026	.WORD	0
25	044030	ENDPTAB	
26	044030	ENDSETUP	
27			
28	000001	.END	

ABORT	020742	BSEL7	* 000007	CG.STR	000002	CSRPDV	031120 G	C\$GPL0	000030
ABOTX	* 000010	BUFCLR	011530	CHARES	000030	CSRTE	032042	C\$GPRI	000040
ADDRES	030024	BUFLD	011740	CHG	043154	CSTART	035602	C\$INIT	000011
ADR	* 000020 G	BUFLGH	043660	CHGMDM	033546	CSTOP	035652	C\$INLP	000020
ADSRCH	000200	BUFOVF	000373	CHKCO	* 000020	CS.ABO	000100	C\$MANI	000050
APPFLG	002414	BW105	* 000002	CHKCP	* 000040	CS.BUF	000200	C\$MEM	000031
ASSEMB	000010	BW108	* 000001	CHKDBL	032320	CS.DCR	000400	C\$MSG	000023
AUXPDV	031070 G	BW111	* 000040	CHKDCP	032414	CS.DEV	000002	C\$OPEN	000034
BAD	002316	BW140	* 000100	CHKDP	* 000100	CS.DIS	000040	C\$PNTB	000014
BADAD	017202 G	BW141	* 000200	CHKEM	* 000200	CS.ENB	000020	C\$PNTF	000017
BADLOC	002452	CB.CCB	000002	CHKINV	032246	CS.EOF	000001	C\$PNTS	000016
BADO	002320	CB.RDB	000004	CHKKIMV	032332	CS.ERR	100000	C\$PNTX	000015
BAD10	002330	CCONDP	035552	CHKLGT	032370	CS.Hr	* 002000	C\$QIO	* 000377
BAD12	002332	CCONF	033434	CHKMAX	013356	CS.LST	040000	C\$QUE	* 000002 G
BAD14	002334	CCON1	033364	CHKNEX	032306	CS.LST	004000	C\$RDBU	000007
BAD16	002336	CCON2	035526	CHKOVR	032344	CS.RIC	* 000010	C\$REFG	000047
BAD2	002322	CDBFER	015333	CHKPDV	031102 G	CS.ROV	000004	C\$RESE	000033
BAD4	002324	CDDO	036252	CHKRET	032254	CS.RSN	010000	C\$REVI	000003
BAD6	002326	CDDS6	036416	CHKRP	* 000004	CS.SUC	000001	C\$RFLA	000021
BIT0	* 000001 G	CDECON	033502	CHKRSP	010134	CS.TMO	020000	C\$RPT	000025
BIT00	* 000001 G	CDIMDM	033546	CHKRW	* 000010	CTUP	036324	C\$SEFG	000046
BIT01	* 000002 G	CDISAB	035734	CHKSEC	032274	CTUS5	036540	C\$SPRI	000041
BIT02	* 000004 G	CDUP	036234	CHKSUC	032356	CTXKI1	033762	C\$SVEC	000037
BIT03	* 000010 G	CDUS5	036342	CHKTM8	032402	CTXKI2	035466	C\$TIM	* 000000 G
BIT04	* 000020 G	CDUS6A	036402	CHKTP	* 000001	CXMT1	033704	C\$TPRI	000013
BIT05	* 000040 G	CENAB	035700	CHKTW	* 000002	CXMT2	035440	C.BID	000003
BIT06	* 000100 G	CENMDM	033546	CHK.AH	000014	C\$AU	* 000052	C.BL10	100010 G
BIT07	* 000200 G	CE.ABO	100364	CHK.AL	000012	C\$AUTO	000061	C.BL11	100011 G
BIT08	* 000400 G	CE.DBL	100363	CHK.FL	000002	C\$BRK	000022	C.BL12	100012 G
BIT09	* 001000 G	CE.DCP	100356	CHK.PR	000010	C\$BSEG	000004	C.BL13	100013 G
BIT1	* 000002 G	CE.DIS	100366	CHK.SS	000016	C\$BSUB	000002	C.BL14	100014 G
BIT10	* 002000 G	CE.ERR	100370	CHK.WR	000006	C\$CEFG	000045	C.BL15	100015 G
BIT11	* 004000 G	CE.FCS	100367	CHK.WW	000004	C\$CLCK	000062	C.BL16	100016 G
BIT12	* 010000 G	CE.INV	100362	CLKDTE	100000	C\$CLEA	000012	C.BL17	100017 G
BIT13	* 020000 G	CE.KMV	100357	CLKRT	040000	C\$CLOS	000035	C.BSL0	100000 G
BIT14	* 040000 G	CE.LAT	100370	CMODCH	036022	C\$CLP1	000006	C.BSL1	100001 G
BIT15	* 100000 G	CE.MDM	100365	CMODWR	036600	C\$CVEC	000036	C.BSL2	100002 G
BIT2	* 000004 G	CE.MLN	100372	COMEXE	030306 G	C\$DCLN	000044	C.BSL3	100003 G
BIT3	* 000010 G	CE.MOP	100372	COMPAR	011374	C\$DODU	000051	C.BSL4	100004 G
BIT4	* 000020 G	CE.NTE	100361	CONDIS	041246	C\$DRPT	000024	C.BSL5	100005 G
BIT5	* 000040 G	CE.NXM	100374	CONDP2	035172	C\$DU	* 000053	C.BSL6	100006 G
BIT6	* 000100 G	CE.ODD	100361	CONDP3	040206	C\$EDIT	000003	C.BSL7	100007 G
BIT7	* 000200 G	CE.OOS	100371	CONENB	040704	C\$ERDF	000055	C.BUF	000014
BIT8	* 000400 G	CE.OVF	100373	CONF1	032434	C\$ERHR	000056	C.BUF1	000014
BIT9	* 001000 G	CE.RSE	000357	CONF2	035232	C\$ERRO	000060	C.BUF2	000024
BI106	* 000010	CE.RTE	100376	CONMSN	041274	C\$ERSF	000054	C.CNT	000020
BI107	* 000004	CE.SRC	100364	CONSTP	040466	C\$ERSO	000057	C.CNT1	000020
BI109	* 000001	CE.TMB	100360	CONSTR	040220	C\$ESCA	000010	C.CNT2	000030
BI125	* 000002	CE.TMO	100374	CON2	035162	C\$FSEG	000005	C.DAI	* 100024 G
BOE	* 000400 G	CE.EOM	000004	CON3	040176	C\$ESUB	000003	C.DAO	* 100026 G
BSEL0	* 000000	CE.HDR	000020	COPY	011552	C\$ETST	000001	C.DDI	* 100020 G
BSEL1	* 000001	CE.LB	100000	CRCV1	033552	C\$EXIT	000032	C.DDO	* 100022 G
BSEL2	* 000002	CE.SOM	000010	CRCV2	035500	C\$FLG	000001 G	C.DXI	* 100034 G
BSEL3	* 000003	CE.SYN	000040	CRDMDM	033546	C\$GETI	000026	C.DXO	* 100036 G
BSEL4	* 000004	CE.TRN	000100	CSRCSC	100000	C\$GETV	000027	C.FLG	* 000022
BSEL5	* 000005	CG.DVM	000004	CSRDP	032154	C\$GMAN	000043	C.FLG1	000022
BSEL6	* 000006	CG.ENB	000001	CSRLN	000010	C\$GPHR	000042	C.FLG2	000032

B12

C.FNC = 000010	DFPTBL 002164 G	E00002 016743	FS.TX = 005000	G#OFFS = 000400
C.LIN = 000006	DIAGMC = 000000	E00003 017027	FS.XKL = 002000	G#OFSI = 000376
C.LNK = 000000	DIMDM1 033336	E00004 017123	FTIME = 002256	G#PRMA = 000001
C.MDS = 100030 G	DIMDM2 035426	E10000 015610	F#AU = 000015	G#PRMD = 000002
C.MOD = 000011	DISINT = 000050	E10001 015652	F#AUTO = 000020	G#PRML = 000000
C.PBIM = 100032 G	DLO = 000040	E10002 015735	F#BGN = 000040	G#RADA = 000140
C.PRI = 000200	DMAIN = 034170	E10003 016022	F#CLEA = 000007	G#HADB = 000000
C.RSV = 000002	DMAOUT 034464	E10004 016106	F#DU = 000016	G#RADD = 000040
C.SEL0 = 100000 G	DMODCH 036226	E10005 016171	F#END = 000041	G#RADL = 000120
C.SEL2 = 100002 G	DMODWR 036702	E10006 016221	F#HARD = 000004	G#RADO = 000020
C.SEL4 = 100004 G	DMODWX 036710	E10007 016252	F#HW = 000013	G#XFER = 000004
C.SEL6 = 100006 G	DSOO 036306	E10008 016334	F#INIT = 000006	G#YES = 000010
C.SL10 = 100000 G	DSOS6 036502	E10009 016371	F#JMP = 000050	HOLSDL = 000001
C.SL12 = 100002 G	DSTART 035620	E10010 016421	F#MOD = 000000	HELP = 000000
C.SL14 = 100004 G	DSTOP 035672	E10011 016471	F#MSG = 000011	HOE = 100000 G
C.SL16 = 100006 G	DSUP 036270	E10012 016522	F#PROT = 000021	IBE = 010000 G
C.STA = 000007	DSUS3 036430	FCSER = 000367	F#PWR = 000017	IDLE = 030700 G
C.STS = 000012	DUMMY1 032426	FC.CCP = 000020	F#RPT = 000012	IDU = 000040 G
C.VECO = 000060	DUMMY2 035106	FC.CTL = 000006	F#SEG = 000003	IEI = 000001
C.VEC2 = 000070	DUMMY3 037710	FC.KCP = 000016	F#SOFT = 000005	IEO = 000020
C.WRK = 000004	ECONB = 160002	FC.KIL = 000004	F#SRV = 000010	IER = 020000 G
C.XXX = 100000	EF.CON = 000036 G	FC.MAX = 000020	F#SUB = 000002	INIFLG 002516
CO.IEI = 000001	EF.NEW = 000035 G	FC.RCE = 000002	F#SW = 000014	INIPIO 011776
CO.IEO = 000020	EF.PWR = 000034 G	FC.RCP = 000014	F#TEST = 000001	INLSI 002406
CO.RQI = 000200	EF.RES = 000037 G	FC.TIM = 000010	F0 = 000000	INTIN 002506
C1.ERR = 000001	EF.STA = 000040 G	FC.XCP = 000012	F1 = 000001	INTOUT 002510
C1.MCL = 000100	ENATX = 000151	FC.XME = 000000	F10 = 000010	ISR = 000100 G
C1.MDE = 000020	END = 020750	FIRST = 000002	F11 = 000011	ITIN 012710
C1.MT1 = 000010	ENDINT = 000070	FRMLR = 000372	F12 = 000012	ITOUT 013044
C1.MT2 = 000002	ENDMA = 000040 G	FS.AST = 000000	F13 = 000013	IXE = 004000 G
C1.RD = 000004	ENDSEI = 000005	FS.CIB = 002000	F14 = 000014	I#AU = 000041
C1.RUN = 000200	ENDXI1 = 000020	FS.CON = 001000	F15 = 000015	I#AUTO = 000041
C1.WRT = 000040	ENDXI2 = 000060	FS.CRA = 001000	F16 = 000016	I#CLN = 000041
C111 = 000004	ENDXI3 = 000070	FS.DCN = 002000	F17 = 000017	I#DU = 000041
C112 = 000040	END1 = 021136	FS.DIS = 003000	F2 = 000002	I#HRD = 000041
C1200 = 000000	ENMDM1 033310	FS.DMS = 017000	F3 = 000003	I#INIT = 000041
C140 = 000010	ENMDM2 035406	FS.DVC = 001000	F4 = 000004	I#MOD = 000041
C141 = 000020	ENNIRX = 000040	FS.EMS = 016000	F5 = 000005	I#MSG = 000041
C142 = 000100	ENRX = 000331	FS.ENB = 002000	F6 = 000006	I#PHOT = 000040
C19K = 002000	ENRXAD = 000335	FS.KIL = 000000	F7 = 000007	I#PTAB = 000041
C2.RYI = 000020	ENTHUN = 000020	FS.KRX = 010000	GOREV 007126	I#PWR = 000041
C2.RY0 = 000200	ERCNTR 002264	FS.KTX = 007000	GOOD 002274	I#RPT = 000041
C2400 = 000400	ERR = 000400	FS.LTH = 001000	GOOD0 002276	I#SEG = 000041
C48K = 002400	ERRBLK 002244 G	FS.MCG = 005000	GOOD10 002306	I#SETU = 000041
C4800 = 001000	ERRCNT 002430	FS.MCH = 004000	GOOD12 002310	I#SRV = 000041
C56K = 003000	ERRFLG 002370	FS.MCR = 013000	GOOD14 002312	I#SUB = 000041
C64K = 003400	ERRMSG 002242 G	FS.MOR = 013000	GOOD16 002314	I#TST = 000041
C9600 = 001400	ERRNBR 002240 G	FS.MOW = 014000	GOOD2 002300	J#JMP = 000167
DALON = 000040	ERRTYP 002236 G	FS.HRD = 014000	GOC04 002302	KINVAL 031344
DATA 002340	EVL = 000004 G	FS.MSN = 004000	G0006 002304	KINVAL 031362
DBLCMD = 000363	EXIT0 031370	FS.RTN = 001000	G#CNT0 = 000200	KMCSR 002504
DCONF = 000356	EXIT1 032432	FS.RX = 006000	G#DELM = 000372	KMVER = 000357
DCONF1 032476	EXIT3 037714	FS.SIA = 011000	G#DISP = 000003	LAST = 000001
DCONF2 035270	E#END = 002100	FS.STH = 000000	G#EXCP = 000400	LCL00P 002344
DDISAB 035754	E#LOAD = 000035	FS.STO = 012000	G#HILI = 000002	LC.SM = 000274
DECONS 032662	E00000 016611	FS.STP = 001000	G#LOLI = 000001	LC.SI = 000076
DENAB 035722	E00001 016674	FS.STR = 000000	G#NO = 000000	LDAPPL 012150

LDLDB	031616	LN.OFF=	000001	L#INIT	020454 G	L10014	020444	MDMS3	=	000001	
LENGTH	002346	LN.ON	=	000000	L#LADP	002026 G	L10015	020452	MDMS5	=	000002
LF.ACT=	100000	LN.OOP=	000004	L#LAST	044014 G	L10016	021136	MDMS6	=	000003	
LF.BWT=	000007	LN.OPE=	000001	L#LOAD	002100 G	L10017	021226	MDMS6A=	000004		
LF.DLO=	000040	LN.REF=	000002	L#LUN	002074 G	L10020	021232	MDMS7A=	000005		
LF.ENA=	002000	LN.SER=	000002	L#MREV	002050 G	L10021	021314	MDMS7B=	000006		
LF.LPB=	001000	LN.STA=	000017	L#NAME	002000 G	L10022	021316	MDH.FL=	000002		
LF.MDC=	000100	LN.SUB=	000360	L#PRIO	002042 G	L10023	021442	MDH.LD=	000006		
LF.MFL=	004000	LN.TRI=	000006	L#PROT	002122 G	L10024	021544	MDH.MA=	000010		
LF.MTP=	000020	LNOPDV	031140 G	L#PRT	002112 G	L10025	021564	MDH.NM=	000004		
LF.PAC=	000200	LOCK	002260	L#REPP	002062 G	L10026	022104	MDH.OM=	000011		
LF.RDY=	040000	LOE	=	040000 G	L#REV	002010 G	L10027	022210	MDH.ST=	000005	
LF.REA=	010000	LOGDEV	002246	L#RPT	020446 G	L10030	022656	MDROP	021262		
LF.TIM=	000010	LOKFLG	002520	L#SPC	002056 G	L10031	023744	MD105	=	000002	
LF.UNL=	020000	LOOP	=	001000	L#SPCP	002020 G	L10032	023172	MD108	=	000200
LGT	=	LOOPBK	030137	L#SPTP	002024 G	L10033	023556	MD111	=	000001	
LINAR.	=	LOT	=	000010 G	L#STA	002030 G	L10034	023630	MD140	=	000002
LINCP.	=	LPBACK	011706	L#SW	002266	L10035	023742	MD141	=	000004	
LINCR.	=	LSTAD	002500	L#TEST	002114 G	L10036	024264	MECO	014126		
LINCW.	=	LSTBK	002502	L#TIML	002014 G	L10037	024202	MERR	013456		
LINCX.	=	LSTLGH	002400	L#UIT	002270	L10040	024212	MINONEX	025460		
LINC1.	=	LTCYER=	000370	L#UNIT	002012 G	L10041	024222	MODDP	033374		
LINC2.	=	LTIS5	037174	L#CMR	=	120016 G	L10042	024232	MODDWN=	000365	
LINDI.	=	LTIS6A	037236	L#COST=	000013	L10043	024242	MODE	=	010000	
LINH.	=	LTIS7	037264	L#CTL	=	000010	L10044	024252	MODE0	011574	
LINOV.	=	L#ACP	002110 G	L#C1R	=	120000 G	L10045	024262	MODHDL	=	000026
LINPW.	=	L#APT	002036 G	L#C1W	=	120002 G	L10046	024604	MODPDV	031130 G	
LINRP.	=	L#AU	021316 G	L#C2R	=	120004 G	L10047	024522	MPROM	002524	
LINRW.	=	L#AUT	002070 G	L#C2W	=	120006 G	L10050	024532	MPSTR	=	000017
LINTU.	=	L#AUTO	021140 G	L#DDM	=	000002	L10051	024542	MQIO	014315	
LINAD	000330 G	L#CCP	002106 G	L#DDS	=	000004	L10052	024552	MQION	014706	
LIN.A3	000332 G	L#CLEA	021230 G	L#DLC	=	000003	L10053	024562	MRCVER	015463	
LIN.A5	000333 G	L#CO	002032 G	L#DLS	=	000006	L10054	024572	MRDEXP	013532	
LIN.B1	000334 G	L#DEPO	002011 G	L#FLG	=	000000	L10055	024602	MSEL	014227	
LIN.B2	000335 G	L#DESC	002176 G	L#KRBA=	000014	L10056	026560	MSELO	013572		
LIN.CP	000342 G	L#DESP	002076 G	L#LEN	=	000020	L10057	027014	MSEL10	013746	
LIN.FL	000304 G	L#DEVP	002060 G	L#MPF	=	000020	L10060	027754	MSEL12	014002	
LIN.LP	000312 G	L#DISP	002132 G	L#NMST=	000016	L10061	030024	MSEL14	014036		
LIN.NM	000314 G	L#DLY	002116 G	L#NSTA=	000012	L10062	044020	MSEL16	014072		
LIN.OA	000316 G	L#DTP	002040 G	L#OMNR=	000017	L10064	044030	MSEL2	013626		
LIN.OB	000317 G	L#DTYP	002034 G	L#PRI	=	000240	MAXERR	002262	MSEL4	013660	
LIN.OM	000315 G	L#DU	021234 G	L#RTR	=	120010 G	MBBUF0	015117	MSEL6	013712	
LIN.PB	000331 G	L#DUT	002072 G	L#RTW	=	120012 G	MBBUF1	015224	MXMTER	015411	
LIN.RB	000320 G	L#DVTY	007330 G	L#UNT	=	000011	MEMUM	014425	NEXT	020620	
LIN.RP	000306 G	L#EF	002052 G	L#VEC	=	000130	MCLR	=	040000		
LIN.RS	000322 G	L#ENVI	002044 G	L#XXXX=	120000	MCSR0	014546	NKMCAD	002000 G		
LIN.RW	000310 G	L#ERRT	002236 G	L10001	002176	MCSR1	014625	NOCHAN	036224		
LIN.R3	000340 G	L#ETP	002102 G	L10002	017236	MCSR2	014575	NOTIM	037166		
LIN.S0	000336 G	L#EXP1	002046 G	L10003	017314	MDAT0	014764	NXMEM	=	000374	
LIN.S1	000337 G	L#EXP4	002064 G	L10004	017352	MDAT1	015044	OUTBUF	006620		
LIN.TB	000324 G	L#EXP5	002066 G	L10005	017434	MDDMA	=	000040	OUTLST	002410	
LIN.T5	000326 G	L#HARD	027760 G	L10006	017552	MDMA	035374	OUTNUM	002476		
LN.CLO=	000000	L#IME	002120 G	L10007	017614	MDM	035374	OUTSEQ=	000371		
LN.DUM=	000005	L#HPCP	002016 G	L10010	017652	MDMCP.	=	000002	U#APTS=	000000	
LN.LOA=	000004	L#HPTP	002022 G	L10011	020034	MDMDL.	=	000001	U#AU	=	000000
LN.LOO=	000003	L#HW	002164 G	L10012	020142	MDMDP.	=	000004	U#BGNR=	000000	
LN.OAU=	000003	L#ICP	002104 G	L10013	020406	MDMSE.	=	000010	U#BGS=	000000	
						MDMS1	=	000000	U#DU	=	000001

01ERRT= 000000	PRILEV 002512	REANEX 034040	SEL14 = 000014	S.PRIX= 000300
01GNSW= 000000	PRIPTY 030107	REASEN 034050	SEL16 = 000016	S.RCVA= 110000 G
01POIN= 000001	PRI00 = 000000 G	REASHO 034030	SEL2 = 000002	S.RCVB= 110010 G
01SETU= 000001	PRI01 = 000040 G	REASN 034056	SEL4 = 000004	S.STSA= 110004 G
PARTNB= 160004	PRI02 = 000100 G	REAWI1 031114	SEL6 = 000006	S.STSB= 110014 G
PAR0 = 172340	PRI03 = 000140 G	REAWI3 043436	SEND = 032222	S.VCRA= 000140
PAR7 = 172356	PRI04 = 000200 G	RECENA 032132	SENDCO 032214	S.VCRB= 000150
PATLGH 007124	PRI05 = 000240 G	REGADR 007130	SENDTX 032236	S.VCSP= 000120
PATTAB 007010	PRI06 = 000300 G	REG0 002350	SETUP 020612	S.VCXA= 000100
PATTRN 007012	PRI07 = 000340 G	REG1 002352	SF,ACT= 000200	S.VCXB= 000110
PA.DIP= 000020	PROMNB 002556	REG2 002354	SF,ENA= 000100	S.XMTA= 110002 G
PA.TMO= 000200	PRQION 017616 G	REG3 002356	SF,LPB= 000004	S.XMTB= 110012 G
PA.112= 000040	PRSEL 017554 G	REG4 002360	SF,PAC= 000020	S.XXXX= 110000
PA.142= 000100	PRSELO 017240 G	REG5 002362	SF,REA= 000010	S1 = 000000
PBRSP 020036 G	PRSTAT 017436 G	REG6 002364	SF,UNL= 000040	S106 = 000010
PB.DMA= 000040	PR0 = 000000	REG7 002366	SHORTS 027016	S107 = 000004
PB.108= 000200	PR1 = 000040	REQCNT 002372	SLTNM = 000002	S109 = 000001
PB.111= 000001	PR2 = 000100	REVCHK 012362	SLT0 031044 G	S111 = 000004
PB.140= 000002	PR3 = 000140	REXTST= 000020	SLT1 031056 G	S112 = 000020
PB.141= 000004	PR4 = 000200	RMARK0 021006	SR0 = 177572	S125 = 000002
PC.DC = 000000	PR5 = 000240	RMARK1 021064	SR3 = 172516	S140 = 000010
PC.EC = 000001	PR6 = 000300	RQI = 000200	SSTACK 007330	S141 = 000020
PC.EC0= 000100	PR7 = 000340	RSPCNT 002402	STAT1 037440	S142 = 000040
PC.EC2= 000200	PSTACK 002250	RSPLST 010554	STAT3 037472	S3 = 000001
PC.GF = 000002	P.CMR = 130016 G	RSPOKE 006574	STAT5 037524	S5 = 000002
PC.GN = 000003	P.RPA = 130000 G	RTXINT= 000050	STAT6 037556	S6 = 000003
PC.GRN= 000002	P.WPB = 130012 G	RUN = 100000	STAT6A 037566	S6A = 000004
PC.LF = 000010	P.WPC = 130006 G	RUNAPP 012554	STAT7A 037622	S7A = 000005
PC.LN = 000011	P.XXXX= 130000	RUNDTX= 000300	STAT7B 037632	S7B = 000006
PC.RED= 000010	QC.CTO= 000200	RUNIN 020752	STA6 037576	TEMP 002374
PC.RF = 000006	QC.DCO= 000001	RXAB0 = 000364	STA7 037642	TFM36 015537
PC.RN = 000007	QC.HLT= 000002	RXBUF0 002574	STIS7 036776	TIC = 000001
PC.RTC= 000001	QC.VCO= 000040	RXBUF1 003174	SUB1 024606	TIMOP 036742
PC.SCM= 000040	QC.VC4= 000100	RXBUF2 003574	SUB2 025064	TIMOUT 036716
PC.SE = 000012	QIOP 013154	RXENA = 000001	SUB3 025220	THOUT 002404
PC.SI = 000013	QV.FLG 002521	R9901 042054	SUB4 025514	TOOBUF= 000360
PC.SLM= 000020	Q.CTL = 140000 G	SAVE4 002252	SUB5 025654	TSTF0 010614
PC.SM = 000220	Q.XXXX= 140000	SAVE6 002254	SUB6 026030	TSTF1 010640
PC.YFL= 000004	RATE 002342	SCABOR= 000200	SUB7 026166	TSTF10 011124
PC.YF = 000004	RCDATA= 000001	SCCRC = 000100	SUCCE= 000001	TSTF11 011150
PC.YN = 000005	RCRCRX= 000100	SCENDR= 000200	SVCGBL= 000000	TSTF12 011174
PC.OF = 000014	RCRCTX= 000200	SCIP = 000002	SVCINS= 177777	TSTF13 011220
PC.ON = 000015	RCVADD 002422	SCOVER= 000040	SVCSUB= 177777	TSTF14 011244
PC.2F = 000016	RCVBUF 002426	SCTBE = 000004	SVCTAG= 177777	TSTF15 011270
PC.2N = 000017	RCVKIL 033132	SC.DTR= 000200	SVCTST= 177777	TSTF16 011314
PDDEF = 077406	RCV1 032712	SC.HOF= 000005	SYNCHO= 000040	TSTF17 011340
PDPTST 030226	RDATA 007400	SC.RTS= 000002	SILSYM= 010000	TSTF2 010664
PDPTYP 002514	RDBOK 037716	SC106 = 000040	S.CHDA= 110006 G	TSTF3 010710
PDR0 = 172300	RDMOM1 033260	SC107 = 000010	S.CHDB= 110016 G	TSTF4 010734
PDVNH = 000005	RDMOM2 035350	SC109 = 000010	S.COST= 000001	TSTF5 010760
PNT = 001000 G	RDYI = 000020	SC125 = 000040	S.FLG = 000000	TSTF6 011004
PRBCOM 020144 G	RDYIDN 031756	SDLC = 000001	S.LEN = 000004	TSTF7 011030
PRBECU 017316 G	RDYIST 031376	SECON = 000001	S.LOAD 002412	TSTF8 011054
PRBNUM 020410 G	RDYD = 000200	SELNUM 002416	S.MST= 000002	TSTF9 011100
PRBQIO 017654 G	RDYODN 031710	SELO = 000000	S.OVNR= 000003	TXBUF0 004574
PRDAT 017354 G	RDYOST 031456	SEL10 = 000010	S.PRIR= 000340	TXBUF1 005174
PRI = 002000 G	READ = 002000	SEL12 = 000012	S.PRIS= 000240	TXBUF2 005574

TXENA = 000010	T\$TES = 010060	XMT3 = 040030	\$CMPDV = 000236 G	\$LNOLG = 000021 G
TYPOO = 011364	T1 = 021320 G	XSTART = 035644	\$CMQIN = 173610	\$LNOTB = 000302 G
TYPO1 = 011367	T10 = 026326 G	X\$ALWA = 000000	\$CMQRM = 173624	\$LSTIN = 177777
T\$ARGC = 000001	T11 = 026562 G	X\$FALS = 000040	\$CRCT = 043620	\$LSTTA = 177777
T\$CODE = 003032	T12 = 027274 G	X\$OFFS = 000400	\$CRCTC = 043614	\$LTFNC = 000270 G
T\$ERRN = 000003	T2 = 021444 G	X\$TRUE = 000020	\$CRCTX = 043512	\$MODDP = 035064 G
T\$EXCP = 000000	T3 = 021546 G	X990\$ = 041762	\$CSL0 = 031172 G	\$MODLG = 000005 G
T\$FLAG = 000040	T4 = 021566 G	X999\$ = 041772	\$CSL2 = 031232 G	\$MODTB = 000372 G
T\$FREE = 044030	T5 = 022106 G	ZF.COU = 001000	\$CSL2\$ = 031264	\$OVERR = 043352
T\$GMAN = 000000	T6 = 022212 G	ZF.DDM = 000001	\$CSRDP = 031150 G	\$PATCH = 043670 G
T\$HILI = 000001	T7 = 022660 G	ZF.DLC = 000002	\$CSRLG = 000003 G	\$PDVNH = 000206 G
T\$LAST = 000001	T7.1 = 022706	ZF.LLC = 000004	\$CSRTB = 000274 G	\$PDVTA = 000200 G
T\$LOLI = 000000	T7.2 = 023174	ZF.LMC = 000100	\$CTCMP = 173006	\$PDVTB = 031022 G
T\$LSYM = 010000	T7.3 = 023360	ZF.MFL = 000010	\$DBG = 000001	\$RAM = 030306
T\$LTNO = 000014	T7.4 = 023632	ZF.MUX = 000040	\$DDCCP = 172632	\$RCCMP = 173026
T\$NEST = 177777	T8 = 023746 G	ZF.TIM = 000200	\$DDDIS = 172474	\$RDBAF = 000230 G
T\$NSO = 000000	T8.1 = 024174	Z.DAT = 000010	\$DDENB = 172466	\$RDBC = 000017
T\$NS1 = 000004	T8.2 = 024204	Z.DSP = 000000	\$DDKCP = 172622	\$RDBCT = 000224 G
T\$NS2 = 000002	T8.3 = 024214	Z.FLG = 000006	\$DDKIE = 172422	\$RDBGTL = 172074
T\$PCNT = 000000	T8.4 = 024224	Z.LEN = 000010	\$DDMSN = 172502	\$RDBIN = 030742 G
T\$PTAB = 010063	T8.5 = 024234	Z.LLN = 000004	\$DDRCP = 172612	\$RDBLH = 000250 G
T\$PTHV = 000001	T8.6 = 024244	Z.MAP = 000012	\$DDSTP = 172460	\$RDBNM = 000216 G
T\$PTNU = 000001	T8.7 = 024254	Z.NAM = 000002	\$DDSTR = 172452	\$RDBQP = 172162
T\$SAVL = 177777	T9 = 024266 G	Z.SCH = 000005	\$DDXME = 172406	\$RDBRT = 172216
T\$SEGL = 177777	T9.1 = 024514	\$ABORE = 043270	\$DDXMP = 172602	\$RDBS = 000400
T\$SIZE = 000006	T9.2 = 024524	\$AUXDP = 174372	\$DLCRQ = 173034	\$RDBSZ = 000220 G
T\$SUBN = 000000	T9.3 = 024534	\$BREAK = 030702 G	\$ENDRC = 042426	\$RDBTH = 000234 G
T\$TAGL = 177777	T9.4 = 024544	\$BUFF = 030306 G	\$ENDRE = 043412	\$RDBNT = 172140
T\$TAGN = 010065	T9.5 = 024554	\$CCBAF = 000226 G	\$FRKHD = 000242 G	\$RDQCT = 000254 G
T\$TEMP = 000000	T9.6 = 024564	\$CCBC = 000005	\$FWEND = 043660	\$RDQSL = 000252 G
T\$TEST = 000014	T9.7 = 024574	\$CCBCT = 000222 G	\$HIGH = 000272 G	\$REC = 043276
T\$TSTM = 177777	UAM = 000200 G	\$CCBIN = 030704 G	\$INTSX = 173246	\$SLYMA = 000202 G
T\$TSTS = 000001	UNIT = 002272	\$CCBLH = 000246 G	\$INTX7 = 173346	\$SLYMB = 031034 G
T\$AU = 010022	UNLDB = 031516	\$CCBNM = 000212 G	\$KCE.E = 000102	\$SLTNI = 000210 G
T\$AUT = 010017	UUT = 002522	\$CCBRT = 172352	\$KCE.I = 000200	\$START = 030306
T\$CLE = 010020	VECTOR = 030051	\$CCBS = 000034	\$KLCMP = 173016	\$STKDP = 000240 G
T\$DAT = 010064	WDATA = 007506	\$CCBSZ = 000214 G	\$LDBAF = 000232 G	\$STMDA = 000262 G
T\$DU = 010021	WRIRET = 034156	\$CHKDP = 032110 G	\$LDBGT = 172044	\$STMDB = 000264 G
T\$HAR = 010061	WRITE = 020000	\$CHKLG = 000013 G	\$LDBRT = 172216	\$STMFC = 000266 G
T\$HW = 010001	XDP = 042560	\$CHKTB = 000344 G	\$LINOP = 037666 G	\$XMCMP = 172776
T\$INI = 010016	XMTADD = 002420	\$CKINT = 174042	\$LLCRQ = 173116	\$XXX = 041734
T\$MSG = 010014	XMTBUF = 002424	\$CLKCT = 000256 G	\$LLCTA = 000204 G	\$STR = 160000
T\$PC = 000001	XMTKIL = 033232	\$CLKDC = 000260 G	\$LLCTB = 031040 G	\$ADD = 030306
T\$PRO = 010000	XMTKI2 = 035150	\$CLKTK = 000024	\$LNKXA = 042002 G	\$STR = 030306 G
T\$PTA = 010063	XMTKI3 = 040122	\$CLKVL = 005216	\$LNSPC = 042516 G	.WAIT = 007336
T\$RPT = 010015	XMT1 = 033002	\$CLMEM = 031004 G	\$LNTXA = 041572 G	..SIZE = 007620
T\$SUB = 010055	XMT2 = 035114			

. ABS. 044030 000

000000 001

ERRORS DETECTED: 0

VIRTUAL MEMORY USED: 31368 WORDS (123 PAGES)

DYNAMIC MEMORY: 19748 WORDS (75 PAGES)

ELAPSED TIME: 00:16:48

NMCAO.BIN,NMCAO.SEG/CRF/-SP=LIBA/ML,NMCAO,KEXDEF,KASTOR.TMP,PGEND.MAC

PROGRAM DOCUMENT	B1	GLOBAL SUBROUTINES	B5	HARDWARE TESTS	B9
PROGRAM DOCUMENT	C1	GLOBAL SUBROUTINES	C5	HARDWARE TESTS	C9
PROGRAM DOCUMENT	D1	GLOBAL SUBROUTINES	D5	HARDWARE TESTS	D9
PROGRAM DOCUMENT	E1	GLOBAL SUBROUTINES	E5	HARDWARE TESTS	E9
PROGRAM DOCUMENT	F1	GLOBAL SUBROUTINES	F5	HARDWARE TESTS	F9
PROGRAM DOCUMENT	G1	GLOBAL SUBROUTINES	G5	HARDWARE TESTS	G9
PROGRAM DOCUMENT	H1	GLOBAL SUBROUTINES	H5	HARDWARE TESTS	H9
PROGRAM DOCUMENT	I1	GLOBAL SUBROUTINES	I5	HARDWARE TESTS	I9
PROGRAM DOCUMENT	J1	GLOBAL SUBROUTINES	J5	HARDWARE TESTS	J9
PROGRAM DOCUMENT	K1	GLOBAL SUBROUTINES	K5	HARDWARE TESTS	K9
PROGRAM DOCUMENT	L1	GLOBAL SUBROUTINES	L5	HARDWARE TESTS	L9
PROGRAM DOCUMENT	M1	GLOBAL SUBROUTINES	M5	HARDWARE TESTS	M9
PROGRAM DOCUMENT	N1	GLOBAL SUBROUTINES	N5	HARDWARE TESTS	N9
PROGRAM DOCUMENT	B2	GLOBAL SUBROUTINES	B6	HARDWARE TESTS	B10
PROGRAM DOCUMENT	C2	GLOBAL SUBROUTINES	C6	HARDWARE TESTS	C10
PROGRAM DOCUMENT	D2	GLOBAL SUBROUTINES	D6	HARDWARE TESTS	D10
PROGRAM DOCUMENT	E2	GLOBAL SUBROUTINES	E6	HARDWARE TESTS	E10
PROGRAM DOCUMENT	F2	GLOBAL SUBROUTINES	F6	HARDWARE TESTS	F10
PROGRAM DOCUMENT	G2	GLOBAL SUBROUTINES	G6	HARDWARE TESTS	G10
PROGRAM DOCUMENT	H2	GLOBAL SUBROUTINES	H6	HARDWARE TESTS	H10
PROGRAM DOCUMENT	I2	GLOBAL SUBROUTINES	I6	HARDWARE TESTS	I10
PROGRAM DOCUMENT	J2	GLOBAL SUBROUTINES	J6	HARDWARE TESTS	J10
PROGRAM DOCUMENT	K2	GLOBAL SUBROUTINES	K6	HARDWARE TESTS	K10
PROGRAM DOCUMENT	L2	GLOBAL SUBROUTINES	L6	HARDWARE TESTS	L10
PROGRAM DOCUMENT	M2	GLOBAL SUBROUTINES	M6	HARDWARE TESTS	M10
PROGRAM DOCUMENT	N2	GLOBAL SUBROUTINES	N6	HARDWARE TESTS	N10
PROGRAM DOCUMENT	B3	GLOBAL SUBROUTINES	B7	HARDWARE TESTS	B11
PROGRAM DOCUMENT	C3	GLOBAL SUBROUTINES	C7	HARDWARE TESTS	C11
PROGRAM DOCUMENT	D3	GLOBAL SUBROUTINES	D7	HARDWARE TESTS	D11
PROGRAM DOCUMENT	E3	GLOBAL SUBROUTINES	E7	HARDWARE TESTS	E11
PROGRAM DOCUMENT	F3	GLOBAL SUBROUTINES	F7	HARDWARE TESTS	F11
PROGRAM DOCUMENT	G3	GLOBAL SUBROUTINES	G7	HARDWARE TESTS	G11
PROGRAM DOCUMENT	H3	GLOBAL SUBROUTINES	H7	HARDWARE TESTS	H11
PROGRAM DOCUMENT	I3	GLOBAL SUBROUTINES	I7	HARDWARE TESTS	I11
PROGRAM DOCUMENT	J3	GLOBAL ERROR REPORT	J7	HARDWARE TESTS	J11
PROGRAM HEADER	K3	GLOBAL ERROR REPORT	K7	HARDWARE PARAMETER C...	K11
PROGRAM HEADER	L3	GLOBAL ERROR REPORT	L7	** - IMPURE DATA ARE...	L11
DISPATCH TABLE	M3	GLOBAL ERROR REPORT	M7	** - IMPURE DATA ARE...	M11
DEFAULT HARDWARE P-T	N3	REPORT CODING SECTIO	N7	SYMBOL TABLE	N11
DEFAULT HARDWARE P-T	B4	INITIALIZE SECTION	B8	SYMBOL TABLE	B12
GLOBAL EQUATES SECTI	C4	INITIALIZE SECTION	C8	SYMBOL TABLE	C12
GLOBAL EQUATES SECTI	D4	AUTODROP SECTION	D8	SYMBOL TABLE	D12
GLOBAL EQUATES SECTI	E4	CLEANUP CODING SECTI	E8	SYMBOL TABLE	E12
GLOBAL EQUATES SECTI	F4	DROP UNIT SECTION	F8		
GLOBAL EQUATES SECTI	G4	ADD UNIT SECTION	G8		
GLOBAL DATA SECTION	H4	ADD UNIT SECTION	H8		
GLOBAL DATA SECTION	I4	HARDWARE TESTS	I8		
GLOBAL DATA SECTION	J4	HARDWARE TESTS	J8		
GLOBAL DATA SECTION	K4	HARDWARE TESTS	K8		
GLOBAL DATA SECTION	L4	HARDWARE TESTS	L8		
GLOBAL SUBROUTINES	M4	HARDWARE TESTS	M8		
GLOBAL SUBROUTINES	N4	HARDWARE TESTS	N8		