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.NLIST TOC
.REM @
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IDENTIFICATION

PRODUCT CODE: AC-T846A-MC

PRODUCT NAME: CNKMCAO KMV11-A FCTNL. DIAG

PRODUCT DATE: APRIL 9, 1984

MAINTAINER: ISS/DIAGNOSTIC SERVICES

AUTHOR: ALAIN FEUILLET

MODIFIED BY: JAKI BERG 9-APR-1984

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110                     THIS DIAGNOSTIC IS DESIGNED TO TEST THE KMV11-A
111                     FIRMWARE WHICH HANDLES BASIC HDLC/SDLC FRAMING
112                     WITH FULL MODEM CONTROL ACCORDING TO DEC STD 052.
113
114                     TO UNDERSTAND THIS DIAGNOSTIC, IT IS RECOMMENDED THAT THE
115                     FIRMWARE FUNCTIONAL SPECIFICATIONS (APPENDIX A
116                     OF THE KMV11-A TECHNICAL MANUAL) BE READ.
117
118                     THE FUNCTIONAL DIAG, LOADS THE FIRMWARE AS A NORMAL APPLICA-
119                     TION MODE FIRMWARE PROGRAM AND PASSES CONTROL TO THE START
120                     ADDRESS OF THE BASIC HDLC/SDLC FIRMWARE. THE FIRMWARE DEFINES
121                     THE USE OF THE CSR'S OTHERS THAN BSEL1 (WHICH IS HARDWARE DE-
122                     FINED AND DESCRIBED IN THE TECHNICAL MANUAL).
123
124                     THE PURPOSE OF THIS PROGRAM IS TO PERFORM TESTING OF:
125                     - SEQUENCING THE COMMANDS AND RESPONSES RECEIVED
126                     - XMIT/RECEIVE PATHS USING THE LOOP BACK FACILITY
127                     - ALL THE POSSIBLE STATUS RETURNED
128                     DUE TO THE LOOP BACK MODE OF TEST, SOME STATUS CAN'T BE TESTED
129                     THESE ARE:
130                     - MODEM DOWN(365)
131                     - FCS ERROR(367)
132                     DUE TO THE FACT THAT THE KMV11-A MODULE UNDER TEST IS CONSIDERED
133                     TO RUN CORRECTLY FROM A HARDWARE POINT OF VIEW, THE STATUS 370
134                     (LATENCY ERROR) CAN'T BE TESTED EITHER.
135
136                     THE XMIT/RECEIVE PATH IS TESTED :
137                       AT SPEEDS 2.4K, 48K AND 64KBPS
138                     - WITH FULL MODEM CONTROL AND WITH DATA LEADS ONLY
139                     - WITH STATION ADDRESS SEARCH
140                     - FOR ALL FRAME PASSING UPON RECEPTION
141
142                     ALL THE SUPPORTED MODEM SIGNALS ARE TESTED (ACCORDING TO THE
143                     LOOP BACK FACILITY USED), EXCEPT RING INDICATOR (CCITT 125)
144                     WHICH IS LOOPED ON TERMINAL IN SERVICE, THE LATTER BEING NOT
145                     SUPPORTED BY THE HDLC FRAMING FIRMWARE.
146
147                     THIS DIAGNOSTIC DOESN'T REQUIRE ANY MANUAL INTERVENTION DURING
148                     TEST PERIOD.
149
150                     THIS  PROGRAM WILL BE  IMPLEMENTED USING THE  DIAGNOSTIC
151                     SUPERVISOR AND A STRUCTURED  PROGRAMMING  APPROACH. BECAUSE
152                     THE DESIGN CONFORMS TO  THE  SUPERVISOR (STANDALONE VERSION)
153                     THE  PROGRAM WILL BE COMPATIBLE WITH ACT, APT, XXDP+ AND SLIDE.
154
155                     THROUGH DIALOGUE WITH THE OPERATOR, THE PROGRAM  WILL  ALLOW
156                     MODIFICATION  OF  DEVICE PARAMETERS, SUCH AS Q-BUS  ADDRESS,
```

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157                             VECTOR ADDRESS.
158
159                             CAUTION:
160                             *******
161                             THIS DIAGNOSTIC IS DESIGNED TO RUN WITH A SPECIFIC
162                             FIRMWARE WHICH IS LINKED AND LISTED AS THE LAST PART OF THE
163                             PRESENT DIAGNOSTIC. ANY PATCHES INSIDE THE APPLICATION CODE BEFORE
164                             OR AFTER IT WAS LOADED BY THE DIAGNOSTIC IN THE KMV RAM, WILL
165                             CAUSE FALSE TEST CONDITIONS (PARTICULARLY, THIS CONCERNS CCB'S
166                             RDB'S LENGTH AND NUMBER).
167
168                             1.2 HARDWARE INTRODUCTION
169
170                             TO RUN THE DIAGNOSTIC, EXTERNAL LOOP BACK CONNECTOR MUST BE
171                             INSTALLED.
172
173                             EXTERNAL LOOP BACK CONNECTORS:
174                             ------------------------------
175                             KMV11-A CAN OPERATE UNDER THE RS422 OR RS    RECOMMENDATIONS
176
177                             RS422 LOOP BACK:
178                             -USE H3255 PLUG TO LOOP DIRECTLY AT THE OUTPUT OF THE MODULE
179                             -USE H3251 PLUG AT THE END OF BC55U MODEM CABLE CONNECTOR ASSY.
180
181                             RS423 LOOP BACK:
182                             -USE H3255 PLUG TO LOOP DIRECTLY AT THE OUTPUT OF THE MODULE
183                             -USE H3251 PLUG AT THE END OF BC55H CABLE CONNECTOR ASSY.
184
185                             RS232 LOOP BACK:
186                             -SAME AS FOR RS423
187
188                             CAUTION:
189                             *******
190                             USE OF H325 LOOP BACK CONNECTOR WILL CAUSE MESSAGE ERROR IN TESTS
191
192                             CAUTION:
193                             *******
194                             AT THE BEGINNING OF THE DIAG, THE OPERATOR MUST ANSWER BY '1' FOR YES
195                             OR '0' FOR NO TO THE QUESTION:
196                             "IS EXTERNAL LOOP BACK CONNECTOR INSERTED?"
197
198                             IF HE ANSWERS NO OR IF HE ANSWERS YES (THE PLUG BEING NOT INSERTED),
199                             IN BOTH CASES, THE DIAGNOSTIC WILL REPORT AN ERROR AND EXIT CORRES-
200                             PONDING TESTS.
```

```
202
203
204
205
206                             2.0 HARDWARE REQUIREMENTS
207
208                             THE FOLLOWING HARDWARE IS REQUIRED TO RUN THE KMV11-A FUNCTIONAL
209                             DIAGNOSTIC:
210
211                             SBC-11/21+
212                             16K MEMORY
213                             CONSOLE TERMINAL
214                             THE M7500 MODULE WITH EPROM'S AT ECO LEVEL 1
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```
216
217
218
219
220                     3.0 PRELIMINARY PROGRAM REQUIREMENTS
221
222                     THE PROCESSOR AND MEMORY SHOULD BE THOROUGHLY  TESTED  PRIOR
223                     TO RUNNING THIS DIAGNOSTIC.
224
225                     MOREOVER, IN ORDER TO BE SURE OF THE MODULE FROM A HARDWARE POINT
226                     OF VIEW, IT IS GREATLY RECOMMENDED TO RUN THE KMV11-A LINE CONTROL
227                     LER STATIC TESTS NKMB AND THE DEC/X11 MODULE XKMD.
228
229                     ********************************************************************
230                     *                                                                  *
231                     *       NOTE: THE KMV11 DIAGNOSTICS NKMDA AND NKMBA SHOULD BE      *
232                     *       BEFORE RUNNING NKMCA.                                      *
233                     *                                                                  *
234                     ********************************************************************
235
236
```

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

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

5.0 PROGRAM LOAD MEDIA

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.

6.0 OPERATING INSTRUCTIONS

6.1 LOADING AND STARTING PROCEDURES

6.1.1 LOADING PROCEDURES

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

6.1.2 STARTING PROCEDURES

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

6.1.3 STEPS FOR QUICK AND SIMPLE EXECUTION

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

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

6.2 INITIAL DIALOGUE

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

```
DIAG. RUN-TIME SERVICES -A-0
NKMCA0
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).

6.3 PROGRAM OPTIONS

6.3.1 START COMMAND

```
**************************************************...**************
STA(RT)/TESTS:<TEST-LIST>/PASS:<PASS-CNT>/F AGS:
   <FLAG-LIST>/EOP:<INCR>
*****************************************************************
```

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

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

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

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

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

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

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

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

THE FLAGS NAMED OR EQUATED TO 1 ARE SET, THOSE EQUATED TO 0
ARE CLEARED.  A FLAG NOT SPECIFIED IS CLEARED.  IF THE FLAGS
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 DFFAULT 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
```

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

6.3.2 RESTART COMMAND

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

6.3.2.1 TESTS, PASS, AND FLAGS SWITCHES

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

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

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

6.3.2.3 EFFECT OF RESTART COMMAND

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

6.3.3 CONTINUE COMMAND

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

6.3.3.1 PASS SWITCH (/PASS:<PASS CNT>

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

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

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

6.3.3.3 EFFECT OF CONTINUE COMMAND

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

6.3.4 PROCEED COMMAND

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

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

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

6.3.4.2 EFFECT OF PROCEED COMMAND

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

6.3.5 ADD COMMAND

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

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

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

6.3.5.2 EFFECT OF ADD COMMAND

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

6.3.6 DROP COMMAND

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

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

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

6.3.6.2 EFFECT OF DROP COMMAND

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 PRIN 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

```
                                RATE = 2.4K

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

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

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

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

                                THEN CURRENT STATE = S1
                                            MODEM = ALL OFF

                        SUBTEST4 - TEST THAT WE ARE OFF LINE AGAIN
                                ENTER COMMAND F17       FOR STATUS = 1
                                              F14       FOR STATUS = 371

                        REPORTS:        ERROR 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 INTERRPUT OUT
                                        ERROR 10007     NO MORE INTERRUPT WHILE QIO
                                                        PENDING
```

THIS IS THE ADDRESS AT WHICH THE CSR REGISTERS (SEL0) RESIDE ON THE QBUS. THE DEFAULT IS 177000 (OCTAL).

2. DEVICE VECTOR ADDRESS : (O) 300 ?

THIS IS THE ADDRESS OF THE FIRST INPUT INTERRUPT VECTOR FOR THIS DEVICE. THE ALLOWABLE RANGE IS 000-67[illegible] (OCTAL), AND THE DEFAULT VALUE IS 300.

3. DEVICE PRIORITY LEVEL : (O) 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 : (O) 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 QUESTION BELOW:

CHANGE HW (L) ?

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

UNITS (D) ?

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

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

ON SUBSEQUENT TRIPS THRU THE QUESTIONS, THE SAME PROCESS IS

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

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

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

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

THE FOLLOWING DIALOGUE WOULD ACCOMPLISH THIS GOAL:

```
# UNITS (D) ? 16

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

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

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

THE SECOND TIME THRU THE SERIES, TABLES 16 THRU THE END ARE GOING TO BE AFFECTED (NOTE THAT THIS PIECE OF INFORMATION IS PRINTED OUT FOR THE THE OPERATOR IN THE FORM "UNIT XX" AT THE BEGINNING OF EACH SERIES). QUESTION 1 IS RESPONDED TO BY A <CR>, SO SLOT ONE STAYS AT CONSTANT 75 IN TABLES 7 THRU 15, SINCE NO NEW EXLICIT 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.

```
828                     THE DIALOGUE IS TERMINATED WHEN THE SOFTWARE RECOGNIZES THAT
829                     16 EXPLICIT VALUES HAVE BEEN GIVEN FOR AT LEAST ONE QUESTION
830                     (NAMELY QUESTION 2).
```

```
832
833
834
835
836
837                     7.0  TEST DESCRIPTIONS
838
839                     **************************TEST01*********************************
840
841                     ** - VERIFY THAT THE KMV11-A CAN BE INITIALIZED
842
843                     MODE:           APPLICATION MODE
844
845                     REPORTS:        ERROR 10000     KMV11 FAILS TO RESET MASTER
846                                                     CLEAR
847
848                     ****************************************************************
849
850
851                     **************************TEST02*********************************
852
853                     ** - SELF-TEST RUNNING TEST
854
855                     KMV ON BOARD SWITCHES MUST BE:
856                                     E13-SW8 ON
857                                     E29-SW10 OFF
858
859                     MODE:           APPLICATION MODE
860
861                     REPORTS:        ERROR 1         SELF TEST IS NOT CORRECTLY
862                                                     RUN
863                                     ERROR 10000     KMV11 FAILS TO RESET MASTER
864                                                     CLEAR
865
866                     ****************************************************************
867
868
869                     **************************TEST03*********************************
870
871                     ** - TEST IF APPLICATION PROGRAM CAN BE LOADED AND STARTED
872
873                     MODE:           APPLICATION MODE
874
875                     REPORTS:        ERROR 10000     KMV11 FAILS TO RESET MASTER
876                                                     CLEAR
877                                     ERROR 10001     RUN FUNCTION NOT CORRECTLY
878                                                     PERFORMED
879                                     ERROR 10002     WRITE FUNCTION NOT CORRECTLY
880                                                     PERFORMED
881                                     ERROR 10003     READ FUNCTION NOT CORRECTLY
882                                                     PERFORMED
883                                     ERROR 10004     DATA COMPARE ERROR
884                                     ERROR 10008     UNEXPECTED EPROM'S ON KMV
885
886                     ****************************************************************
887
888
```

```
                ;**********************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 INTERRPUT OUT
                                ERROR 10007     NO MORE INTERRUPT WHILE QIO
                                                PENDING
                                ERROR 10008     UNEXPECTED EPROM'S ON KMV
                                ERROR 10009     UNEXPECTED QIO RESPONSE
                                ERROR 00002     RDYI NOT ASSERTED BY THE KMV
                                                AFTER AN INPUT REQ
                                ERROR 00003     RDYO NOT ASSERTED BY THE KMV
                                                IN RESPONSE
                                ERROR 00004     UNEXPECTED INTERRUPT RECEI-
                                                VED IEI&IEO DISABLED

                ****************************************************************


                **********************TEST05**********************************

                ** - TEST OF THE CSR HANDSHAKING WITH INTERRUPTS

                COMMAND LOADED: READ MODEM (F14)

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

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

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

**********************************************************************


***********************TEST06*****************************************

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

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

COMMAND LOADED: ALL COMMANDS

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

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

**********************************************************************


***********************TEST07*****************************************

** - TEST OF QIO PROCESSING AS BELOW:

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

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

```
                                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 INTERRPUT OUT
                                        ERROR 10007     NO MORE INTERRUPT WHILE QIO
                                                        PENDING
                                        ERROR 10008     UNEXPECTED EPROM'S ON KMV
                                        ERROR 10009     UNEXPECTED QIO RESPONSE
                                        ERROR 10010     UNEXPECTED NUMBER OF RESP-
                                                        ONSES RECEIVED
                                        ERROR 10011     UNEXPECTED DATA RECEIVED
                                        ERROR 10012     LOOP BACK NOT USED

                ************************************************************


                ************************TEST12**********************************

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

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

                                BEFORE TEST, A COMMAND F14 IS GIVEN FIRST
```

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

        ************************************************************


        ************************TEST08**********************************

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

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

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

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

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

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

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

```
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 KMV 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     KMV11 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 INTERRPUT OUT
1163                                    ERROR 10007     NO MORE INTERRUPT WHILE QIO
1164                                                            PENDING
1165                                    ERROR 10008     UNEXPECTED EPROM'S ON KMV
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
1171
1172                            ********************************************************************
1173
```

```
1174
1175                    **********TEST09**********
1176
1177                    TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 2.4K
1178                    WITH DATA LEADS ONLY
1179
1180                    CONFIGURATE:    HDLC PROTOCOL
1181                                    DATA LEADS ONLY
1182                                    WITHOUT ADDRESS SEARCH
1183                                    CLOCK SOURCE INTERNAL
1184                                    RATE = 2.4K
1185
1186                                    BEFORE SUBTESTS A COMMAND F14 IS GIVEN FIRST TO CONTROL
1187                                    THE LINE STATE AND MODEM SUCH AS:
1188                                            STATE = S6
1189                                            MODEM = S142 ONLY
1190
1191                    SUBTEST1        - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
1192                                    OF 2 BUFFERS.
1193                                    THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
1194                                    XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
1195                                    EXPECTED RESPONSES ARE:
1196                                      STATUS = 360 FOR F6 THIRD BUFFER PASSED
1197                                             = 372 FOR F5 1 BYTE LONG BUFFER
1198                                             = 360 FOR F5 THIRD BUFFER PASSED
1199                                             = 1   FOR F5 FIRST BUFFER XMITTED
1200                                             = 1   FOR F6 FIRST BUFFER FELT
1201                                             = 1   FOR F5 SECOND BUFFER XMITTED
1202                                             = 1   FOR F6 SECOND BUFFER FELT
1203
1204                    SUBTEST2        - TEST OF BUFFER OVERFLOW STATUS 373 FOR RECEPTION
1205                                    A 32 BYTE LONG BUFFER IS AFFECTED FOR RECEIVE WHILE
1206                                    A 100 BYTE LONG BUFFER IS PASSED TO XMIT.
1207                                    EXPECTED RESPONSES ARE:
1208                                      STATUS = 1   FOR F5 BUFFER XMITTED
1209                                      STATUS = 373 FOR F6 BUFFER OVERFLOW
1210
1211                    SUBTEST3        - TEST OF NON EXISTENT MEMORY STATUS 374
1212                                    TWO RECEIVE BUFFER ARE AFFECTED ONE OF WHICH WITH
1213                                    NON EXISTENT ADDRESS
1214                                    TWO XMIT BUFFERS ARE PASSED ONE OF WHICH WITH NON
1215                                    EXISTENT ADDRESS
1216                                    EXPECTED RESPONSES ARE:
1217                                      STATUS = 374 FOR F6 NON EXISTENT MEMORY BUFFER
1218                                             = 1 FOR F5 COORRECT BUFFER
1219                                             = 374 FOR F5 NON EXISTENT MEMORY BUFFER
1220                                             = 364 FOR F6 RECEIVE ABORT
1221
1222                    SUBTEST4        - TEST OF ABORT RECEIVED STATUS 364 AND ACTION OF XMIT
1223                                    ABORT COMMAND.
1224                                    ONE RECEIVE BUFFER IS AFFECTED THEN, TWO XMIT BUFFERS
1225                                    ARE PASSED. AFTER A SHORT WAIT, XMIT ABORT IS GIVEN
1226                                    TWICE.
1227                                    EXPECTED STATUS ARE:
1228                                      STATUS = 1 FOR F5 XMIT ABORTED
1229                                             = 364 FOR F6 ABORT RECEIVED
```

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

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

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

                        PATTERN:        INCREMENTAL


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

                       ****************************************************************


                       ************************TEST10**********************************

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

                        CONFIGURATE:    SDLC PROTOCOL
                                        FULL MODEM CONTROL
                                        WITHOUT ADDRESS SEARCH
```

```
1288                                    CLOCK SOURCE INTERNAL
1289                                    RATE = 64K
1290
1291                                    BEFORE TEST, A COMMAND F14 IS GIVEN FIRST
1292                                    TO CONTROL MODEMS AND THE LINE STATE, SUCH AS:
1293                                            STATE = S6
1294                                            MODEM = S142+S112+S109+S106+S107 ON
1295
1296                            TEST            - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
1297                                    OF 2 BUFFERS.
1298                                    THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
1299                                    XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
1300                                    EXPECTED RESPONSES ARE:
1301                                      STATUS = 360 FOR F6 THIRD BUFFER PASSED
1302                                             = 372 FOR F5 1 BYTE LONG BUFFER
1303                                             = 360 FOR F5 THIRD BUFFER PASSED
1304                                             = 1   FOR F5 FIRST BUFFER XMITTED
1305                                             = 1   FOR F6 FIRST BUFFER FELT
1306                                             = 1   FOR F5 SECOND BUFFER XMITTED
1307                                             = 1   FOR F6 SECOND BUFFER FELT
1308
1309                             PATTERN:       INCREMENTAL
1310
1311
1312                            REPORTS:        ERROR 10000     KMV11 FAILS TO RESET MASTER
1313                                                            CLEAR
1314                                            ERROR 10001     RUN FUNCTION NOT CORRECTLY
1315                                                            PERFORMED
1316                                            ERROR 10002     WRITE FUNCTION NOT CORRECTLY
1317                                                            PERFORMED
1318                                            ERROR 10003     READ FUNCTION NOT CORRECTLY
1319                                                            PERFORMED
1320                                            ERROR 10004     DATA COMPARE ERROR
1321                                            ERROR 10005     UNEXPECTED INTERRUPT IN
1322                                            ERROR 10006     UNEXPECTED INTERRPUT OUT
1323                                            ERROR 10007     NO MORE INTERRUPT WHILE QIO
1324                                                            PENDING
1325                                            ERROR 10008     UNEXPECTED EPROM'S ON KMV
1326                                            ERROR 10009     UNEXPECTED QIO RESPONSE
1327                                            ERROR 10010     UNEXPECTED NUMBER OF RESP-
1328                                                            ONSES RECEIVED
1329                                            ERROR 10011     UNEXPECTED DATA RECEIVED
1330                                            ERROR 10012     LOOP BACK NOT USED
1331
1332                    ********************************************************************
1333
1334
1335                    ************************TEST11**************************************
1336
1337                     TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 64K
1338                     WITH DATA LEADS ONLY
1339
1340                     CONFIGURATE:   HDLC PROTOCOL
1341                                    DATA LEADS ONLY
1342                                    WITHOUT ADDRESS SEARCH
1343                                    CLOCK SOURCE INTERNAL
1344                                    RATE = 64K
```

```
1345
1346                                    BEFORE TEST, A COMMAND F14 IS GIVEN FIRST
1347                                    TO CONTROL MODEMS AND THE LINE STATE, SUCH AS:
1348                                            STATE = S6
1349                                            MODEM = S142 ON
1350
1351                            SUBTEST1        - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
1352                                    OF 2 DUFFERS.
1353                                    THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
1354                                    XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
1355                                    EXPECTED RESPONSES ARE:
1356                                      STATUS = 360 FOR F6 THIRD BUFFER PASSED
1357                                             = 372 FOR F5 1 BYTE LONG BUFFER
1358                                             = 360 FOR F5 THIRD BUFFER PASSED
1359                                             = 1   FOR F5 FIRST BUFFER XMITTED
1360                                             = 1   FOR F6 FIRST BUFFER FELT
1361                                             = 1   FOR F5 SECOND BUFFER XMITTED
1362                                             = 1   FOR F6 SECOND BUFFER FELT
1363
1364                            PATTERN:        INCREMENTAL
1365
1366
1367                            REPORTS:        ERROR 10000     KMV11 FAILS TO RESET MASTER
1368                                                            CLEAR
1369                                            ERROR 10001     RUN FUNCTION NOT CORRECTLY
1370                                                            PERFORMED
1371                                            ERROR 10002     WRITE FUNCTION NOT CORRECTLY
1372                                                            PERFORMED
1373                                            ERROR 10003     READ FUNCTION NOT CORRECTLY
1374                                                            PERFORMED
1375                                            ERROR 10004     DATA COMPARE ERROR
1376                                            ERROR 10005     UNEXPECTED INTERRUPT IN
1377                                            ERROR 10006     UNEXPECTED INTERRPUT OUT
1378                                            ERROR 10007     NO MORE INTERRUPT WHILE QIO
1379                                                            PENDING
1380                                            ERROR 10008     UNEXPECTED EPROM'S ON KMV
1381                                            ERROR 10009     UNEXPECTED QIO RESPONSE
1382                                            ERROR 10010     UNEXPECTED NUMBER OF RESP-
1383                                                            ONSES RECEIVED
1384                                            ERROR 10011     UNEXPECTED DATA RECEIVED
1385                                            ERROR 10012     LOOP BACK NOT USED
1386
1387                    ********************************************************************
1388
1389
1390                    ************************TEST12**********************************
1391
1392                     TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 48K
1393                     WITH FULL MODEM CONTROL AND ADDRESS SEARCH
1394
1395                     CONFIGURATE:   SDLC PROTOCOL
1396                                    FULL MODEM CONTROL
1397                                    WITH ADDRESS SEARCH(252)
1398                                    CLOCK SOURCE INTERNAL
1399                                    RATE = 48K
1400
1401                                    BEFORE TEST, A COMMAND F14 IS GIVEN FIRST
```

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

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

                     PATTERN:   INCREMENTAL

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

                ****************************************************************
```

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:

```
NKMCA0 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
SEL0    040000          000000

** - ERROR REPORT 10001
RUN FUNCTION NOT CORRECTLY PERFORMED

        READ            EXPECTED
SEL0    040000          000000

** - ERROR REPORT 10002
WRITE FUNCTION NOT CORRECTLY PERFORMED

        READ            EXPECTED
SEL0    040000          000000

** - ERROR REPORT 10003
READ FUNCTION NOT CORRECTLY PERFORMED

        READ            EXPECTED
SEL0    040000          000000

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

```
1504                    ADDRESS         READ            EXPECTED
1505                    34000           127000          002737
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                    RDYI NOT ASSERTED BY THE KMV AFTER AN RQI
1584
1585                    SEL02 = 000000          EXPECTED VALUE = 000400
1586
1587                    ** - ERROR REPORT 00003
1588                    RDYO NOT ASSERTED BY THE KMV FOR A VALID RESPONSE
1589
1590                    SEL02 = 000000          EXPECTED VALUE = 000204
```

```
1592
1593
1594
1595
1596
1597                    9.0     HISTORY
1598
1599                    - VERSION 01, REVISION 00       NOVEMBER 1982
1600
1601                    - CVKMCA => CNKMCA              APRIL 9, 1984           JAKI BERG
1602                CHANGES WERE MADE TO CVKMCA TO PRODUCE CNDMCA FOR THE FALCON-PLUS PROJECT
1603                (SBC-11/21+).   CHANGES, MARKED BY ";JB REV A-0", ARE:
1604                    - SET THE  ODT BREAK  VECTOR (LOCATION 140) TO THE STARTING ADDRESS OF
1605                      FALCON'S ODT ROM (170000-OCTAL).
1606                    - REMOVE THE "IS THE HOST COMPUTER AN 11/23+ SYSTEM?" QUESTION.
1607                    - ADJUSTED WAIT MACRO FOR FALCON+ TIMING.
1608                    - CHANGED PRIORITY LEVEL 7 TO LEVEL 6 TO ALLOW BREAK KEY TO INTERRUPT.
1609                ⊡
1610
```

```
                                .NLIST  ME
        002000                          .=2000



                                .MCALL  SVC
002000                          SVC                             ; INITIALIZE SUPERVISOR MACROS



                                BGNMOD  NKMCA0

        177777          $LSTIN= -1
        177777          $LSTTAG= -1
        177777          SVCINS= -1      ; LIST INSTRUCTIONS, SHIFTED RIGHT
        177777          SVCTST= -1      ; LIST TEST TAGS, SHIFTED RIGHT
        177777          SVCSUB= -1      ; LIST SUBTEST TAGS, SHIFTED RIGHT
        177777          SVCGBL= -1      ; LIST GLOBAL TAGS, SHIFTED RIGHT
        177777          SVCTAG= -1      ; LIST OTHER TAGS, SHIFTED RIGHT

                        ;       CHANGE THE VALUES OF THE SVC... SYMBOLS TO BE ZERO IF YOU WISH
                        ;       TO ALIGN THE MACRO CALLS AND THEIR EXPANSIONS.  CHANGE THE
                        ;       SYMBOLS TO BE MINUS-ONE TO NOT LIST THE EXPANSIONS.  YOU MAY
                        ;       CHANGE THE SYMBOLS AT ANY POINT IN YOUR PROGRAM.
```

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

002000                                  POINTER BGNDU,BGNSETUP


002000                                 HEADER NKMCA0,A,0,180.,0
```

```
1694
1695                                    ;++
1696                                    ; THIS TABLE IS USED BY THE RUNTIME SERVICES
1697                                    ; TO PROTECT THE LOAD MEDIA.
1698                                    ;--
1699
1700 002122                                    BGNPROT
1701
1702 002122  000000                            0               ;OFFSET INTO P-TABLE FOR CSR ADDRESS
1703 002124  177777                            -1              ;OFFSET INTO P-TABLE FOR MASSBUS ADDRESS
1704 002126  177777                            -1              ;OFFSET INTO P-TABLE FOR DRIVE NUMBER
1705
1706
1720
1721
1722 002130                                    ENDPROT
1723
```

```
                        .SBTTL  DISPATCH TABLE

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

002130                          DISPATCH 12
```

```
                        .SBTTL DEFAULT HARDWARE P-TABLE

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

                        .ENABL  AMA
002162                          BGNHW   DFPTBL

                        .WORD   177000          ;KMV11 CSR ADDRESS
002164  177000          .WORD   300             ;KMV11 VECTOR ADDRESS IN
002166  000300          .WORD   4000            ;INTERRUPT PRIORITY LEVEL
002170  004000          .WORD   1               ;TEST CONNECTOR INSTALLED FLAG
002172  000001  ;       .WORD   1               ;WORD=1 FOR PDP11/23+           ;JB REV A-0
                        .WORD   0               ;WORD=0 FOR NOT A PDP11/23+     ;JB REV A-0
002174  000000

002176                          ENDHW
```

```
                                .SBTTL  GLOBAL EQUATES SECTION

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



                                .LIST   ME
                                        EQUALS
                                ;
                                ; BIT DIFINITIONS
                                ;
100000                          BIT15== 100000
040000                          BIT14== 40000
020000                          BIT13== 20000
010000                          BIT12== 10000
004000                          BIT11== 4000
002000                          BIT10== 2000
001000                          BIT09== 1000
000400                          BIT08== 400
000200                          BIT07== 200
000100                          BIT06== 100
000040                          BIT05== 40
000020                          BIT04== 20
000010                          BIT03== 10
000004                          BIT02== 4
000002                          BIT01== 2
000001                          BIT00== 1
                                ;
001000                          BIT9==  BIT09
000400                          BIT8==  BIT08
000200                          BIT7==  BIT07
000100                          BIT6==  BIT06
000040                          BIT5==  BIT05
000020                          BIT4==  BIT04
000010                          BIT3==  BIT03
000004                          BIT2==  BIT02
000002                          BIT1==  BIT01
000001                          BIT0==  BIT00
                                ;
                                ; EVENT FLAG DEFINITIONS
                                ;   EF32:EF17 RESERVED FOR SUPERVISOR TO PROGRAM COMMUNICATION
                                ;
000040                          EF.START==      32.                     ; START COMMAND WAS ISSUED
000037                          EF.RESTART==    31.                     ; RESTART COMMAND WAS ISSUED
000036                          EF.CONTINUE==   30.                     ; CONTINUE COMMAND WAS ISSUED
000035                          EF.NEW==        29.                     ; A NEW PASS HAS BEEN STARTED
000034                          FF.PWR==        28.                     ; A POWER-FAIL/POWER-UP OCCURRED
                                ;
```

```
                        ;
                        ; PRIORITY LEVEL DEFINITIONS
                        ;
000340                  PRI07== 340
000300                  PRI06== 300
000240                  PRI05== 240
000200                  PRI04== 200
000140                  PRI03== 140
000100                  PRI02== 100
000040                  PRI01== 40
000000                  PRI00== 0
                        ;
                        ;OPERATOR FLAG BITS
                        ;
000004                  EVL==      4
000010                  LOT==     10
000020                  ADR==     20
000040                  IDU==     40
000100                  ISR==    100
000200                  UAM==    200
000400                  BOE==    400
001000                  PNT==   1000
002000                  PRI==   2000
004000                  IXE==   4000
010000                  IBE==  10000
020000                  IER==  20000
040000                  LOE==  40000
100000                  HOE== 100000
1825                    .NLIST  ME
1826
1827                    ;;*****************************************************************************
1828                    ;* PROGRAM DIRECT ASSIGNMENTS
1829                    ;;*****************************************************************************
1830
1831                    ;
1832                    ; CSR OFFSETS DEFINITIONS
1833                    ;
1834
1835    000000          SEL0    = 0
1836    000002          SEL2    = SEL0+2
1837    000004          SEL4    = SEL2+2
1838    000006          SEL6    = SEL4+2
1839    000010          SEL10   = SEL6+2
1840    000012          SEL12   = SEL10+2
1841    000014          SEL14   = SEL12+2
1842    000016          SEL16   = SEL14+2
1843
1844    000000          BSEL0   = 0
1845    000001          BSEL1   = BSEL0+1
1846    000002          BSEL2   = BSEL1+1
1847    000003          BSEL3   = BSEL2+1
1848    000004          BSEL4   = BSEL3+1
1849    000005          BSEL5   = BSEL4+1
1850    000006          BSEL6   = BSEL5+1
1851    000007          BSEL7   = BSEL6+1
1852
1853    000010          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                  PDR0    = PAR0-40       ;PAGE DESCRIPTOR REGISTER 0
1862            077406                  PDDEF   = 77406         ;PLF=128  ED=UP  ACF=R/W
1863
1864            177572                  SR0     = 177572        ;STATUS REGISTER 0
1865            172516                  SR3     = 172516        ;   "       "    3
1866
1867                                    ;
1868                                    ; SEL0 BIT DEFINITIONS
1869                                    ;
1870
1871            100000                  RUN     = BIT15         ;TO RUN APPLICATION FIRMWARE OR, IF
1872                                                            ;MCLR SET, TO RUN SELF-TEST
1873            040000                  MCLR    = BIT14         ;MASTER CLEAR
1874            020000                  WRITE   = BIT13         ;TO LOAD APPLICATION CODE
1875            010000                  CODE    = BIT12         ;RESERVED
1876            002000                  READ    = BIT10         ;TO UNLOAD APPLICATION CODE
1877            001000                  LOOP    = BIT09         ;TO SELECT INTERNAL LOOP
1878            000400                  ERR     = BIT08         ;LOAD/UNLOAD ILLEGAL ADDRESS ERROR
1879            000200                  RQI     = BIT07         ;TO REQUEST CSR TRANSACTION
1880            000020                  IEO     = BIT04         ;INTERRUPT ENABLE OUT
1881            000001                  IEI     = BIT00         ;INTERRUPT ENABLE IN
1882
1883                                    ;
1884                                    ; BSEL2 BIT DEFINITIONS
1885                                    ;
1886
1887            000200                  RDYO    = BIT07         ;READY OUT - SET BY KMV11
1888            000020                  RDYI    = BIT04         ;READY IN - SET BY KMV11
1889
1890
1891                                    ;
1892                                    ; KMV11-A COMMAND AND RESPONSE CODES
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
```

```
                        ;
                        ; STATUS RETURNED RELATIVE TO EACH KMV11-A RESPONSE
                        ;

000001                  SUCCES  = 1             ;COMMAND CORRECTLY PERFORMED
000374                  NXMEM   = 374           ;NON EXISTENT BUFFER MEMORY
000373                  BUFOVF  = 373           ;BUFFER OVERFLOW
000372                  FRMLER  = 372           ;FRAME LENGTH ERROR
000371                  OUTSEQ  = 371           ;OUT OF SEQUENCE
000370                  LTCYER  = 370           ;LATENCY ERROR
000367                  FCSER   = 367           ;FCS ERROR
000365                  MODDWN  = 365           ;MODEM DOWN
000364                  RXABO   = 364           ;ABORT RECEIVED
000363                  DBLCMD  = 363           ;DOUBLE COMMAND
000360                  TOOBUF  = 360           ;MORE THAN TWO BUFFERS
000357                  KMVER   = 357           ;KMV RESSOURCE ERROR
000356                  DCONFP  = 356           ;DECONFIGURATE PENDING

                        ;
                        ; DEC STD 52 STATE OF THE LINE (FROM KMV)
                        ;

000000                  S1      = 0             ;OFF LINE
000001                  S3      = 1             ;LINE ENABLE
000002                  S5      = 2             ;PENDING START
000003                  S6      = 3             ;DATA EXCHANGE
000004                  S6A     = 4             ;LINE FAILURE
000005                  S7A     = 5             ;LINE DISCONNNECT
000006                  S7B     = 6             ;DECONFIGURATE

                        ;
                        ; READ MODEM LEADS
                        ;

000001                  S109    = BIT00         ;(CD)DATA CHANNEL RECEIVED LINE
                                                ;SIGNAL DETECTOR
000002                  S125    = BIT01         ;(RI)CALLING INDICATOR
000004                  S107    = BIT02         ;(DSR)DATA SET READY
000010                  S106    = BIT03         ;(CTS)READY FOR SENDING
000020                  S112    = BIT04         ;DATA SIGNAL RATE SELECTOR
000040                  S142    = BIT05         ;TEST INDICATOR

                        ;
                        ; DEFINITIONS FOR APPLICATION FIRMWARE LOADING
                        ;

030306                  $START  = COMEXE        ;START ADDRESS TO RUN FIRMWARE
030306                  $RAM    = $BUFF         ;FIRST RAM ADDRESS TO LOAD FIRMWARE
160000                  $$STR   = 160000        ;FIRST PROM ADDRESS IN KMV
160002                  ECONB   = $$STR+2       ;KMV FIRMWARE ECO LEVEL ADDRESS
160004                  PARTNB  = $$STR+4       ;KMV PROM NUMBER
000400                  $RDBS   = 256.          ;LENGTH OF RDB'S
000017                  $RDBC   = 15.           ;NUMBER OF RDB'S

                        ;
                        ; CONFIGURATE PARAMETERS
                        ;  - 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    000004                  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
```

```
                        .SBTTL  GLOBAL DATA SECTION

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



                        ;;*****************************************************************************
                        ;* STORAGE FOR DEVICE REGISTERS
                        ;;*****************************************************************************
002176                          DESCRIPT        <KMV11-A FUNCTIONAL  DIAGNOSTIC>



                                ERRTBL
002236  000000          ERRTYP::        .WORD   0
002240  000000          ERRNBR::        .WORD   0
002242  000000          ERRMSG::        .WORD   0
002244  000000          ERRBLK::        .WORD   0

                        ;*****************************************************************************
                        ;* PROGRAM CONTROL DEFINITIONS
                        ;*****************************************************************************

002246  000000          LOGDEV: 0                       ;LOGICAL DEVICE NUMBER
002250  000000          PSTACK: 0                       ;BASE LEVEL PROGRAM STACK POINTER

002252  000000          SAVE4:  0
002254  000000          SAVE6:  0
002256  000000          FTIME:  0                       ;FIRST PASS FLAG

002260  000000          LOCK:   0                       ;ADDRESS FOR LOCK CURRENT DATA
002262  000005          MAXERR: 5                       ;MAX ERROR BEFORE DROPPING THE UNIT
002264  000000          ERCNTR: 0                       ;UNIT ERROR COUNTER
002266  000000          L$SW:   0
002270  000015          L$UIT:  15                      ;MAX NUMBER OF UNIT
002272  000000          UNIT:   0

                        ;*****************************************************************************
                        ;* MISCELLANEOUS STORAGE
                        ;*****************************************************************************

002274  000000          GOOD:   0                       ;POINT TO GOOD DATA
002276  000000          GOOD0:  0
002300  000000          GOOD2:  0
002302  000000          GOOD4:  0
002304  000000          GOOD6:  0
002306  000000          GOOD10: 0
002310  000000          GOOD12: 0
002312  000000          GOOD14: 0
002314  000000          GOOD16: 0
002316  000000          BAD:    0                       ;POINT TO BAD DATA
002320  000000          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                LCLOOP: 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  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                        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
```

GLOBAL DATA SECTION

```
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  /%N%A  EPROM PART NUMBER:  /
     002527  101  040  040
     002532  105  120  122
     002535  117  115  040
     002540  120  101  122
     002543  124  040  116
     002546  125  115  102
     002551  105  122  072
     002554  040  040
2130 002556                         PROMNB: .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   10.             ;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
```

J4

GLOBAL DATA SECTION

```
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            PATLGH: .-PATTRN
2191
2192                           ;*****************************************************************************
2193                           ;* LOCATION 'GDREV' MUST BE LOADED WITH THE PROM VERSION NUMBER THAT IS
2194                           ;* COMPATIBLE WITH THIS DIAG.
2195                           ;*****************************************************************************
2196
2197 007126  000001            GDREV:  .WORD   1
```

```
2199
2200
2201 007130                    REGADR:
2202
2203                           ;*****************************************************************************
2204                           ;* STACK USED FOR SUBROUTINE LINKAGE
2205                           ;*****************************************************************************
2206
2207 007130                            .BLKW   100
2208 007330                    SSTACK:
```

```
2210
2211
2212                            .SBTTL  GLOBAL TEXT SECTION
2213
2214                            ;*****************************************************************************
2215                            ;*      THE GLOBAL TEXT SECTION CONTAINS FORMAT STATEMENTS,
2216                            ;*      MESSAGES, AND ASCII INFORMATION THAT ARE USED IN
2217                            ;*      MORE THAN ONE TEST.
2218                            ;*****************************************************************************
2219
2220                            ;;*************************************************************************
2221                            ;* NAMES OF DEVICES SUPPORTED BY PROGRAM
2222                            ;;*************************************************************************
2223 007330                     DEVTYP  <M7500>
2224
2225
2226
2233
2234
2235
2236
2237
```

```
                        .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   CHKRSP
                        ;*  -TO COPY FROM ONE BUFFER TO ANOTHER             : CALL   COPY
                        ;*  -TO ENTER APPLICATION MODE                      : CALL   MODEO
                        ;*  -TO LOAD A BUFFER WITH INCREMENTAL PATTERNS     : CALL   BUFLD
                        ;*  -TO INIT QIO                                    : CALL   INIQIO
                        ;*  -TO PROCESS QIO                                 : CALL   QIOP
                        ;*  -TO CHECK KMV PROM NUMBER                       : CALL   REVCHK
                        ;*  -TO LOAD AND CHECK APPLICATION CODE             : CALL   LDAPPL
                        ;*  -TO START APPLICATION                           : CALL   RUNAPP
                        ;*
                        ;*  -TO SERVE IN INTERRUPT                          : ITIN
                        ;*  -TO SERVE OUT INTERRUPT                         : ITOUT
                        ;*
                        ;*****************************************************************************
```

```
2356
2357
2358                    ;++
2359                    ; MACRO TO SAVE GENERAL REGISTERS
2360                    ;
2361                    ; DESCRIPTION: PERMITS TO SAVE GENERAL REGITERS R0 TO R7
2362                    ;
2363                    ; CALLING SEQUENCE: SAVE        123...
2364                    ;
2365                    ; INPUTS: REGISTER NUMEROS LIST
2366                    ;
2367                    ; OUTPUTS: REG(N)=R(N)
2368                    ;
2369                    ; CAUTIONS: NONE
2370                    ;--
2371
2372
2373
2374                            .MACRO  SAVE    ARGLST
2375                                    .IRPC   N,<ARGLST>
2376                                    MOV     R'N,REG'N
2377                                    .ENDR
2378                            .ENDM
2379
```

```
2381
2382                    ;++
2383                    ; MACRO TO RESTORE GENERAL REGISTERS
2384                    ;
2385                    ; DESCRIPTION: PERMITS TO RESTORE GENERAL REGISTERS R0 TO R7
2386                    ;
2387                    ; CALLING SEQUENCE: GET     123....
2388                    ;
2389                    ; INPUTS: REGISTER NUMEROUS LIST
2390                    ;
2391                    ; OUTPUTS: NONE
2392                    ;
2393                    ; CAUTIONS: NONE
2394                    ;--
2395
2396
2397
2398                            .MACRO  GET     ARGLST
2399                                    .IRPC   N,<ARGLST>
2400                                    MOV     REG'N,R'N
2401                                    .ENDR
2402                            .ENDM
```

```
2404
2405
2406                    ;++
2407                    ; MACRO TO SHIFT N BITS ON THE LEFT
2408                    ;
2409                    ; CALLING SEQUENCE: ASHL A,N
2410                    ;
2411                    ;       INPUT PARAMETERS:
2412                    ;       N: COUNT OF BITS TO BE SHIFTED
2413                    ;       A: ARGUMENT TO BE SHIFTED
2414                    ;
2415                    ;--
2416
2417
2418                            .MACRO  ASHL    A,N,?B
2419                                    MOV     #N,R0
2420                            B:      ASL     A
2421                                    SOB     R0,B
2422                            .ENDM
2423
```

```
2425
2426                    ;++
2427                    ; MACRO TO SHIFT N BITS ON THE RIGHT
2428                    ;
2429                    ; CALLING SEQUENCE: ASHR   A,N
2430                    ;
2431                    ;       INPUT PARAMETERS:
2432                    ;       N: COUNT OF BITS TO BE SHIFTED
2433                    ;       A: ARGUMENT TO BE SHIFTED
2434                    ;
2435                    ;--
2436
2437
2438                            .MACRO  ASHR    A,N,?B
2439                                    MOV     @N,R0
2440                            B:      ASR     A
2441                                    SOB     R0,B
2442                            .ENDM
2443
2444
```

```
2446
2447
2448                            ;++
2449                            ; MACRO TO FILL SPACE WITH NOP
2450                            ;
2451                            ; CALL ING SEQUENCE : CHECK
2452                            ;--
2453
2454                                    .MACRO  CHECK
2455                                    .REPT   30000
2456                            $$$ADD  = .-0
2457                                    .IF GT <30000-$$$ADD>
2458                                    NOP
2459                                    .IFF
2460                                    .MEXIT
2461                                    .ENDC
2462                                    .ENDR
2463                                    .ENDM
```

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

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


007336                  .WAIT:  SAVE    12
007346  011601                  MOV     (SP),R1                 ;GET LENGTH
007350  012102                  MOV     (R1)+,R2
007352  010116                  MOV     R1,(SP)                 ;UP DATE RETURN PC
007354                  1$:
007354                          BREAK
                        ;       MOV     #60.,R1                 ;WAIT 100 MICROS        ;JB REV A-0
007356  012701  000044          MOV     #36.,R1                 ;WAIT 100 MICROS        ;JB REV A-0
007362  077101          2$:     SOB     R1,2$

007364  077205                  SOB     R2,1$                   ;WAIT FOR N*100

007366                          GET     12
007376  000207                  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
2516 007400                             RDATA:
2517 007400                                     SAVE    1
2518 007404  010365  000004                    MOV     R3,SEL4(R5)             ;LOAD RAM ADDRESS
2519 007410  052765  002000  000000            BIS     #READ,SEL0(R5)          ;READ WORD
2520 007416  012701  000012                    MOV     #10.,R1                 ;INIT TIME-OUT
2521 007422                             11$:
2522 007422                                     WAIT    10.                     ;WAIT FOR 1 MS
2523 007430  032765  002400  000000            BIT     #READ!ERR,SEL0(R5)      ;READ CORRECTLY DONE?
2524 007436  001417                            BEQ     12$                     ;YES, COMPARE
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  000241                     12$:   CLC
2535 007500                              13$:   GET     1
2536 007504  000207                            RETURN
2537
```

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

007506                                  WDATA:
007506                                          SAVE    1
007512  010365  000004                          MOV     R3,SEL4(R5)             ;LOAD RAM ADDRESS
007516  011465  000006                          MOV     (R4),SEL6(R5)           ;LOAD WORD
007522  052765  020000  000000                  BIS     #WRITE,SEL0(R5)         ;WRITE IT
007530  012701  000012                          MOV     #10.,R1                 ;INIT TIME-OUT
007534                                  3$:
007534                                          WAIT    10.                     ;WAIT FOR 1 MS
007542  032765  020400  000000                  BIT     #WRITE!ERR,SEL0(R5)     ;IS IT CORRECTLY WRITE?
007550  001417                                  BEQ     20$                     ;YES,NEXT WORD
007552  077110                                  SOB     R1,3$                   ;NOT, LOOP TILL TIME-OUT

007554  005037  002276                          CLR     GOODO                   ;SET REPORT
007560  016537  000000  002320                  MOV     SEL0(R5),BAD0
007566                                          ERRHRD  10002,E10002,PRSEL0     ;IF TIME-OUT
007576                                          WAIT    10000.
007604  000261                                  SEC
007606  000401                                  BR      21$

007610  000241                          20$:    CLC
007612                                  21$:    GET     1
007616  000207                                  RETURN
```

```
                                        ;++
                                        ; 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)
                                        ;
                                        ;
                                        ;--


007620                          ..SIZE: SAVE    0123
007640  010637  002364                  MOV     SP,REG6                 ;SAVE CURRENT SP
007644  012737  010004  000004          MOV     #6$,4                   ;SET TIME-OUT TRAP
007652  106737  000006                  MFPS    6                       ;SAVE THE CURRENT PSW
007656  012701  003776                  MOV     #3776,R1                ;INIT MEMORY ADDRESS POINTER

                                        ; CHECK IF M.M.U. INSTALLED

007662  005737  177572                  TST     SR0                     ;IS IT?

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

007666  005046                          CLR     -(SP)                   ;INITIALIZE FOR "PAR" LOADING
007670  012702  172340                  MOV     #PAR0,R2                ;ADDRESS OF FIRST "PAR"
007674  012703  000010                  MOV     #^D8,R3                 ;LOAD EIGHT "PAR.'S" AND EIGHT "PDR.'S"
007700  012762  077406  177740  1$:     MOV     #PDDEF,-40(R2)          ;SET PDR'S
007706  011622                          MOV     (SP),(R2)+              ;SET PAR'S
007710  062716  000200                  ADD     #200,(SP)               ;UPDATE FOR NEXT "PAR"
007714  077307                          SOB     R3,1$                   ;LOOP UNTIL ALL EIGHT ARE LOADED
007716  012742  177600                  MOV     #177600,-(R2)           ;SETUP PAR7 FOR I/O
007722  005042                          CLR     -(R2)                   ;SETUP PAR6 FOR TESTING
007724  012737  007742  000004          MOV     #2$,4                   ;CATCH TIMEOUT IF NO SR3
007732  012737  000020  172516          MOV     #20,SR3                 ;ENABLE 22 BIT MODE
007740  000401                          BR      3$                      ;THIS PDP-11 HAS A SR3 REGISTER

007742  022626                  2$:     CMP     (SP)+,(SP)+             ;CLEAN OFF THE STACK--NO SR3

007744  005237  177572          3$:     INC     SR0                     ;TURN ON MEMORY MANAGEMENT
007750  012737  007774  000004          MOV     #5$,4                   ;SET FOR TIME OUT
007756  005737  143776          4$:     TST     143776                  ;TRAP ON NON-EX-MEM
007762  062712  000040                  ADD     #40,(R2)                ;MAKE A 1K STEP
007766  023712  172356                  CMP     PAR7,(R2)               ;LAST ONE?
007772  101371                          BHI     4$                      ;NO--TRY AGAIN

007774  011202                  5$:     MOV     (R2),R2                 ;GET LAST BANK+1
007776  005037  177572                  CLR     SR0                     ;TURN OFF MEMORY MANAGEMENT
010002  000416                          BR      9$

                                        ; SIZE MEMORY WITHOUT M.M.
```

```
2635
2636 010004  012737  010034  000004  6$:     MOV     #8$,4           ;SET FOR TIMEOUT
2637 010012  005002                          CLR     R2              ;SET UP BANK
2638 010014  062701  004000          7$:     ADD     #4000,R1        ;INCREMENT BY 1K
2639 010020  062702  000040                  ADD     #40,R2          ;1K STEP
2640 010024  005711                          TST     (R1)            ;TRAP ON TIME OUT
2641 010026  022701  177776                  CMP     #177776,R1      ;LAST ONE
2642 010032  001370                          BNE     7$              ;NO--TRY AGAIN
2643
2644                                 ; TERMINATE SIZING
2645
2646 010034  162701  004000          8$:     SUB     #4000,R1
2647
2648 010040  162702  000040          9$:     SUB     #40,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
```

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

010134                  CHKRSP:
010134  012137  002400          MOV     (R1)+,LSTLGH            ;GET OUT LIST LENGTH
010140                          SAVE    1                       ;SAVE LIST POINTER
010144  012703  006620          MOV     #OUTBUF,R3              ;POINT TO OUTLIST
010150  005037  002476          CLR     OUTNUM                  ;CLEAR BAD RESPONSE NUMBER POINTER
010154  005002                  CLR     R2                      ;INIT RESPONSE COUNTER

010156  023737  002402  002400  CMP     RSPCNT,LSTLGH           ;EXPECTED NUMBER OF RESPONSES?
010164  001407                  BEQ     1$                      ;IF YES

010166  013737  002400  002476  MOV     LSTLGH,OUTNUM           ;IF NOT, SET REPORT
010174                          ERRHRD  10010,E10010,PRBNUM

010204  011304          1$:     MOV     (R3),R4                 ;GET RCV RESPONSE ID
010206  116300  000005          MOVB    5(R3),R0                ;GET RCV STATUS

010212  012337  002322          MOV     (R3)+,BAD2              ;GET COMPLETE RESPONSE BEFORE
010216  012337  002324          MOV     (R3)+,BAD2+2            ;ANY REPORT
010222  012337  002326          MOV     (R3)+,BAD2+4
010226                          SAVE    3                       ;SAVE POINTER

010232  042704  177760          BIC     #177760,R4              ;KEEP FXX ONLY
010236  000241                  CLC
010240  006304                  ASL     R4                      ;ADJUST FOR WORD BOUNDARY
010242  016404  010554          MOV     RSPLST(R4),R4           ;POINT TO THE RIGHT FUNCTION TEST

010246  122700  000001          CMPB    #SUCCES,R0              ;THEN LOOK FOR THE RIGHT TEST
010252  001444                  BEQ     10$                     ;ACCORDING TO THE EXPECTED STATUS
010254  122700  000374          CMPB    #NXMEM,R0
010260  001440                  BEQ     9$
010262  122700  000373          CMPB    #BUFOVF,R0
010266  001434                  BEQ     8$
010270  122700  000372          CMPB    #FRMLER,R0
010274  001430                  BEQ     7$
```

```
2722 010276  122700  000371                CMPB    #OUTSEQ,R0
2723 010302  001424                        BEQ     6$
2724 010304  122700  000364                CMPB    #RXABO,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                  2$:   TST     (R4)+
2736 010344  005724                  3$:   TST     (R4)+
2737 010346  005724                  4$:   TST     (R4)+
2738 010350  005724                  5$:   TST     (R4)+
2739 010352  005724                  6$:   TST     (R4)+
2740 010354  005724                  7$:   TST     (R4)+
2741 010356  005724                  8$:   TST     (R4)+
2742 010360  005724                  9$:   TST     (R4)+
2743 010362  005724                  10$:  TST     (R4)            ;CHECK FOR ANY TEST TYPE?
2744 010364  005714                        BEQ     21$             ;IF NOT, REPORT ERROR
2745 010366  001442
2746
2747 010370  011404                        MOV     (R4),R4         ;GET TEST TYPE ADDRESS IN R4
2748 010372                                SAVE    4               ;SAVE IT
2749 010376                                GET     1               ;RESTORE EXPECTED LIST POINTER
2750 010402  005003                        CLR     R3
2751 010404  005000                        CLR     R0
2752
2753 010406  012137  002300          11$:  MOV     (R1)+,GOOD2     ;GET EXPECTED RESPONSE PARAMETERS
2754 010412  012137  002302                MOV     (R1)+,GOOD2+2
2755 010416  012137  002304                MOV     (R1)+,GOOD2+4
2756 010422  122760  000077  006574        CMPB    #77,RSPOKE(R0)  ;SEE IF THIS RESPONSE
2757                                                                ;NOT RECEIVED YET, IS IT?
2758 010430  001413                        BEQ     14$             ;IF NOT, GET IT
2759
2760 010432  105714                  12$:  TSTB    (R4)            ;IF YES, LOOK FOR BYTE TEST TERMINATOR?
2761 010434  100004                        BPL     13$             ;BRANCH IF IT IS NOT
2762 010436  112760  000077  006574        MOVB    #77,RSPOKE(R0)  ;RESPONSE CORRECT,  SET FLAG
2763 010444  000423                        BR      22$             ;THEN SELECT NEXT RESPONSE
2764
2765 010446  112403                  13$:  MOVB    (R4)+,R3        ;SET INDEX FOR BYTE TEST
2766 010450  126363  002300  002322        CMPB    GOOD2(R3),BAD2(R3)  ;IF YES, TEST IF THE SAME ?
2767 010456  001765                        BEQ     12$             ;IF YES, LOOP
2768
2769 010460                          14$:  GET     4               ;IF NOT, RESTORE TEST ADDRESS TYPE
2770 010464  005200                        INC     R0              ;UP-DATE CORRECT RESPONSE POINTER
2771 010466  020037  002400                CMP     R0,LSTLGH       ;ANY-MORE EXPECTED RESPONSES?
2772 010472  001345                        BNE     11$             ;IF YES
2773
2774                                ; UNEXPECTED RESPONSES, REPORT
2775
2776 010474                          21$:
2777 010474  010237  002476                MOV     R2,OUTNUM               ;GET RESPONSE NUMBER
2778 010500  005237  002476                INC     OUTNUM
```

```
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
2800                                    ; POSSIBLE RESPONSE POINTER LIST
2801
2802 010554  010614                    RSPLST: TSTF0                   ;DUMMY RESPONSE
2803 010556  010640                            TSTF1                   ;CONFIGURATE RESPONSE
2804 010560  010664                            TSTF2                   ;DECONFIGURATE RESPONSE
2805 010562  010710                            TSTF3                   ;DUMMY RESPONSE
2806 010564  010734                            TSTF4                   ;MODEM CHANGE
2807 010566  010760                            TSTF5                   ;XMIT BUFFER
2808 010570  011004                            TSTF6                   ;RCV BUFFER
2809 010572  011030                            TSTF7                   ;XMIT KILL
2810 010574  011124                            TSTF10                  ;RCV KILL
2811 010576  011150                            TSTF11                  ;DUMMY RESPONSE
2812 010600  011174                            TSTF12                  ;DUMMY RESPONSE
2813 010602  011220                            TSTF13                  ;DUMMY RESPONSE
2814 010604  011244                            TSTF14                  ;READ MODEM RESPONSE
2815 010606  011270                            TSTF15                  ;DUMMY RESPONSE
2816 010610  011314                            TSTF16                  ;ENABLE
2817 010612  011340                            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                            .BYTE   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
```

```
                        ;**
                        ; 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
                        ;
                        ;--

011374                  COMPAR: SAVE    34
011404  005037  002430          CLR     ERRCNT                  ;INIT ERROR COUNTER
011410  010137  002424          MOV     R1,XMTBUF               ;SAVE ADDRESSES
011414  010237  002426          MOV     R2,RCVBUF
011420  012704  002432          MOV     #BADLOC,R4              ;POINT TO ERROR TABLE
011424  013703  002346          MOV     LENGTH,R3               ;GET NUMBER OF BYTE

011430  121112                  1$:     CMPB    (R1),(R2)       ;THE SAME DATA?
011432  001010                  BNE     3$                      ;IF NOT

011434  005201                  2$:     INC     R1              ;NEXT LOCATION
011436  005202                  INC     R2
011440  077305                  SOB     R3,1$                   ;DEC R3 AND CONTINUE IF NOT NULL

011442  005737  002430          TST     ERRCNT                  ;ANY ERROR?
011446  001013                  BNE     4$                      ;YES, SET CARRY
011450  000241                  CLC                             ;NO, CLEAR CARRY
011452  000421                  BR      5$                      ;TERMINATE

011454  005237  002430          3$:     INC     ERRCNT          ;INC ERROR COUNT
011460  022737  000010  002430  CMP     #8.,ERRCNT              ;8 ERRORS ?
011466  103762                  BLO     2$                      ;YES, JUST LOOP

011470  010124                  MOV     R1,(R4)+                ;IF NOT, SAVE BAD ADDRESS
011472  010224                  MOV     R2,(R4)+
011474  000757                  BR      2$                      ;THEN LOOP BACK

011476                  4$:     ERRHRD  10011,E10011,PRBCOM     ;REPORT
011506                          WAIT    10000.
011514  000261                  SEC

011516                  5$:     GET     34
```

```
2912 011526  000207                    RETURN
```

```
2914
2915                                    ;++
2916                                    ; ROUTINE TO CLEAR A SPECIFIED BUFFER
2917                                    ;
2918                                    ;
2919                                    ; INPUTS: R1 BUFFER ADDRESS
2920                                    ;         LENGTH = NUMBER OF WORDS
2921                                    ;
2922                                    ; OUTPUTS: R1 DESTROYED
2923                                    ;
2924                                    ;--
2925
2926
2927 011530                            BUFCLR: SAVE    3
2928 011534  013703  002346                    MOV     LENGTH,R3               ;GET NUMBER OF WORDS
2929 011540  005021                     1$:    CLR     (R1)+                   ;CLEAR BUFFER
2930 011542  077302                            SOB     R3,1$                   ;DEC COUNTER AND CONTINUE IF NOT NULL
2931 011544                                    GET     3
2932 011550  000207                            RETURN
```

```
2934
2935                                    ;++
2936                                    ; ROUTINE TO COPY ONE BUFFER IN A SECOND ONE
2937                                    ;
2938                                    ; INPUTS: R1 SOURCE BUFFER ADDRESS
2939                                    ;         R2 DESTINATION BUFFER ADDRESS
2940                                    ;         LENGTH = BYTE COUNT
2941                                    ;
2942                                    ; OUTPUTS: R1,R2 DESTROYED
2943                                    ;
2944                                    ;--
2945
2946
2947 011552                            COPY:   SAVE    3
2948 011556  013703  002346                    MOV     LENGTH,R3               ;GET NUMBER OF BYTE
2949 011562  112122                    1$:     MOVB    (R1)+,(R2)+             ;COPY FROM SOURCE TO DESTINATION BUFFER
2950 011564  077302                            SOB     R3,1$                   ;DEC COUNTER AND CONTINUE IF NOT NULL
2951 011566                                    GET     3
2952 011572  000207                            RETURN
2953
```

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

011574                                  MODE0:  SAVE    1
011600  013705  002504                          MOV     KMVCSR,R5               ;GET CSR ADDRESS IN R5
011604  005065  000000                          CLR     SEL0(R5)                ;RESET SEL0
011610  012765  040000  000000                  MOV     #MCLR,SEL0(R5)          ;SET MODE 0 AND MCLR
011616  012701  000012                          MOV     #10.,R1                 ;SET WAIT OF 10 MS
011622                                  1$:
011622                                          WAIT    10.                     ;WAIT 1 MS
011630  032765  040000  000000                  BIT     #MCLR,SEL0(R5)          ;MCLR CLEARED?
011636  001417                                  BEQ     2$                      ;IF YES
011640  077110                                  SOB     R1,1$                   ;IF NOT, LOOP TILL TIME-OUT

011642  005037  002276                          CLR     GOOD0                   ;SET REPORT FOR TIME OUT
011646  016537  000000  002320                  MOV     SEL0(R5),BAD0
011654                                          ERRHRD  10000,E10000,PRSEL0     ;REPORT
011664                                          WAIT    10000.
011672  000261                                  SEC
011674  000401                                  BR      3$

011676  000241                          2$:     CLC
011700                                  3$:     GET     1

011704  000207                                  RETURN
```

```
3000
3001                                    ;++
3002                                    ; ROUTINE TO TEST IF LOOP BACK CONNECTOR PLUGGED
3003                                    ;
3004                                    ; INPUT: LCLOOP = LOOP FLAG, LOADED FROM P.TABLE
3005                                    ;
3006                                    ; OUTPUT: CARRY SET IF NOT INSERTED
3007                                    ;         CARRY CLEARED IF YES
3008                                    ;
3009                                    ; REPORT: ERROR 10012           LOOP CONNECTOR NOT INSTALLED
3010                                    ;
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                             1$:
3022 011736  000207                             RETURN
3023
```

```
3025
3026                                    ;++
3027                                    ; ROUTINE TO LOAD BUFFER WITH AND INCREMENTAL PATTERN
3028                                    ;
3029                                    ; INPUTS: R1 = BUFFER ADDRESS
3030                                    ;         LENGTH = BYTE COUNT
3031                                    ;
3032                                    ; OUTPUT: R1 DESTROYED
3033                                    ;
3034                                    ;--
3035
3036
3037 011740                            BUFLD:  SAVE    23
3038 011750  013702  002346                    MOV     LENGTH,R2               ;READ LENGTH
3039 011754  005003                            CLR     R3                      ;INIT PATTERN
3040 011756                            1$:
3041 011756  110321                            MOVB    R3,(R1)+                ;LOAD BYTE
3042 011760  005203                            INC     R3                      ;NEXT
3043 011762  077203                            SOB     R2,1$                   ;FOR ALL
3044
3045 011764                                    GET     23
3046 011774  000207                            RETURN
3047
3048
```

```
3050
3051                                    ;++
3052                                    ; ROUTINE TO INIT IN/OUT HANDSHAKING
3053                                    ;
3054                                    ; INPUTS: INTIN - POINTS TO THE FIRST VECTOR ADDRESS
3055                                    ;         PRILEV - POINT TO THE KMV DEVICE PRIORITY LEVEL
3056                                    ;
3057                                    ; OUTPUTS: RSPCNT,REQCNT AND ERRFLG ARE RESET
3058                                    ;          XX0 AND XX4 VECTORS ARE SET
3059                                    ;          HOST PRIORITY LEVEL = (PRILEV)-1
3060                                    ;          OUTLST POINTS TO TOP OF OUT BUFFER
3061                                    ;          IN/OUT INTERRUPT ENABLE BITS SET
3062                                    ;          ALL SAVE BUFFERS ARE CLEARED
3063                                    ;          XMIT BUFFERS ARE FELT WITH INCREMENTAL BYTES
3064                                    ;--
3065
3066
3067 011776  005037  002372          INIQIO: 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     #CSRLEN,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    BUFCLR
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  0C0300                  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
```

```
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                            ;         $RAM = KMV RAM LOAD ADDRESS
3115                            ;         APPFLG = SET WHEN CODE IS CORRECTLY LOADED
3116                            ;         S.LOAD = FLAG TO INDICATE LOAD(0) OR COMPARE(1)
3117                            ;         R5 = CSR BASE ADDRESS
3118                            ;
3119                            ;         USING OF R1 TO R4,
3120                            ;               R1 = TIME-OUT COUNTER
3121                            ;               R2 = WORD LOADING COUNTER
3122                            ;               R3 = RAM LOAD ADDRESS
3123                            ;               R4 = BUFFER ADDRESS
3124                            ;
3125                            ; OUTPUTS: APPFLG = 1 IF CORRECTLY LOADED
3126                            ;          CARRY SET IF ANY ERROR
3127                            ;
3128                            ; REPORT: ERROR 10002          WRITE FAILURE
3129                            ;         ERROR 10003          READ FAILURE
3130                            ;         ERROR 10004          DATA COMPARE ERROR
3131                            ;
3132                            ;--
3133
3134
3135
3136 012150                     LDAPPL: SAVE    1234
3137
3138                            ; WRITE PHASE
3139
3140 012170 005037 002412               CLR     S.LOAD                  ;0 FOR LOAD
3141 012174                     1$:
3142 012174 012704 030306               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                     2$:
3146 012210 005737 002412               TST     S.LOAD                  ;IS IT A LOAD?
3147 012214 001004                      BNE     10$                     ;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$:    WAIT    10000.
3181 012326  000261                          SEC                             ;SET CARRY IF ERROR
3182 012330  000403                          BR      50$                     ;THEN EXIT
3183
3184 012332  000241                  40$:    CLC
3185 012334  005237  002414                  INC     APPFLG                  ;IF OKE, SET FLAG FOR LOADED
3186 012340                          50$:
3187 012340                                  GET     1234
3188 012360  000207                          RETURN
3189
```

```
                        ;++
                        ; 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
                        ;
                        ;--


012362                  REVCHK: SAVE    1234

012402 012703 160002            MOV     @ECONB,R3               ;INIT R3

012406 004737 007400            CALL    RDATA                   ;READ DATA
012412 103441                   BCS     30$

012414 016537 000006 002326     MOV     SEL6(R5),BAD6           ;GET SEL6
012422 023737 002326 007126     CMP     BAD6,GDREV              ;THE SAME LEVEL?
012430 001437                   BEQ     40$                     ;IF YES

012432                          ERRHRD  10008,E10008,PRBECO     ;IF NOT, REPORT

                        ; PRINT PART NUMBER

012442 012703 160004    1$:     MOV     @PARTNB,R3              ;INIT R3
012446 012704 002556            MOV     @PROMNB,R4              ;INIT R4
012452                  2$:
012452 004737 007400            CALL    RDATA                   ;READ CHR
012456 103417                   BCS     30$

012460 016524 000006            MOV     SEL6(R5),(R4)+          ;SAVE IT
012464 062703 000002            ADD     #2,R3                   ;NEXT ADDRESS
012470 020427 002572            CMP     R4,@PROMNB+12.          ;READ COMPLETE?
```

```
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
```

```
3262
3263                            ;**
3264                            ; ROUTINE TO START APPLICATION FIRMWARE
3265                            ;
3266                            ; DESCRIPTION: FIRST, TEST IS DONE TO SEE IF APPLICATION CODE
3267                            ;              CAN BE LOADED. IF YES, THE CODE IS LOADED.
3268                            ;              THEN, THE PROGRAM IS STARTED.
3269                            ;
3270                            ; INPUTS: APPFLG INDICATES IF APPLICATION CODE LOADED(1) OR NOT(0)
3271                            ;         #START POINT TO THE FIRMWARE START ADDRESS
3272                            ;         R5 = KMV CSR ADDRESS
3273                            ;
3274                            ; OUTPUTS: APPFLG CLEARED IF ANY ERROR DURING LOAD OR START
3275                            ;          CARRY SET IF ANY ERROR
3276                            ;
3277                            ; REPORTS: ERROR 10001          RUN FAILURE
3278                            ;          ERROR 10002          WRITE FAILURE
3279                            ;          ERROR 10003          READ FAILURE
3280                            ;          ERROR 10004          COMPARE FAILURE
3281                            ;          ERROR 10008          BAD PROM NUMBER
3282                            ;--
3283
3284
3285 012554  005737  002414     RUNAPP: TST     APPFLG                  ;CODE ALREADY LOADED?
3286 012560  001006                     BNE     1$                      ;YES, START IT
3287
3288 012562  004737  012362             CALL    REVCHK                  ;CHECK KMV PROM NUMBER
3289 012566  103434                     BCS     20$                     ;EXIT IF ERROR
3290
3291 012570  004737  012150             CALL    LDAPPL                  ;NOT, LOAD IT
3292 012574  103431                     BCS     20$                     ;EXIT IF LOAD ERROR
3293
3294 012576  012765  030306  000004  1$: MOV     #$START,SEL4(R5)        ;OKE, LOAD START ADDRESS
3295 012604  012765  100000  000000     MOV     #RUN,SEL0(R5)           ;START
3296 012612  012701  000012             MOV     #10.,R1                 ;SET TIME-OUT
3297 012616                         2$:
3298 012616                             WAIT    10.                     ;WAIT FOR 1 MS
3299 012624  032765  100400  000000     BIT     #RUN!ERR,SEL0(R5)       ;IS CORRECTLY STARTED?
3300 012632  001421                     BEQ     30$                     ;YES, EXIT
3301 012634  077110                     SOB     R1,2$                   ;NOT, LOOP TILL TIME-OUT
3302
3303 012636  005037  002276             CLR     GOODO                   ;SET REPORT
3304 012642  013537  000000  002320     MOV     SEL0(R5),BAD0
3305 012650                             ERRHRD  10001,E10001,PRSEL0     ;IF TIME-OUT
3306 012660                         20$:
3307 012660  005037  002414             CLR     APPFLG                  ;CLEAR FLAG
3308 012664                             WAIT    10000.
3309 012672  000261                     SEC
3310 012674  000207                     RETURN
3311
3312 012676                         30$:
3313 012676                             WAIT    100.                    ;WAIT FOR FIRWARE INIT.
3314 012704  000241                     CLC
3315 012706  000207                     RETURN
3316
```

```
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 COMMMAND 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 = KMV CSR ADDRESS
3338                            ;         INLIST POINT TO THE CURRENT COMMAND TO INPUT
3339                            ;         REQCNT INDICATES THE NUMBER OF INPUT STILL TO DO
3340                            ;         TMOUT 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$:     TST     REQCNT                  ;ANY MORE COMMAND?
3362 012760  001003                     BNE     3$                      ;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     INLST,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,INLST                ;SAVE NEW POINTER
3373
3374 013012  005337  002372             DEC     REQCNT                  ;NEXT COMMAND?
```

```
3375 013016  001003                        BNE     20$                     ;ANY-MORE COMMAND, DON'T CLEAR RQI
3376 013020  042765  000200  000000        BIC     #RQI,SEL0(R5)           ;NO-MORE COMMAND, CLEAR RQI
3377
3378 013026                        20$:
3379 013026  010265  000002                MOV     R2,SEL2(R5)             ;SET SEL2 WITH COMMAND NUMBER
3380
3381 013032                        30$:
3382 013032  013704  002404                MOV     TMOUT,R4                ;INIT AGAIN TIME-OUT
3383 013036  012602                        MOV     (SP)+,R2                ;RSTORE R1,R2
3384 013040  012601                        MOV     (SP)+,R1
3385 013042  000002                        RTI
3386
```

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

013044  010146          ITOUT:  MOV     R1,-(SP)                ;SAVE R1

013046  032765  000020  000000          BIT     #IE0,SEL0(R5)           ;INT. ENABLE?
013054  001404                  BEQ     1$                      ;NOT, SET ERROR
013056  032765  000200  000002          BIT     #RDYO,SEL2(R5)          ;IS RDYO SET?
013064  001004                  BNE     2$                      ;YES, SAVE
013066  052737  000001  002370  1$:     BIS     #BIT0,ERRFLG            ;NOT, SET ERROR
013074  000423                  BR      30$                     ;THEN EXIT

013076  022737  000024  002402  2$:     CMP     #20.,RSPCNT             ;OUTBUF FULL?
013104  001417                  BEQ     30$                     ;YES,TERMINATE
013106  013701  002410                  MOV     OUTLST,R1               ;POINT TO FREE BUFFER
013112  016521  000002                  MOV     SEL2(R5),(R1)+          ;SAVE SEL2 TILL SEL6
013116  016521  000004                  MOV     SEL4(R5),(R1)+
013122  016521  000006                  MOV     SEL6(R5),(R1)+

013126  010137  002410                  MOV     R1,OUTLST               ;POINT TO NEXT FREE BUFFER
013132  005237  002402                  INC     RSPCNT                  ;ONE RESPONSE MORE
013136  042765  000200  000002          BIC     #RDYO,SEL2(R5)          ;CLEAR RDYO

013144  013704  002404          30$:    MOV     TMOUT,R4                ;INIT AGAIN TIME-OUT
013150  012601                  MOV     (SP)+,R1                ;RESTORE R1
013152  000002                  RTI
```

```
3438
3439                            ;++
3440                            ; ROUTINE TO PROCESS QIO WITH INTERRUPTS
3441                            ;
3442                            ; DESCRIPTION:  BEGIN
3443                            ;               SET POINTERS
3444                            ;               SET RQI
3445                            ;               INIT INTERRUPT WATCH DOG
3446                            ;               REPEAT
3447                            ;                       WAIT FOR 500MICROS
3448                            ;                       IF ERRFLG SET
3449                            ;                               THEN REPORT ERROR
3450                            ;                       IF REQCNT & RSPCNT = 0
3451                            ;                               THEN END
3452                            ;               UNTIL WATCH DOG DONE
3453                            ;               IF WATCH DOG DONE
3454                            ;                       THEN REPORT ERROR
3455                            ;               END
3456                            ;
3457                            ; INPUTS: R5 = KMV CSR ADDRESS
3458                            ;         ERRFLG INDICATES IN IT ERROR(BIT2) OR/AND OUT IT ERROR(BIT0)
3459                            ;         R1 POINTS TO A TABLE WHICH CONTENTS:
3460                            ;         REQCNT COMMAND BASE ADDRESS
3461                            ;         TIME-OUT LENGTH
3462                            ;
3463                            ; OUTPUTS: CARRY SET IF ANY ERRROR
3464                            ;
3465                            ; REPORTS: ERROR 10005          UN-EXPECTED IN IT
3466                            ;          ERROR 10006          UN-EXPECTED OUT IT
3467                            ;          ERROR 10007          NO MORE IN/OUT IT WHILE QIO ARE PENDING
3468                            ;
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$:
3480 013204                              WAIT    10.                     ;WAIT FOR 1 MS
3481 013212  005737  002370              TST     ERRFLG                  ;ANY ERROR?
3482 013216  001011                      BNE     10$                     ;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                              ERRHRD  10007,E10007,PRQION     ;REPORT
3489 013240  000437                      BR      20$                     ;SET CARRY AND EXIT
3490
3491 013242  016537  000000  002320  10$:    MOV     SEL0(R5),BAD0           ;SET BAD0
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
```

```
3495 013272  04_765  000221  000000          BIC     @RQI!IEI!IEO,SEL0(R5)   ;CLEAR RQI
3496 013300  032737  000001  002370          BIT     @BIT0,ERRFLG            ;OUT IT ERROR?
3497 013306  001404                          BEQ     11$                     ;NOT
3498 013310                                  ERRHRD  10006,E10006,PRSTAT     ;YES, REPORT
3499
3500 013320  032737  000004  002370  11$:    BIT     @BIT2,ERRFLG            ;IN IT ERROR?
3501 013326  001404                          BEQ     20$                     ;NOT, EXIT
3502 013330                                  ERRHRD  10005,E10005,PRSTAT     ;YES, REPORT
3503 013340                          20$:    WAIT    10000.
3504 013346  000261                          SEC
3505 013350  000207                          RETURN
3506
3507 013352                          30$:
3508 013352  000241                          CLC
3509 013354  000207                          RETURN
3510
```

```
3512
3513                                    ;++
3514                                    ; ROUTINE TO DROP UNIT AFTER 5 ERRORS
3515                                    ;
3516                                    ; BEFORE DROPPING, FLAGS ARE TESTED TO SEE IF 'LOOP ON ERROR' OR
3517                                    ; 'DROPPING INHIBITTED' ARE SET.
3518                                    ;
3519                                    ; INPUT: ERCNTR = NUMBER OF ERRORS
3520                                    ;        MAXERR = MAXIMUM NUMBER OF ERROR
3521                                    ;
3522                                    ; OUTPUT: NONE
3523                                    ;
3524                                    ;--
3525
3526
3527 013356                            CHKMAX: INLOOP                          ;LOOP ON ERROR?
3528 013360                                    BCOMPLETE       2$              ;IF YES, EXIT
3529
3530 013362  012700  100000                    MOV     #100000,R0              ;TAKE A BREAK
3531 013366  077001                    1$:     SOB     R0,1$
3532
3533 013370                                    RFLAGS  R0                      ;READ OPERATOR FLAG
3534 013372  032700  000040                    BIT     #IDU,R0                 ;DROPPING INHIBITTED?
3535 013376  001026                            BNE     2$                      ;IF YES, EXIT
3536
3537 013400  005237  002264                    INC     ERCNTR                  ;UPDATE ERROR COUNTER
3538 013404  023737  002262  002264            CMP     MAXERR,ERCNTR           ;TOO MANY ERRORS?
3539 013412  003020                            BGT     2$                      ;IF NOT, EXIT
3540
3541 013414                                    PRINTF  #MERR,MAXERR,LOGDEV     ;IF YES, REPORT
3542 013444                                    DODU    LOGDEV                  ;THEN DROP UNIT
3543
3544 013452                                    DOCLN                           ;END THE SUBPASS
3545
3546 013454  000207                    2$:     RETURN
3547
3548
3549 013456     045     116     045    MERR:   .ASCIZ  /%N%A MORE THAN %D3%A  ERRORS ON UNIT %D2%N/
3550                                            .EVEN
3551
```

```
3553
3554
3555
3556                            ;++
3557                            ; ROUTINE TO PRINT TEST NUMBER
3558                            ;
3559                            ; DESCRIPTION: NONE
3560                            ;
3561                            ; CALLING SEQUENCE: BADHEAD
3562                            ;
3563                            ; INPUTS: L$TEST=TEST NUMBER
3564                            ;
3565                            ; OUTPUTS: NONE
3566                            ;
3567                            ; CAUTION: NONE
3568                            ;--
3569
3570
3571
3572                                    .MACRO  ED$CALL XY
3573                                            .LIST
3574                            ;                       ** TEST'XY' **
3575                                            .NLIST
3576                                    .ENDM
3577
3578
3579
3580                                    .MACRO  BADHEAD
3581                                            .RADIX  10
3582                                            ED$CALL \T$TESTNUM1+1
3583                                            .RADIX  8
3584                                    .ENDM
3585
3586
```

```
                                .SBTTL  GLOBAL ERROR REPORT SECTION

                                ;////////////////////////////////////////////////////////////////////////////////
                                ;/       ERROR MESSAGE SECTION
                                ;////////////////////////////////////////////////////////////////////////////////
                                .NLIST BEX

013532  045  116  045  MRDEXP: .ASCIZ  /%N%A            READ    EXPECTED/
013572  045  116  045  MSEL0:  .ASCIZ  /%N%A   SEL0     %O6%A   %O6%N/
013626  045  116  045  MSEL2:  .ASCIZ  /%N%A   SEL2     %O6%A   %O6/
013660  045  116  045  MSEL4:  .ASCIZ  /%N%A   SEL4     %O6%A   %O6/
013712  045  116  045  MSEL6:  .ASCIZ  /%N%A   SEL6     %O6%A   %O6%N/
013746  045  116  045  MSEL10: .ASCIZ  /%N%A   SEL10    %O6%A   %O6%N/
014002  045  116  045  MSEL12: .ASCIZ  /%N%A   SEL12    %O6%A   %O6%N/
014036  045  116  045  MSEL14: .ASCIZ  /%N%A   SEL14    %O6%A   %O6%N/
014072  045  116  045  MSEL16: .ASCIZ  /%N%A   SEL16    %O6%A   %O6%N/

014126  045  116  045  MECO:   .ASCII  /%N%A   OBTAINED ECO LEVEL = %O6/
014165  045  116  045          .ASCIZ  /%N%A   EXPECTED ONE       = %O6%N/

014227  045  116  045  MSEL:   .ASCIZ  /%N%A   SEL%O2%A = %O6%A         EXPECTED VALUE = %O6%N/

014315  045  116  045  MQIO:   .ASCII  /%N%A   NUMBER OF PENDING INPUTS = %D2/
014362  045  116  045          .ASCIZ  /%N%A   NUMBER OF RESPONSES = %D2%N/

014425  045  116  045  MBNUM1: .ASCII  /%N%A   EXPECTED NUMBER OF RESPONSES = %D2/
014474  045  116  045          .ASCIZ  /%N%A   NUMBER OF RESPONSES RECEIVED = %D2%N/

014546  045  116  045  MCSR0:  .ASCII  /%N%A   SEL0  READ = %O6/
014575  045  116  045  MCSR2:  .ASCIZ  /%N%A   SEL2  READ = %O6/
014625  045  116  045  MCSR1:  .ASCII  /%N%A   SEL4  READ = %O6/
014654  045  116  045          .ASCIZ  /%N%A   SEL6  READ = %O6%N/

014706  045  116  045  MQION:  .ASCIZ  /%N%A   UNEXPECTED QIO RESPONSE NUMBER = %D2%N/

014764  045  116  045  MDAT0:  .ASCIZ  /%N%A   ADDRESS         READ            EXPECTED/
015044  045  116  045  MDAT1:  .ASCIZ  /%N%A   %O6%A          %O6%A          %O6%N/

015117  045  116  045  MBBUF0: .ASCII  /%N%A TRANSMIT BUFFER ADDRESS : %O6/
015161  045  116  045          .ASCIZ  /%N%A RECEIVE BUFFER ADDRESS  : %O6/
015224  045  116  045  MBBUF1: .ASCII  /%N%A RECORD SIZE              : %D3/
015266  045  116  045          .ASCIZ  /%N%A BYTES IN ERROR          : %D3%N/
015333  045  116  045  CDBFER: .ASCIZ  /%N%A                        ADDRESS         DATA%N/

015411  045  116  045  MXMTER: .ASCIZ  /%N%A TRANSMIT BUF:     %O6%A          %O3/
015463  045  116  045  MRCVER: .ASCIZ  /%N%A RECEIVE  BUF:     %O6%A          %O3%N/

015537  045  116  045  TFM36:  .ASCIZ  /%N%A  ADDRESS = %O6%A       UNIT = %O2%N/

015610  113  115  126  E10000: .ASCIZ  /KMV11 FAILS TO RESET MASTER CLEAR/
015652  122  125  116  E10001: .ASCIZ  /RUN FUNCTION NOT CORRECTLY PERFORMED IN APPL. MODE/
015735  127  122  111  E10002: .ASCIZ  /WRITE FUNCTION NOT CORRECTLY PERFORMED IN APPL. MODE/
016022  122  105  101  E10003: .ASCIZ  /READ FUNCTION NOT CORRECTLY PERFORMED IN APPLIC.MODE/
016106  104  101  124  E10004: .ASCIZ  /DATA COMPARE ERROR DURING APPLICATION CODE LOADING/
016171  125  116  105  E10005: .ASCIZ  /UNEXPECTED INTERRUPT IN/
016221  125  116  105  E10006: .ASCIZ  /UNEXPECTED INTERRUPT OUT/
016252  116  117  040  E10007: .ASCIZ  /NO MORE INPUT INTERRUPTS WHILE INPUTS ARE PENDING/
```

```
3645 016334  125  116  105  E10006: .ASCIZ  /UNEXPECTED EPROM'S ECO LEVEL/
3646 016371  125  116  105  E10009: .ASCIZ  /UNEXPECTED QIO RESPONSE/
3647 016421  125  116  105  E10010: .ASCIZ  /UNEXPECTED NUMBER OF RESPONSES RECEIVED/
3648 016471  125  116  105  E10011: .ASCIZ  /UNEXPECTED DATA RECEIVED/
3649 016522  124  110  111  E10012: .ASCIZ  /THIS TEST IS SKIPPED BECAUSE THERE IS NO EXTERNAL LOOP/
3650
3651 016611  124  111  115  E00000: .ASCIZ  /TIME-OUT TRAP ON REFERENCING Q-BUS DEVICE REGISTER/
3652 016674  124  110  105  E00001: .ASCIZ  /THE KMV11-A FAILS TO RUN THE SELF TEST/
3653 016743  122  104  131  E00002: .ASCIZ  /RDYI NOT ASSERTED BY THE KMV AFTER AN INPUT REQUEST/
3654 017027  122  104  131  E00003: .ASCIZ  /RDYO NOT ASSERTED BY THE KMV IN RESPONSE TO A VALID COMMAND/
3655 017123  125  116  105  E00004: .ASCIZ  /UNEXPECTED INTERRUPT WHEN IEI AND IEO CLEARED/
3656                        .EVEN
```

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

                                ;++
                                ; ERROR REPORT FOR  KMV11 CSR TEST
                                ;--

017202                          BGNMSG  BADAD
017202                                  PRINTB  #TEM36,BADLOC,UNIT
017232  004737  013356                  CALL    CHKMAX
017236                          ENDMSG

017240                          BGNMSG  PRSEL0
017240                                  PRINTB  #MRDEXP
017260                                  PRINTB  #MSEL0,BAD0,GOOD0
017310  004737  013356                  CALL    CHKMAX
017314                          ENDMSG

017316                          BGNMSG  PRBEC0
017316                                  PRINTB  #MEC0,BAD6,GDREV
017346  004737  013356                  CALL    CHKMAX
017352                          ENDMSG

017354                          BGNMSG  PRDAT
017354                                  PRINTB  #MDAT0
017374                                  PRINTB  #MDAT1,BADLOC,BAD6,GOOD6
017430  004737  013356                  CALL    CHKMAX
017434                          ENDMSG

017436                          BGNMSG  PRSTAT
017436                                  PRINTB  #MCSR0,BAD0,BAD2
017466                                  PRINTB  #MCSR1,BAD4,BAD6
017516                                  PRINTB  #MQIO,REQCNT,RSPCNT
017546  004737  013356                  CALL    CHKMAX
017552                          ENDMSG

017554                          BGNMSG  PRSEL
017554                                  PRINTB  #MSEL,SELNUM,BAD,GOOD
017610  004737  013356                  CALL    CHKMAX
017614                          ENDMSG

017616                          BGNMSG  PRQION
017616                                  PRINTB  #MQIO,REQCNT,RSPCNT
017646  004737  013356                  CALL    CHKMAX
017652                          ENDMSG

017654                          BGNMSG  PRBQIO
017654                                  PRINTB  #MQION,OUTNUM
017700                                  PRINTB  #MRDEXP
017720                                  PRINTB  #MSEL2,BAD2,GOOD2
017750                                  PRINTB  #MSEL4,BAD4,GOOD4
020000                                  PRINTB  #MSEL6,BAD6,GOOD6
020030  004737  013356                  CALL    CHKMAX
020034                          ENDMSG
```

```
3715 020036                                BGNMSG  PBRSP
3716 020036                                        PRINTB  #MQION,OUTNUM
3717 020062                                        PRINTB  #MCSR2,BAD2
3718 020106                                        PRINTB  #MCSR1,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  #MBBUF0,XMTBUF,RCVBUF
3728 020214                                        PRINTB  #MBBUF1,LENGTH,ERRCNT
3729 020244                                        PRINTB  #COBFER
3730
3731 020264  012702  000010                        MOV     #8.,R2
3732 020270                                1$:
3733 020270  012337  002420                        MOV     (R3)+,XMTADD
3734 020274  012337  002422                        MOV     (R3)+,RCVADD
3735 020300  117737  162114  002274                MOVB    @XMTADD,GOOD
3736 020306  117737  162110  002316                MOVB    @RCVADD,BAD
3737 020314                                        PRINTB  #MXMTER,XMTADD,GOOD
3738 020344                                        PRINTB  #MRCVER,RCVADD,BAD
3739 020374  005304                                DEC     R4
3740 020376  001401                                BEQ     2$
3741 020400  077245                                SOB     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
```

```
3750                                    .SBTTL  REPORT CODING SECTION
3751
3752                                    ;++
3753                                    ; THE REPORT CODING SECTION CONTAINS THE
3754                                    ; "PRINTS" CALLS THAT GENERATE STATISTICAL REPORTS.
3755                                    ;--
3756
3757 020446                                     BGNRPT
3758
3759 020446                                     EXIT    RPT
3760
3761 020452                                     ENDRPT
3762
```

```
                                .SBTTL  INITIALIZE SECTION

                                ;++
                                ; THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
                                ; AT THE BEGINNING OF EACH PASS.
                                ;--

020454                                  BGNINIT



                                        .EVEN

020454                                  SETVEC  #140,#170000,#340       ;ODT ROM ADDRESS                ;JB REV A-0

020502  012705  007330                  MOV     #SSTACK,R5              ;INITIALIZE STACK
020506  010637  002250                  MOV     SP,PSTACK               ;STORE STACK POINTER

020512  005037  002414                  CLR     APPFLG                  ;CLEAR FLAG TO REQUEST LOAD OF THE
                                                                        ;APPLICATION FIRMWARE

020516  005737  002256                  TST     FTIME                   ;IS THE FIRST PASS?
020522  001011                          BNE     1$                      ;IF NOT
020524  013737  000004  002252          MOV     @#4,SAVE4               ;SAVE TIME-OUT TRAP VECTOR IF YES
020532  013737  000006  002254          MOV     @#6,SAVE6
020540  012737  000001  002256          MOV     #1,FTIME                ;THEN SET FIRST PASS FLAG

020546  013737  002252  000004  1$:     MOV     SAVE4,@#4               ;RESTORE TRAP VECTOR
020554  013737  002254  000006          MOV     SAVE6,@#6

                                ;SEE IF PROGRAM JUST STARTED, BR IF YES
020562                                  READEF  #EF.START
020570                                  BCOMPLETE       SETUP

                                ;SEE IF PROGRAM WAS JUST CONTINUED
020572                                  READEF  #EF.CONTINUE
020600                                  BCOMPLETE       END

                                ;SEE IF THIS IS A NEW PASS, BR IF NOT
020602                                  READEF  #EF.NEW
020610                                  BNCOMPLETE      NEXT

020612                          SETUP:
020612  012737  177777  002522          MOV     #-1,UUT                 ;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,LUNIT
3851 020632  001443                               BEQ     ABORT                   ;YES ABORT THE PASS
3852
3853 020634  013701  002522                       MOV     UUT,R1
3854 020640                                       PRINTF  #RUNNING,R1
3855                                              .EVEN
3856                                       ;      PRINTF  #RMARK0                                 ;JB REV A-0
3857                                       ;      .EVEN                                           ;JB REV A-0
3858                                       ;      PRINTF  #RMARK1                                 ;JB REV A-0
3859                                       ;      .EVEN                                           ;JB REV A-0
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                           ;CLEAN UP THEN ABORT PASS
3888 020744                                       EXIT    INIT
3889
3890 020750  000472                        END:   BR      END1
3891 020752     045     116     045       RUNNING:       .ASCIZ  /#N#A RUNNING ON UNIT #O2#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                                              .EVEN
3895
3896
3897 021136                                END1:  ENDINIT
3898
```

```
                                .SBTTL  AUTODROP SECTION

                                ;++
                                ; THIS CODE IS EXECUTED IMMEDIATELY AFTER THE INITIALIZE CODE IF
                                ; THE "ADR" FLAG WAS SET.  THE UNIT(S) UNDER TEST ARE CHECKED TO
                                ; SEE IF THEY WILL RESPOND.  THOSE THAT DON'T ARE IMMEDIATELY
                                ; DROPPED FROM TESTING.
                                ;--
                                .EVEN
021140                                  BGNAUTO


                                ;DEVICE DOES NOT HAVE A "READY"

021140  013701  002504                  MOV     KMVCSR,R1       ;R1 CONTAINS BASE KMV11 ADDRESS
021144  012705  000010                  MOV     #CSRLEN,R5      ;NUMBER OF REGISTERS TO BE TESTED
021150  012737  021200  000004          MOV     #2$,4           ;SET OUT TIMEOUT TRAP
                        ;               MOV     #340,6          ;LEVEL 7                        ;JB REV A-0
021156  012737  000300  000006          MOV     #300,6          ;LEVEL 6                        ;JB REV A-0
021164  005711                1$:       TST     (R1)            ;REFERENCE DEVICE REGISTERS
021166  000240                          NOP
021170  062701  000002                  ADD     #2,R1           ;NEXT REGISTER
021174  077505                          SOB     R5,1$           ;LOOP TILL ALL ADDRESSED
021176  000405                          BR      3$

021200  062706  000004          2$:     ADD     #4,SP
021204                                  DODU    LOGDEV

021212  013737  002252  000004  3$:     MOV     SAVE4,4
021220  013737  002254  000006          MOV     SAVE6,6
021226                                  ENDAUTO
```

```
                        .SBTTL  CLEANUP CODING SECTION

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

021230                          BGNCLN



021230                          BRESET

021232                          ENDCLN
```

```
                                .SBTTL  DROP UNIT SECTION

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

021234                                  BGNDU


                                        PRINTF  @MDROP,R0               ;UNIT DROPPED
021256                                  EXIT    DU

021262  045  116  045  MDROP:   .ASCIZ  /$N$A UNIT $D2$A DROPPED$N/
                                .EVEN


021314                                  ENDDU
```

```
                        .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.
                        ;//////////////////////////////////////////////////////////////////////////////




021316                          BGNAU
021316                          ENDAU
```

```
                                ;                               ** TEST1 **
                                ; VERIFY THAT THE KMV11-A CAN BE RESTARTED
                                ;
                                ;       FIRST, VERIFY THAT REFERENCING Q-BUS DEVICE DOESN'T
                                ;       CAUSE A TIME OUT TRAP
                                ;       THEN, SELO IS LOADED FOR APPLICATION MODE
                                ;
                                ; MODE:         APPLICATION MODE
                                ;
                                ; REPORTS:      ERROR 10000     KMV11 FAILS TO RESET MASTER CLEAR
                                BADHEAD
                                ;                               ** TEST1 **

                                BGNTST
                                        MOV     KMVCSR,R1       ;R1 CONTAINS BASE KMV11 ADDRESS
                                        MOV     #2$,4           ;SET OUT TIMEOUT TRAP
                                ;       MOV     #340,6          ;LEVEL 7                        ;JB REV A-0
                                        MOV     #300,6          ;LEVEL 6                        ;JB REV A-0
                                1$:     TST     (R1)            ;REFERENCE DEVICE REGISTERS
                                        NOP
                                        BR      3$              ;IF ADDRESS EXISTS

                                2$:     ADD     #4,SP           ;ELSE, REPORT
                                        MOV     R1,BADLOC               ;ADDRESS LOCATION
                                        MOV     UUT,UNIT                ;UNIT NUMBER
                                        ERRHRD  0,E00000,BADAD          ;BUS TIMEOUT,ADDRESS PROBLEM
                                        MOV     SAVE4,4                 ;THEN RESTORE VECTOR AND EXIT
                                        MOV     SAVE6,6
                                        EXIT    TST

                                3$:     MOV     SAVE4,4
                                        MOV     SAVE6,6

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

                                        WAIT    10000.

                                ENDTST
```

```
4142 021444                         BADHEAD
                                    ;                       ** TEST2 **
4143                                ; SELF-TEST RUNNING TEST
4144                                ;
4145                                ; WHEN SELF TEST IS SELECTED, THIS TEST PERMITS TO SEE
4146                                ; IF THE KMV11-A CAN RUN IT BY ASSERTING RUN BIT IN THE SAME
4147                                ; TIME THAN MASTER CLEAR IN BSEL1(IN THIS CASE THE SELF TEST
4148                                ; RUNS ONE PASS ONLY.THEN, IF SELF TEST CORRECTLY RUNS, APPLICATION
4149                                ; MODE IS ACCESSED AND BSEL1 IS CLEARED.
4150                                ;
4151                                ; MODE:         APPLICATION MODE
4152                                ;
4153                                ; REPORTS:      ERROR 1         SELF TEST DIDNOT RUN CORRECTLY
4154                                ;               ERROR 10000     KMV11 FAILS TO RESET MASTER CLEAR
4155 021444                         BADHEAD
                                    ;                       ** TEST2 **
4156
4157 021444                          BGNTST
4158 021444  004737  011574                 CALL    MODE0                   ;SET APPLICATION MODE
4159 021450  103002                         BCC     1$                      ;IF NO ERROR, JUMP
4160
4161 021452                                 EXIT    TST                     ;ELSE, REPORT ERROR
4162
4163                                ; RUN SELF TEST
4164
4165 021456  005065  000000         1$:     CLR     SEL0(R5)                ;RESET SEL0
4166 021462  052765  140000  000000         BIS     #MCLR!RUN,SEL0(R5)      ;RUN IT
4167 021470  012701  000014                 MOV     #12.,R1                 ;INIT TIME OUT(20 S)
4168 021474                         2$:
4169 021474                                 WAIT    10000.                  ;WAIT FOR 1S
4170 021502  052765  140000  000000         BIT     #MCLR!RUN,SEL0(R5)      ;TEST FOR SEL0 CLEARED?
4171 021510  001412                         BEQ     3$                      ;IF YES
4172 021512  077110                         SOB     R1,2$                   ;IF NOT, LOOP TILL TIME-OUT
4173
4174 021514  005037  002276                 CLR     GOOD0
4175 021520  016537  000000  002320         MOV     SEL0(R5),BAD0
4176 021526                                 ERRHRD  1,E00001,PRSEL0         ;IF TIME OUT
4177
4178 021536                         3$:
4179 021536                                 WAIT    10000.
4180 021544                         ENDTST
```

```
4182 021546                         BADHEAD
                                    ;                       ** TEST3 **
4183                                ; TEST IF APPLICATION PROGRAM CAN BE LOADED AND STARTED
4184                                ;
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
                                    ;                       ** TEST3 **
4195
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 INTERRPUT 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$:     CALL    INIQIO                  ;INIT QIO PROCESSING
4245 021616  012704  000005               MOV     #5,R4                   ;SET WATCH DOG
4246 021622  012765  000200  000000       MOV     #RQI,SEL0(R5)           ;REQUEST CSR TRANSACTION
4247 021630                       3$:
4248 021630                               WAIT    100.                    ;WAIT FOR 1MS
4249 021636  032765  000020  000002       BIT     #RDYI,SEL2(R5)          ;IS RDYI SET BY KMV?
4250 021644  001020                       BNE     4$                      ;IF YES
4251 021646  077410                       SOB     R4,3$                   ;NOT, LOOP TILL TIME-OUT
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
```

```
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$:
4269 021742                                WAIT    100.                    ;WAIT 1MS
4270 021750  032765  00020C  000002        BIT     #RDYO,SEL2(R5)          ;IS RDYO SET BY KMV?
4271 021756  001020                        BNE     6$                      ;IF YES
4272 021760  077410                        SOB     R4,5$                   ;NOT, LOOP TILL TIME-OUT
4273
4274 021762  012737  000002  002416        MOV     #2,SELNUM               ;RDYO NEVER SET, REPORT
4275 021770  016537  000002  002316        MOV     SEL2(R5),BAD
4276 021776  012737  000200  002274        MOV     #RDYO,GOOD
4277 022004                                ERRHRD  3,E00003,PRSEL
4278 022014                                EXIT    TST
4279
4280 022020  016537  000002  006620  6$:   MOV     SEL2(R5),OUTBUF         ;RDYO SET, SAVE RESPONSE
4281 022026  016537  000004  006622        MOV     SEL4(R5),OUTBUF+2
4282 022034  016537  000006  006624        MOV     SEL6(R5),OUTBUF+4
4283 022042  005237  002402                INC     RSPCNT
4284
4285 022046  012701  022074                MOV     #8$,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                                ; COMMAND LIST
4292
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+RDYO,0,371*400               ;READ MODEM RESPONSE
4302
4303 022104                          9$:
4304 022104                          ENDTST
```

```
                                BADHEAD
                                ;                       ** TEST5 **
                                ; TEST THE CSR HANDSHAKING WITH INTERRUPTS
                                ;
                                ; COMMAND LOADED:       READ MODEM (F14)
                                ;
                                ; RESPONSE EXPECTED:    READ MODEM RESPONSE WITH :
                                ;                               STATUS = 371
                                ;                               MODEM  = ALL OFF
                                ;
                                ; REPORTS:      ERROR 10000     KMV11 FAILS TO RESET MASTER CLEAR
                                ;               ERROR 10001     RUN FUNCTION NOT CORRECTLY PERFORMED
                                ;               ERROR 10002     WRITE FUNCTION NOT CORRECTLY PERFORMED
                                ;               ERROR 10003     READ FUNCTION NOT CORRECTLY PERFORMED
                                ;               ERROR 10004     DATA COMPARE ERROR
                                ;               ERROR 10005     UNEXPECTED INTERRUPT IN
                                ;               ERROR 10006     UNEXPECTED INTERRPUT OUT
                                ;               ERROR 10007     NO MORE INTERRUPT WHEN QIO IS PENDING
                                ;               ERROR 10008     UNEXPECTED EPROM'S ON KMV11-A
                                ;               ERROR 10009     UNEXPECTED QIO RESPONSE
                                BADHEAD
                                ;                       ** TEST5 **

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

                                        EXIT    TST

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

                                        EXIT    TST

                                2$:     CALL    INIQIO                  ;INIT QIO PROCESSING

                                        MOV     #60$,R1                 ;TABLE ADDRESS IN R1
                                        CALL    QIOP                    ;PROCESS QIO
                                        BCC     5$                      ;IF CORRECTLY DONE

                                        EXIT    TST

                                ; PARAMETERS FOR QIO PROCESSING

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

                                ; COMMAND LIST

                                3$:
                                        1
                                        14,0,0                                  ;READ MODEM

                                ; RESPONSE LIST

                                4$:
```

```
4361 022170  000001                          1
4362 022172  000214  000000  174400          14*RDYO,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
```

```
                        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 INTERRPUT 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
004737  011574                  CALL    MODE0                   ;SET APPLICATION MODE
103430                          BCS     4$                      ;IF NOT CORRECTLY DONE

                        ; EMPTIED KMV POOL

013737  030742  002374          MOV     $RDBIN,TEMP             ;SAVE THIS LOCATION
013737  030704  002376          MOV     $CCBIN,TEMP+2           ;SAVE IT TOO
012737  000207  030742          MOV     #207,$RDBIN             ;SET RETURN INSTEAD OF IT
012737  000207  030704          MOV     #207,$CCBIN

005037  002414                  CLR     APPFLG                  ;CLEAR FLAG
004737  012554                  CALL    RUNAPP                  ;LOAD APPLI. CODE
103407                          BCS     4$                      ;EXIT IF ANY ERROR

004737  011776          3$:     CALL    INIQIO                  ;INIT QIO PROCESSING

012701  022302                  MOV     #60$,R1                 ;TABLE ADDRESS IN R1
004737  013154                  CALL    QIOP                    ;PROCESS QIO
103153                          BCC     7$                      ;IF CORRECTLY DONE

000556                  4$:     BR      8$                      ;EXIT

                        ; PARAMETERS FOR QIO PROCESSING

022306                  60$:    5$                              ;IN LIST TABLE BASE ADDRESS
001274                          700.                            ;TIME-OUT LENGTH(N*10 MS)

                        ; COMMAND LIST
```

```
4426
4427 022306                                    5$:
4428 022306  000020                                    16.
4429 022310  000000  000000  000000                    0,0,0          ;DUMMY
4430 022316  000001  000000  000000                    1,0,0          ;CONFIGURATE
4431 022324  000002  000000  000000                    2,0,0          ;DECONFIGURATE
4432 022332  000003  000000  000000                    3,0,0          ;DUMMY
4433 022340  000004  000000  000000                    4,0,0          ;DUMMY
4434 022346  000005  000000  000000                    5,0,0          ;XMIT BUFFER
4435 022354  000006  000000  000000                    6,0,0          ;RECEIVE BUFFER
4436 022362  000007  000000  000000                    7,0,0          ;XMIT KILL
4437 022370  000010  000000  000000                    10,0,0         ;RECEIVE KILL
4438 022376  000011  000000  000000                    11,0,0         ;DUMMY
4439 022404  000012  000000  000000                    12,0,0         ;DUMMY
4440 022412  000013  000000  000000                    13,0,0         ;DUMMY
4441 022420  000014  000000  000000                    14,0,0         ;READ MODEM
4442 022426  000015  000000  000000                    15,0,0         ;DUMMY
4443 022434  000016  000000  000000                    16,0,0         ;ENABLE MODEM SURVEY
4444 022442  000017  000000  000000                    17,0,0         ;DISABLE MODEM SURVEY
4445
4446                                           ; RESPONSE LIST
4447
4448 022450                                    6$:
4449 022450  000020                                    16.
4450 022452  000200  000000  167400                    0+RDYO,0,357+400                ;DUMMY
4451 022460  000201  000000  167400                    1+RDYO,0,357+400  ;KMV RESOURCE ERROR FOR F1
4452 022466  000202  000000  167400                    2+RDYO,0,357+400  ;KMV RESOURCE ERROR FOR F2
4453 022474  000203  000000  167400                    3+RDYO,0,357+400                ;DUMMY
4454 022502  000204  000000  167400                    4+RDYO,0,357+400                ;DUMMY
4455 022510  000205  000000  167400                    5+RDYO,0,357+400  ;KMV RESOURCE ERROR FOR F5
4456 022516  000206  000000  167400                    6+RDYO,0,357+400  ;KMV RESOURCE ERROR FOR F6
4457 022524  000207  000000  167400                    7+RDYO,0,357+400  ;KMV RESOURCE ERROR FOR F7
4458 022532  000210  000000  167400                    10+RDYO,0,357+400 ;KMV RESOURCE ERROR FOR F10
4459 022540  000211  000000  167400                    11+RDYO,0,357+400               ;DUMMY
4460 022546  000212  000000  167400                    12+RDYO,0,357+400               ;DUMMY
4461 022554  000213  000000  167400                    13+RDYO,0,357+400               ;DUMMY
4462 022562  000214  000000  167400                    14+RDYO,0,357+400 ;KMV RESOURCE ERROR FOR F14
4463 022570  000215  000000  167400                    15+RDYO,0,357+400               ;DUMMY
4464 022576  000216  000000  167400                    16+RDYO,0,357+400 ;KMV RESOURCE ERROR FOR F16
4465 022604  000217  000000  167400                    17+RDYO,0,357+400 ;KMV RESOURCE ERROR FOR F17
4466 022612  000000  000000  000000                    .WORD   0,0,0,0,0,0
4467
4468 022626                                    7$:
4469 022626  012701  022450                            MOV     #6$,R1          ;SAVE RESPONSE LIST ADDRESS
4470 022632  004737  010134                            CALL    CHKRSP          ;THEN CHECK RESPONSES
4471
4472
4473 022636  005037  002414                    8$:     CLR     APPFLG          ;TO LOAD AGAIN CODE
4474 022642  013737  002374  030742                    MOV     TEMP,$RDBIN     ;RESTORE INITIAL CONTENTS
4475 022650  013737  002376  030704                    MOV     TEMP+2,$CCBIN
4476
4477 022656                                    ENDTST
```

```
4479 022660                    BADHEAD
                               ;                          ** TEST7 **
4480                           ; TEST OF QIO PROCESSING AS BELOW:
4481                           ;
4482                           ; SUBTEST1 - STATE = S1          ALL THE COMMANDS EXCEPT F1 ARE PASSED
4483                           ;                                WHILE THE LINE IS NOT CONFIGURATED.
4484                           ;                                EXPECTED STATUS ARE:
4485                           ;                                 STATUS = 371 FOR F2,F5,F6,F7,F10,F14
4486                           ;                                        = 1   FOR F16,F17
4487                           ;                                        = NONE FOR DUMMY COMMANDS
4488                           ;
4489                           ; SUBTEST2 - ENTER COMMAND F16 TWICE
4490                           ;            ENTER COMMAND F1 TWICE FOR:
4491                           ;            SDLC PROTOCOL
4492                           ;            FULL MODEM CONTROL
4493                           ;            CLOCK SOURCE INTERNAL
4494                           ;            RATE = 2.4K
4495                           ;
4496                           ;            EXPECTED RESPONSES ARE:
4497                           ;               STATUS  = 363   FOR SECOND F16
4498                           ;                       = 363   FOR SECOND F1
4499                           ;                       = 1     FOR F16 WITH MODEM OFF
4500                           ;                       = 1     FOR F4 WITH S109 CHANGE
4501                           ;                       = 1     FOR F4 WITH S106 CHANGE
4502                           ;                       = 1     FOR F4 WITH S107 CHANGE
4503                           ;                       = 1     FOR F1
4504                           ;
4505                           ;            CURRENT STATE = S6
4506                           ;                    MODEM = ALL ON(EXCEPT S125 WHICH IS LOOPED ON
4507                           ;                                    THE TERMINAL IN SERVICE SIGNAL =OFF)
4508                           ;
4509                           ; SUBTEST3 - DECONFIGURATE THE LINE
4510                           ;            ENTER COMMAND F17 TWICE
4511                           ;            ENTER COMMAND F14 TWICE
4512                           ;            ENTER COMMAND F16 TWICE
4513                           ;            ENTER COMMAND F1
4514                           ;              "       "    F2  TWICE
4515                           ;              "       "    F1
4516                           ;
4517                           ;            EXPECTED RESPONSES ARE:
4518                           ;                STATUS = 363 FOR F17
4519                           ;                       = 363 FOR F16
4520                           ;                       = 371 FOR F1
4521                           ;                       = 1 FOR F17
4522                           ;                       = 363 FOR F2
4523                           ;                       = 350 FOR F1
4524                           ;                       = 1 FOR F14 WITH STATE=S6 AND S142+S112+S109+S106
4525                           ;                                                  +S107 ON
4526                           ;                       = 1 FOR F16 WITH THE SAME PARAMETERS
4527                           ;                       = 1 FOR F4 WITH S106 & S109 CHANGE
4528                           ;                       = 1 FOR F4 WITH S107 CHANGE
4529                           ;                       = 1 FOR F2 COMPLETED
4530                           ;
4531                           ;            THEN CURRENT STATE = S1
4532                           ;                    MODEM = ALL OFF
4533                           ;
4534                           ; SUBTEST4 - TEST THAT WE ARE OFF LINE AGAIN
```

```
                        ;                       ENTER COMMAND F17       FOR STATUS = 1
                        ;                             F14       FOR STATUS = 371
                        ;
                        ; REPORTS:      ERROR 10000     KMV11 FAILS TO RESET MASTER CLEAR
                        ;               ERROR 10001     RUN FUNCTION NOT CORRECTLY PERFORMED
                        ;               ERROR 10002     WRITE FUNCTION NOT CORRECTLY PERFORMED
                        ;               ERROR 10003     READ FUNCTION NOT CORRECTLY PERFORMED
                        ;               ERROR 10004     DATA COMPARE ERROR
                        ;               ERROR 10005     UNEXPECTED INTERRUPT IN
                        ;               ERROR 10006     UNEXPECTED INTERRPUT 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
022660                  BADHEAD
                        ;                       ** TEST7 **

022660                  BGNTST
022660  004737  011574          CALL    MODEO                   ;SET APPLICATION MODE
022664  103406                  BCS     1$                      ;IF NOT CORRECTLY DONE

022666  004737  011706          CALL    LPBACK                  ;CHECK LOOP BACK
022672  103403                  BCS     1$                      ;IF NOT

022674  004737  012554          CALL    RUNAPP                  ;LOAD AND RUN APPLICATION
022700  103002                  BCC     2$                      ;IF CORRECTLY DONE

022702                  1$:     EXIT    TST

022706                  2$:
022706                  BGNSUB
022710  004737  011776          CALL    INIQIO                  ;INIT QIO PROCESSING

022714  012701  022732          MOV     #60$,R1                 ;TABLE ADDRESS IN R1
022720  004737  013154          CALL    QIOP                    ;PROCESS QIO
022724  103116                  BCC     5$                      ;IF CORRECTLY DONE

022726                          EXIT    SUB

                        ; PARAMETERS FOR QIO PROCESSING

022732  022736          60$:    3$                              ;IN LIST TABLE BASE ADDRESS
022734  000764                  500.                            ;TIME-OUT LENGTH(N*10 MS)

                        ; COMMAND LIST

022736                  3$:
022736  000016                  14.
022740  000014  000000  000000        14,0,0                          ;READ MODEM
022746  000016  000000  000000        16,0,0                          ;ENABLE MODEM SURVEY
022754  000017  000000  000000        17,0,0                          ;DISABLE MODEM SURVEY
022762  000002  000000  000000        2,0,0                           ;DECONFIGURATE
022770  000005  004574  000400        5,TXBUF0,#RDBS                  ;TRANSMIT BUFFER
022776  000006  002574  000400        6,RXBUF0,#RDBS                  ;RECEIVE BUFFER
023004  000007  000000  000000        7,0,0                           ;TRANSMIT ABORT
023012  000010  000000  000000        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$:
4601 023064  000010                          8.
4602 023066  000214  000000  174400          14*RDYO,0,371*400              ;F14 OUT OF SEQUENCE
4603 023074  000202  000000  174400          2*RDYO,0,371*400               ;F2 OUT OF SEQUENCE
4604 023102  000205  000000  174400          5*RDYO,0,371*400               ;F5 OUT OF SEQUENCE
4605 023110  000206  000000  174400          6*RDYO,0,371*400               ;F6 OUT OF SEQUENCE
4606 023116  000207  000000  174400          7*RDYO,0,371*400               ;F7 OUT OF SEQUENCE
4607 023124  000210  000000  174400          10*RDYO,0,371*400              ;F10 OUT OF SEQUENCE
4608 023132  000216  000000  000400          16*RDYO,0,1*400                ;CORRECT RESPONSE FOR F16
4609 023140  000217  000000  000400          17*RDYO,0,1*400                ;CORRECT RESPPONSE FOR F17
4610 023146  000000  000000  000000          .WORD   0,0,0,0,0,0
4611
4612 023162                          5$:
4613 023162  012701  023064                  MOV     #4$,R1                 ;SAVE RESPONSE LIST ADDRESS
4614 023166  004737  010134                  CALL    CHKRSP                 ;THEN CHECK RESPONSES
4615
4616 023172                          ENDSUB
4617
4618 023174                          BGNSUB
4619 023176  004737  011776                  CALL    INIQIO                 ;INIT QIO PROCESSING
4620
4621 023202  012701  023220                  MOV     #60$,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*RDYO,0,363*400              ;DOUBLE COMMAND FOR F16
4646 023266  000201  000000  171400          1*RDYO,0,363*400               ;DOUBLE COMMAND F1
4647 023274  000216  000000  000400          16*RDYO,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    CHKRSP                  ;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$:
4678 023410  000011                             9.
4679 023412  000017  000000  000000              17,0,0                      ;DISABLE MODEM SURVEY
4680 023420  000017  000000  000000              17,0,0                      ;DISABLE MODEM SURVEY
4681 023426  000014  000000  000000              14,0,0                      ;READ MODEM
4682 023434  006016  000000  000000              16+<<S107+S106>*400>,0,0            ;ENABLE MODEM SURVEY
4683 023442  006016  000000  000000              16+<<S107+S106>*400>,0,0            ;ENABLE MODEM SURVEY
4684 023450  000001  101440  000377              1,CLKDTE+C9600+DL0,377      ;CONFIGURATE
4685 023456  000002  000000  000000              2,0,0                       ;DECONFIGURATE
4686 023464  000002  000000  000000              2,0,0                       ;DECONFIGURATE
4687 023472  000001  101400  000000              1,CLKDTE+C9600,0            ;CONFIGURATE
4688
4689                                     ; RESPONSE LIST
4690
4691 023500                              4$:
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                          5$:
4708 023620  012701  023500                  MOV     #4$,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+RDYO,0,371+400                       ;OUT OF SEQ. FOR F14
4739 023710  000217  000000  171400          17+RDYO,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 **
4752                            ; TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 2.4K
4753                            ; WITH FULL MODEM CONTROL
4754                            ;
4755                            ; CONFIGURATE:  SDLC PROTOCOL
4756                            ;               FULL MODEM CONTROL
4757                            ;               WITHOUT ADDRESS SEARCH
4758                            ;               CLOCK SOURCE INTERNAL
4759                            ;               RATE = 2.4K
4760                            ;
4761                            ;               FOR EACH SUBTEST, A COMMAND F14 IS GIVEN FIRST TO CONTROL
4762                            ;               MODEMS AND THE LINE STATE, SUCH AS:
4763                            ;                       STATE = S6
4764                            ;                       MODEM = S142+S112+S109+S106+S107 ON
4765                            ;
4766                            ; SUBTEST1      - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
4767                            ;               OF 2 BUFFERS.
4768                            ;               THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
4769                            ;               XMIT BUFFERS ARE GIVEN ONE OF WHICH IS 1 BYTE LONG
4770                            ;               EXPECTED RESPONSES ARE:
4771                            ;                 STATUS = 360 FOR F6 THIRD BUFFER PASSED
4772                            ;                        = 372 FOR F5 1 BYTE LONG BUFFER
4773                            ;                        = 360 FOR F5 THIRD BUFFER PASSED
4774                            ;                        = 1   FOR F5 FIRST BUFFER XMITTED
4775                            ;                        = 1   FOR F6 FIRST BUFFER FELT
4776                            ;                        = 1   FOR F5 SECOND BUFFER XMITTED
4777                            ;                        = 1   FOR F6 SECOND BUFFER FELT
4778                            ;
4779                            ; SUBTEST2      - TEST OF BUFFER OVERFLOW STATUS 373 FOR RECEPTION
4780                            ;               A 32 BYTE LONG BUFFER IS AFFECTED FOR RECEIVE WHILE
4781                            ;               A 100 BYTE LONG BUFFER IS PASSED TO XMIT.
4782                            ;               EXPECTED RESPONSES ARE:
4783                            ;                 STATUS = 1   FOR F5 BUFFER XMITTED
4784                            ;                        = 373 FOR F6 BUFFER OVERFLOW
4785                            ;
4786                            ; SUBTEST3      - TEST OF NON EXISTENT MEMORY STATUS 374
4787                            ;               TWO RECEIVE BUFFER ARE AFFECTED ONE OF WHICH CONTAINS
4788                            ;               A NON EXISTENT ADDRESS
4789                            ;               TWO XMIT BUFFERS ARE PASSED ONE OF WHICH CONTAINS A NON
4790                            ;               EXISTENT ADDRESS
4791                            ;               EXPECTED RESPONSES ARE:
4792                            ;                 STATUS = 374 FOR F6 NON EXISTENT MEMORY BUFFER
4793                            ;                        = 1 FOR F5 COORRECT BUFFER
4794                            ;                        = 374 FOR F5 NON EXISTENT MEMORY BUFFER
4795                            ;                        = 364 FOR F6 RECEIVE ABORT
4796                            ;
4797                            ; SUBTEST4      - TEST OF ABORT RECEIVED STATUS 364 AND ACTION OF XMIT
4798                            ;               ABORT COMMAND.
4799                            ;               ONE RECEIVE BUFFER IS USED THEN, TWO XMIT BUFFERS
4800                            ;               ARE PASSED. AFTER A SHORT WAIT, XMIT ABORT IS GIVEN
4801                            ;               EXPECTED STATUS ARE:
4802                            ;                 STATUS  = 1 FOR F7 XMIT ABORTED
4803                            ;                         = 364 FOR F6 ABORT RECEIVED
4804                            ;
4805                            ; SUBTEST5      - TEST THE ACTION OF RECEIVE ABORT COMMAND.
4806                            ;               TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS
```

```
                        ;               ARE USED. AFTER A SHORT WAIT, RECEIVE ABORT IS GIVEN
                        ;               EXPECTED STATUS ARE:
                        ;                 STATUS = 1 FOR F10 RECEIVE ABORTED
                        ;                        = 1 FOR F5 FIRST BUFFER SENT
                        ;                        = 1 FOR F5 SECOND BUFFER SENT
                        ;
                        ; SUBTEST6      - TEST OF KMV OVERFLOW DURING XMIT/RECEIVE BUFFER
                        ;               ONE RECEIVE BUFFER IS USED,
                        ;               THEN TWO XMIT BUFFER ARE SENT, THE FIRST ONE TOO
                        ;               LONG.
                        ;               EXPECTED STATUS ARE:
                        ;                STATUS = 373 FOR FIRST F5
                        ;                       = 1 FOR SECOND F5
                        ;                       = 1 FOR F6
                        ;
                        ; SUBTEST7      - TEST OF A DECONFIGURATE DURING XMIT/RECEIVE BUFFER,
                        ;               TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS
                        ;               ARE PASSED. AFTER A SHORT WAIT, DECONFIGURATE COMMAND
                        ;               IS ISSUED. EXPECTED STATUS IS:
                        ;                 STATUS = 1 FOR F2 DECONFIGURATE DONE
                        ;                            AND ALL BUFFERS ARE KILLED
                        ;
                        ; PATTERN:      INCREMENTAL
                        ;               FOR EACH TEST WHERE A CORRECT BUFFER IS OBTAINED, THIS BUFFER
                        ;               IS COMPARED TO THE CORRESPONDING XMIT BUFFER
                        ;
                        ; REPORTS:      ERROR 10000     KMV11 FAILS TO RESET MASTER CLEAR
                        ;               ERROR 10001     RUN FUNCTION NOT CORRECTLY PERFORMED
                        ;               ERROR 10002     WRITE FUNCTION NOT CORRECTLY PERFORMED
                        ;               ERROR 10003     READ FUNCTION NOT CORRECTLY PERFORMED
                        ;               ERROR 10004     DATA COMPARE ERROR
                        ;               ERROR 10005     UNEXPECTED INTERRUPT IN
                        ;               ERROR 10006     UNEXPECTED INTERRPUT 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
023746                  BADHEAD
                        ;                               ** TEST8 **

023746                  BGNTST
023746  004737  011574          CALL    MODE0           ;SET APPLICATION MODE
023752  103406          BCS     1$                      ;IF NOT CORRECTLY DONE

023754  004737  011706          CALL    LPBACK          ;TEST OF LOOP
023760  103403          BCS     1$                      ;IF NOT

023762  004737  012554          CALL    RUNAPP          ;LOAD AND RUN APPLICATION
023766  103002          BCC     2$                      ;IF CORRECTLY DONE

023770                  1$:     EXIT    TST

023774  004737  011776  2$:     CALL    INIQIO          ;INIT QIO PROCESSING

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    CHKRSP                  ;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
                                ;                       ** TEST9 **
4958                            ; TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 2.4K
4959                            ; WITH DATA LEADS ONLY
4960                            ;
4961                            ; CONFIGURATE:  SDLC PROTOCOL
4962                            ;               DATA LEADS ONLY
4963                            ;               WITHOUT ADDRESS SEARCH
4964                            ;               CLOCK SOURCE INTERNAL
4965                            ;               RATE = 2.4K
4966                            ;
4967                            ;               FOR EACH SUBTEST A COMMAND F14 IS GIVEN FIRST TO CONTROL
4968                            ;               THE LINE STATE AND MODEM SUCH AS:
4969                            ;                       STATE = S6
4970                            ;                       MODEM = S142 ONLY
4971                            ;
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.
```

```
                        ;              TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS
                        ;              ARE PASSED. AFTER A SHORT WAIT, RECEIVE ABORT IS GIVEN
                        ;              EXPECTED STATUS ARE:
                        ;                STATUS = 1 FOR F10 RECEIVE ABORTED
                        ;                       = 1 FOR F5 FIRST BUFFER SENT
                        ;                       = 1 FOR F5 SECOND BUFFER SENT
                        ;
                        ; SUBTEST6      - TEST OF KMV RDB OVERFLOW DURING XMIT/RECEIVE BUFFER
                        ;              ONE RECEIVE BUFFER IS USED
                        ;              THEN TWO XMIT BUFFER ARE PASSED THE FIRST ONE TOO LONG
                        ;              EXPECTED STATUS ARE:
                        ;               STATUS = 373 FOR FIRST F5
                        ;                      = 1 FOR SECOND F5
                        ;                      = 1 FOR F6
                        ;
                        ; SUBTEST7      - TEST OF A DECONFIGURATE DURING XMIT/RECEIVE BUFFER,
                        ;              TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS
                        ;              ARE PASSED. AFTER A SHORT WAIT, DECONFIGURATE COMMAND
                        ;              IS USED. EXPECTED STATUS IS:
                        ;                STATUS = 1 FOR F2 DECONFIGURATE DONE
                        ;                           AND ALL BUFFERS ARE KILLED
                        ;
                        ; PATTERN:      INCREMENTAL
                        ;
                        ; REPORTS:      ERROR 10000     KMV11 FAILS TO RESET MASTER CLEAR
                        ;              ERROR 10001     RUN FUNCTION NOT CORRECTLY PERFORMED
                        ;              ERROR 10002     WRITE FUNCTION NOT CORRECTLY PERFORMED
                        ;              ERROR 10003     READ FUNCTION NOT CORRECTLY PERFORMED
                        ;              ERROR 10004     DATA COMPARE ERROR
                        ;              ERROR 10005     UNEXPECTED INTERRUPT IN
                        ;              ERROR 10006     UNEXPECTED INTERRPUT 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
024266                  BADHEAD
                        ;                                      ** TEST9 **

                        BGNTST
024266  004737  011574          CALL    MODE0                   ;SET APPLICATION MODE
024272  103406                  BCS     1$                      ;IF NOT CORRECTLY DONE

024274  004737  011706          CALL    LPBACK                  ;TEST OF LOOP
024300  103403                  BCS     1$                      ;IF NOT

024302  004737  012554          CALL    RUNAPP                  ;LOAD AND RUN APPLICATION
024306  103002                  BCC     2$                      ;IF CORRECTLY DONE

024310                  1$:     EXIT    IST

024314  004737  011776  2$:     CALL    INTQIO                  ;INIT QIO PROCESSING

024320  012701  024336          MOV     #60$,R1                 ;TABLE ADDRESS IN R1
024324  004737  013154          CALL    QIOP                    ;PROCESS QIO
024330  103022                  BCC     5$                      ;IF CORRECTLY DONE
```

```
5069
5070 024332                                    EXIT    TST
5071
5072                                    ; PARAMETERS FOR QIO PROCESSING
5073
5074 024336  024342                    60$:    3$                              ;IN LIST TABLE BASE ADDRESS
5075 024340  000764                            500.                            ;TIME-OUT LENGTH(N*10 MS)
5076
5077                                    ; COMMAND LIST
5078
5079 024342                            3$:
5080 024342  000001                            1
5081 024344  000001  100461  000000            1,DLO*SDLC*C2400*CLKDTE*S141,0          ;CONFIGURATE
5082
5083                                    ; RESPONSE LIST
5084
5085 024352                            4$:
5086 024352  000001                            1
5087 024354  000201  000000  000400            1*RDYO,0,1*400                          ;CONFIGURATE DONE
5088 024360  000000  000000  000000            .WORD   0,0,0,0,0,0
5089
5090 024376                            5$:
5091 024376  012701  024352                    MOV     #4$,R1                  ;SAVE RESPONSE LIST ADDRESS
5092 024402  004737  010134                    CALL    CMKRSP                  ;THEN CHECK RESPONSES
5093 024406  103002                            BCC     6$                      ;IF TEST IS CORRECT
5094
5095 024410                                    EXIT    TST
5096
5097 024414  004737  011776            6$:     CALL    INIQIO                  ;INIT QIO PROCESSING
5098
5099 024420  012701  024436                    MOV     #61$,R1                 ;TABLE ADDRESS IN R1
5100 024424  004737  013154                    CALL    QIOP                    ;PROCESS QIO
5101 024430  103022                            BCC     9$                      ;IF CORRECTLY DONE
5102
5103 024432                                    EXIT    TST
5104
5105                                    ; PARAMETERS FOR QIO PROCESSING
5106
5107 024436  024442                    61$:    7$                              ;IN LIST TABLE BASE ADDRESS
5108 024440  000144                            100.                            ;TIME-OUT LENGTH(N*10 MS)
5109
5110                                    ; COMMAND LIST
5111
5112 024442                            7$:
5113 024442  000001                            1
5114 024444  000014  000000  000000            14,0,0                          ;READ MODEM
5115
5116                                    ; RESPONSE LIST
5117
5118 024452                            8$:
5119 024452  000001                            1
5120 024454  000214  001440  000400            14*RDYO,S6*400*S142,1*400       ;RESPONSE FOR F14
5121 024462  000000  000000  000000            .WORD   0,0,0,0,0,0
5122
5123 024476                            9$:
5124 024476  012701  024452                    MOV     #8$,R1                  ;SAVE RESPONSE LIST ADDRESS
5125 024502  004737  010134                    CALL    CMKRSP                  ;THEN CHECK RESPONSES
```

```
5126 024506  103002                    BCC     10$                     ;IF TEST IS CORRECT
5127
5128 024510                            EXIT    TST
5129
5130 024514                    10$:
5131 024514                    BGNSUB
5132 024516  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 024606                             SUB1:
5167 024606  004737  011776                        CALL    INIQIO                  ;INIT QIO PROCESSING
5168
5169 024612  012701  024626                        MOV     #60$,R1                 ;TABLE ADDRESS IN R1
5170 024616  004737  013154                        CALL    QIOP                    ;PROCESS QIO
5171 024622  103065                              BCC     5$                      ;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$:
5195 024706  000007                             7.
5196 024710  000206  000000  170000             6+RDYO,0,360*400                        ;TOO MANY BUFFERS FOR F6
5197 024716  000205  000000  175000             5+RDYO,0,372*400                        ;BUFFER TOO SHORT FOR F5
5198 024724  000205  000000  170000             5+RDYO,0,360*400                        ;TOO MANY BUFFERS FOR F5
5199 024732  000205  000000  000400             5+RDYO,0,1*400                  ;FIRST BUFFER SENT
5200 024740  000206  000366  000400             6+RDYO,$RDBS-10.,1*400          ;FIRST RECEIVE BUFFER
5201 024746  000205  000000  000400             5+RDYO,0,1*400                  ;SECOND BUFFER SENT
5202 024754  000206  000367  000400             6+RDYO,$RDBS-9.,1*400           ;SECOND BUFFER RECEIVED
5203 024762  000000  000000  000000             .WORD   0,0,0,0,0,0
5204
5205 024776                             5$:
5206 024776  012701  024706                        MOV     #4$,R1                  ;SAVE RESPONSE LIST ADDRESS
5207 025002  004737  010134                        CALL    CHKRSP                  ;THEN CHECK RESPONSES
5208 025006  103001                              BCC     6$                      ;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$:     MOV     @TXBUF1,R1          ;CHECK SECOND RECEIVE BUFFER
5221 025044  012702  003174                  MOV     @RXBUF1,R2
5222 025050  012737  000367  002346          MOV     @$RCBS-9.,LENGTH
5223 025056  004737  011374                  CALL    COMPAR
5224
5225 025062  000207                          RETURN
5226
5227 025064                          SUB2:
5228 025064  004737  011776                  CALL    INIQIO              ;INIT QIO PROCESSING
5229
5230 025070  012701  025104                  MOV     #60$,R1             ;TABLE ADDRESS IN R1
5231 025074  004737  013154                  CALL    QIOP                ;PROCESS QIO
5232 025100  103027                          BCC     5$                  ;IF CORRECT
5233
5234 025102  000207                          RETURN
5235
5236                                 ; PARAMETERS FOR QIO PROCESSING
5237
5238 025104  025110                  60$:    3$                          ;IN LIST TABLE BASE ADDRESS
5239 025106  000620                          400.                        ;TIME-OUT LENGTH(N*10 MS)
5240
5241                                 ; COMMAND LIST
5242
5243 025110                          3$:
5244 025110  000002                          2
5245 025112  000006  002574  000040          6,RXBUF0,32.                        ;SET RECEIVE BUFFER
5246 025120  000005  005574  000144          5,TXBUF2,100.                       ;SET XMIT BUFFER
5247
5248                                 ; RESPONSE LIST
5249
5250 025126                          4$:
5251 025126  000002                          2
5252 025130  000205  000000  000400          5+RDY0,0,1+400                      ;BUFFER SENT FOR F5
5253 025136  000206  000144  175400          6+RDY0,100.,373+400                 ;OVERFLOW ERROR FOR F6
5254 025144  000000  000000  000000          .WORD   0,0,0.0,0,0
5255
5256 025160                          5$:
5257 025160  012701  025126                  MOV     #4$,R1              ;SAVE RESPONSE LIST ADDRESS
5258 025164  004737  010134                  CALL    CHKRSP              ;THEN CHECK RESPONSES
5259 025170  103001                          BCC     6$                  ;IF TEST CORRECT
5260
5261 025172  000207                          RETURN
5262
5263 025174  012701  005574          6$:     MOV     @TXBUF2,R1          ;CHECK RECEIVE BUFFER
5264 025200  012702  002574                  MOV     @RXBUF0,R2
5265 025204  012737  000040  002346          MOV     @32.,LENGTH
5266 025212  004737  011374                  CALL    COMPAR
5267
5268 025216  000207                          RETURN
5269
5270 025220                          SUB3:
5271 025220  004737  011776                  CALL    INIQIO              ;INIT QIO PROCESSING
5272
5273 025224  004737  007620                  CALL    ..SIZE              ;SIZE MEMORY
5274 025230  005737  002514                  TST     PDPTYP              ;CHECK IF A PDP11/23+?
```

```
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                                    .EVEN
5286 025304  000207                    RETURN                          ;THEN EXIT
5287
5288 025306  013701  002500        1$: MOV     LSTAD,R1                ;GET LAST MEMORY ADDRESS
5289 025312  162701  000012            SUB     #10.,R1                 ;POSITON 10 BYTES BEFORE
5290 025316  010137  025366            MOV     R1,3$+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 025354  000207                    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    CHKRSP                  ;THEN CHECK RESPONSES
5327
5328 025456  000207                    RETURN
5329
5330 025460     045     116     045 MNONEX: .ASCIZ  /%N%A  SUBTEST 3 IS SKIPPED/
5331                                    .EVEN
```

```
5332
5333 025514                            SUB4:
5334 025514  004737  011776                    CALL    INIQIO                  ;INIT QIO PROCESSING
5335
5336 025520  012701  025544                    MOV     #60$,R1                 ;TABLE ADDRESS IN R1
5337 025524  004737  013154                    CALL    QIOP                    ;PROCESS QIO
5338
5339 025530  012701  025550                    MOV     #61$,R1                 ;TABLE ADDRESS IN R1
5340 025534  004737  013154                    CALL    QIOP                    ;PROCESS QIO
5341 025540  103040                            BCC     5$                      ;IF OKE
5342
5343 025542  000207                            RETURN
5344
5345                                    ; PARAMETERS FOR QIO PROCESSING
5346
5347 025544  025554                    60$:    3$                              ;IN LIST TABLE BASE ADDRESS
5348 025546  000150                            104.                            ;TIME-OUT LENGTH(N*10 MS)
5349
5350 025550  025600                    61$:    33$                             ;
5351 025552  000620                            400.                            ;
5352
5353                                    ; COMMAND LIST
5354
5355 025554                            3$:
5356 025554  000003                            3
5357 025556  000006  003174  000144            6,RXBUF1,100.                   ;SECOND RX BUFFER
5358 025564  000005  005174  000376            5,TXBUF1,$RDBS-2                ;FIRST XMIT BUFFER
5359 025572  000005  005574  000144            5,TXBUF2,100.                   ;SECOND XMIT BUFFER
5360
5361 025600  000001                    33$:    1
5362 025602  000007  000000  000000            7,0,0                           ;XMIT ABORT
5363
5364                                    ; RESPONSE LIST
5365
5366 025610                            4$:
5367 025610  000002                            2
5368 025612  000207  000000  000400            7+RDYO,0,1*400                  ;OKE FOR F7
5369 025620  000206  000030  172000            6+RDYO,24.,364*400              ;ABORT RECEIVED FOR F6
5370 025626  000000  000000  000000            .WORD   0,0,0,0,0,0
5371
5372 025642                            5$:
5373 025642  012701  025610                    MOV     #4$,R1                  ;SAVE RESPONSE LIST ADDRESS
5374 025646  004737  010134                    CALL    CHKRSP                  ;THEN CHECK RESPONSES
5375
5376 025652  000207                            RETURN
5377
5378 025654                            SUB5:
5379 025654  004737  011776                    CALL    INIQIO                  ;INIT QIO PROCESSING
5380
5381 025660  012701  025704                    MOV     #60$,R1                 ;TABLE ADDRESS IN R1
5382 025664  004737  013154                    CALL    QIOP                    ;PROCESS QIO
5383
5384 025670  012701  025710                    MOV     #61$,R1
5385 025674  004737  013154                    CALL    QIOP
5386 025700  103046                            BCC     5$                      ;IF OKE
5387
5388 025702  000207                            RETURN
```

```
                                        ; PARAMETERS FOR QIO PROCESSING
                                
025704  025714                  60$:    3$                              ;IN LIST TABLE BASE ADDRESS
025706  000170                          120.                            ;TIME-OUT LENGTH(N*10 MS)
                                
025710  025746                  61$:    33$                             ;
025712  001130                          600.                            ;
                                
                                        ; COMMAND LIST
                                
025714                          3$:
025714  000004                          4
025716  000006  002574  000400         6,RXBUF0,$RDBS                  ;FIRST RX BUFFER
025724  000006  003174  000144         6,RXBUF1,100.                   ;SECOND RX BUFFER
025732  000005  005174  000400         5,TXBUF1,$RDBS                  ;FIRST XMIT BUFFER
025740  000005  005574  000144         5,TXBUF2,100.                   ;SECOND XMIT BUFFER
                                
025746  000001                  33$:    1
025750  000010  000000  000000         10,0,0                          ;RECEIVE ABORT
                                
                                        ; RESPONSE LIST
                                
025756                          4$:
025756  000003                          3
025760  000210  000000  000400         10+RDY0,0,1*400                 ;OKE FOR F10
025766  000205  000000  000400         5+RDY0,0,1*400                  ;OKE FOR F5
025774  000205  000000  000400         5+RDY0,0,1*400                  ;OKE FOR F5
026002  000000  000000  000000         .WORD   0,0,0,0,0,0
                                
026016                          5$:
026016  012701  025756                  MOV     #4$,R1                  ;SAVE RESPONSE LIST ADDRESS
026022  004737  010134                  CALL    CHKRSP                  ;THEN CHECK RESPONSES
                                
026026  000207                          RETURN
                                
026030                          SUB6:
026030  004737  011776                  CALL    INIQIO                  ;INIT QIO PROCESSING
                                
026034  012737  000424  026076         MOV     #$RDBS+20.,3$+6         ;OVERFLOW THE RDB BY 20.
026042  012737  000424  026104         MOV     #$RDBS+20.,3$+14
                                
026050  012701  026064                  MOV     #60$,R1                 ;TABLE ADDRESS IN R1
026054  004737  013154                  CALL    QIOP                    ;PROCESS QIO
026060  103035                          BCC     5$                      ;IF OKE
                                
026062  000207                          RETURN
                                
                                        ; PARAMETERS FOR QIO PROCESSING
                                
026064  026070                  60$:    3$                              ;IN LIST TABLE BASE ADDRESS
026066  001750                          1000.                           ;TIME-OUT LENGTH(N*10 MS)
                                
                                        ; COMMAND LIST
                                
026070                          3$:
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$,R1                  ;SAVE RESPONSE LIST ADDRESS
5461 026160  004737  010134                    CALL    CHKRSP                  ;THEN CHECK RESPONSES
5462
5463 026164  000207                            RETURN
5464
5465 026166                           SUB7:
5466 026166  004737  011776                    CALL    INIQIO                  ;INIT QIO PROCESSING
5467
5468 026172  012701  026216                    MOV     #60$,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
```

```
5503
5504 026314                          5$:
5505 026314  012701  026270                MOV     #4$,R1          ;SAVE RESPONSE LIST ADDRESS
5506 026320  004737  010134                CALL    CHKRSP          ;THEN CHECK RESPONSES
5507
5508 026324  000207                        RETURN
5509
```

```
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     KMV11 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 INTERRPUT OUT
5544                            ;               ERROR 10007     NO MORE INTERRUPT WHILE QIO PENDING
5545                            ;               ERROR 10008     UNEXPECTED EPROM'S ON KMV11-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                     BGNTST
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+RDYO,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    CHKRSP                  ;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+RDYO,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    CHKRSP          ;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
                                        ;                       ** TEST11 **
5638                                    ; TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 64K
5639                                    ; WITH DATA LEADS ONLY
5640                                    ;
5641                                    ; CONFIGURATE:  HDLC PROTOCOL
5642                                    ;               DATA LEADS ONLY
5643                                    ;               WITHOUT ADDRESS SEARCH
5644                                    ;               CLOCK SOURCE INTERNAL
5645                                    ;               RATE = 64K
5646                                    ;
5647                                    ; SUBTEST1      - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
5648                                    ;               OF 2 BUFFERS.
5649                                    ;               THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
5650                                    ;               XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
5651                                    ;               EXPECTED RESPONSES ARE:
5652                                    ;                 STATUS = 360 FOR F6 THIRD BUFFER PASSED
5653                                    ;                        = 372 FOR F5 1 BYTE LONG BUFFER
5654                                    ;                        = 360 FOR F5 THIRD BUFFER PASSED
5655                                    ;                        = 1   FOR F5 FIRST BUFFER XMITTED
5656                                    ;                        = 1   FOR F6 FIRST BUFFER RECEIVED
5657                                    ;                        = 1   FOR F5 SECOND BUFFER XMITTED
5658                                    ;                        = 1   FOR F6 SECOND BUFFER RECEIVED
5659                                    ;
5660                                    ; PATTERN:      INCREMENTAL
5661                                    ;
5662                                    ; REPORTS:      ERROR 10000     KMV11 FAILS TO RESET MASTER CLEAR
5663                                    ;               ERROR 10001     RUN FUNCTION NOT CORRECTLY PERFORMED
5664                                    ;               ERROR 10002     WRITE FUNCTION NOT CORRECTLY PERFORMED
5665                                    ;               ERROR 10003     READ FUNCTION NOT CORRECTLY PERFORMED
5666                                    ;               ERROR 10004     DATA COMPARE ERROR
5667                                    ;               ERROR 10005     UNEXPECTED INTERRUPT IN
5668                                    ;               ERROR 10006     UNEXPECTED INTERRPUT OUT
5669                                    ;               ERROR 10007     NO MORE INTERRUPT WHILE QIO PENDING
5670                                    ;               ERROR 10008     UNEXPECTED EPROM'S ON KMV11-A
5671                                    ;               ERROR 10009     UNEXPECTED QIO RESPONSE
5672                                    ;               ERROR 10010     UNEXPECTED NUMBER OF RESPONSES RECEIVED
5673                                    ;               ERROR 10011     UNEXPECTED DATA RECEIVED
5674                                    ;               ERROR 10012     NO LOOP BACK
5675 026562                             BADHEAD
                                        ;                       ** TEST11 **
5676
5677
5678 026562                             BGNTST
5679 026562  004737  011574                    CALL    MODE0                   ;SET APPLICATION MODE
5680 026566  103406                            BCS     1$                      ;IF NOT CORRECT
5681
5682 026570  004737  011706                    CALL    LPBACK                  ;ANY LOOP?
5683 026574  103403                            BCS     1$                      ;IF NOT
5684
5685 026576  004737  012554                    CALL    RUNAPP                  ;LOAD AND RUN APPLICATION
5686 026602  103002                            BCC     2$                      ;IF CORRECT
5687
5688 026604                             1$:     EXIT    TST
5689
5690 026610  004737  011776             2$:    CALL    INIQIO                  ;INIT QIO PROCESSING
5691
```

```
5692 026614  012701  026632          MOV     #60$,R1             ;TABLE ADDRESS IN R1
5693 026620  004737  013154          CALL    QIOP                ;PROCESS QIO
5694 026624  103022                  BCC     5$                  ;IF CORRECT
5695
5696 026626                          EXIT    TST
5697
5698                         ; PARAMETERS FOR QIO PROCESSING
5699
5700 026632  026636          60$:    3$                          ;IN LIST TABLE BASE ADDRESS
5701 026634  000764                  500.                        ;TIME-OUT LENGTH(N*10 MS)
5702
5703                         ; COMMAND LIST
5704
5705 026636                  3$:
5706 026636  000001                  1
5707 026640  000001  103460  000000  1,DLO!C64K!CLKDTE!S141,0          ;CONFIGURATE
5708
5709                         ; RESPONSE LIST
5710
5711 026646                  4$:
5712 026646  000001                  1
5713 026650  000201  000000  000400  1!RDYO,0,1*400                   ;CONFIGURATE DONE
5714 026656  000000  000000  000000  .WORD   0,0,0,0,0,0
5715
5716 026672                  5$:
5717 026672  012701  026646          MOV     #4$,R1              ;SAVE RESPONSE LIST ADDRESS
5718 026676  004737  010134          CALL    CHKRSP              ;THEN CHECK RESPONSES
5719 026702  103002                  BCC     6$                  ;IF TEST CORRECT
5720
5721 026704                          EXIT    TST
5722
5723 026710  004737  011776  6$:     CALL    INIQIO              ;INIT QIO PROCESSING
5724
5725 026714  012701  026732          MOV     #61$,R1             ;TABLE ADDRESS IN R1
5726 026720  004737  013154          CALL    QIOP                ;PROCESS QIO
5727 026724  103022                  BCC     9$                  ;IF CORRECT
5728
5729 026726                          EXIT    TST
5730
5731                         ; PARAMETERS FOR QIO PROCESSING
5732
5733 026732  026736          61$:    7$                          ;IN LIST TABLE BASE ADDRESS
5734 026734  000144                  100.                        ;TIME-OUT LENGTH(N*10 MS)
5735
5736                         ; COMMAND LIST
5737
5738 026736                  7$:
5739 026736  000001                  1
5740 026740  000014  000000  000000  14,0,0                        ;READ MODEM
5741
5742                         ; RESPONSE LIST
5743
5744 026746                  8$:
5745 026746  000001                  1
5746 026750  000214  001440  000400  14!RDYO,S6*400!S142,1*400      ;RESPONSE FOR F14
5747 026756  000000  000000  000000  .WORD   0,0,0,0,0,0
5748
```

```
5749 026772                        9$:
5750 026772  012701  026746                MOV     #8$,R1          ;SAVE RESPONSE LIST ADDRESS
5751 026776  004737  010134                CALL    CHKRSP          ;THEN CHECK RESPONSES
5752 027002  103002                        BCC     10$             ;IF TEST CORRECT
5753
5754 027004                                EXIT    TST
5755
5756 027010                        10$:
5757 027010  004737  027016                CALL    SHORTST         ;FOR SHORT XMIT/RECEIVE BUFFER TEST
5758
5759 027014                        ENDTST
```

```
                                ; SHORT XMIT/RECEIVE BUFFER TEST COMMON TO TEST10 AND TEST11

027016                          SHORTST:

027016  004737  011776                  CALL    INIQIO                  ;INIT QIO PROCESSING

027022  012701  027036                  MOV     #60$,R1                 ;TABLE ADDRESS IN R1
027026  004737  013154                  CALL    QIOP                    ;PROCESS QIO
027032  103065                          BCC     5$                      ;IF CORRECT

027034  000207                          RETURN

                                ; PARAMETERS FOR QIO PROCESSING

027036  027042                  60$:    3$                              ;IN LIST TABLE BASE ADDRESS
027040  000620                          400.                            ;TIME-OUT LENGTH(N*10 MS)

                                ; COMMAND LIST

027042                          3$:
027042  000007                          7.
027044  000006  002574  000376          6,RXBUF0,$RDBS-2                        ;FIRST RECEIVE BUFFER
027052  000006  003174  000367          6,RXBUF1,$RDBS-9.                       ;SECOND         "
027060  000006  003574  000066          6,RXBUF2,54.                    ;THIRD          "
027066  000005  004574  000001          5,TXBUF0,1                      ;FIRST XMIT BUFFER
027074  000005  004574  000366          5,TXBUF0,$RDBS-10.                      ;SECOND "
027102  000005  005174  000367          5,TXBUF1,$RDBS-9.                       ;THIRD  "
027110  000005  005574  000400          5,TXBUF2,$RDBS                  ;FORTH  "

                                ; RESPONSE LIST

027116                          4$:
027116  000007                          7.
027120  000206  000000  170000          6*RDY0,0,360*400                        ;TOO MANY BUFFERS FOR F6
027126  000205  000000  175000          5*RDY0,0,372*400                        ;TOO SHORT BUFFER FOR F5
027134  000205  000000  170000          5*RDY0,0,360*400                        ;TOO MANY BUFFERS FOR F5
027142  000206  000366  000400          6*RDY0,$RDBS-10.,1*400                  ;FIRST RECEIVE BUFFER
027150  000205  000000  000400          5*RDY0,0,1*400                          ;FIRST BUFFER SENT
027156  000206  000367  000400          6*RDY0,$RDBS-9.,1*400                   ;SECOND BUFFER RECEIVED
027164  000205  000000  000400          5*RDY0,0,1*400                          ;SECOND BUFFER SENT
027172  000000  000000  000000          .WORD   0,0,0,0,0,0

027206                          5$:
027206  012701  027116                  MOV     #4$,R1                  ;SAVE RESPONSE LIST ADDRESS
027212  004737  010134                  CALL    CHKRSP                  ;THEN CHECK RESPONSES
027216  103001                          BCC     6$                      ;IF TEST CORRECT

027220  000207                          RETURN

027222  012701  004574          6$:     MOV     #TXBUF0,R1              ;CHECK FIRST RECEIVE BUFFER
027226  012702  002574                  MOV     #RXBUF0,R2
027232  012737  000366  002346          MOV     #$RDBS-10.,LENGTH
027240  004737  011374                  CALL    COMPAR
027244  103001                          BCC     7$                      ;IF CORRECT
```

```
 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  000207                        RETURN
```

```
                                BADHEAD
                                ;                       ** TEST12 **
                                ; TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 48K
                                ; WITH FULL MODEM CONTROL AND ADDRESS SEARCH
                                ;
                                ; CONFIGURATE:  SDLC PROTOCOL
                                ;               FULL MODEM CONTROL
                                ;               WITH ADDRESS SEARCH(252)
                                ;               CLOCK SOURCE INTERNAL
                                ;               RATE = 48K
                                ;
                                ; TEST:         - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
                                ;               OF 1 OF 2 BUFFERS.
                                ;               THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
                                ;               XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
                                ;               AND ONE OF WHICH WITH BAD STATION ADDRESS
                                ;               EXPECTED RESPONSES ARE:
                                ;                 STATUS = 360 FOR F6 THIRD BUFFER PASSED
                                ;                        = 372 FOR F5 1 BYTE LONG BUFFER
                                ;                        = 360 FOR F5 THIRD BUFFER PASSED
                                ;                        = 1   FOR F5 FIRST BUFFER XMITTED
                                ;                        = 1   FOR F5 SECOND BUFFER XMITTED
                                ;                        = 1   FOR F6 SECOND BUFFER RECEIVED
                                ;
                                ; PATTERN:      INCREMENTAL
                                ;
                                ; REPORTS:      ERROR 10000     KMV11 FAILS TO RESET MASTER CLEAR
                                ;               ERROR 10001     RUN FUNCTION NOT CORRECTLY PERFORMED
                                ;               ERROR 10002     WRITE FUNCTION NOT CORRECTLY PERFORMED
                                ;               ERROR 10003     READ FUNCTION NOT CORRECTLY PERFORMED
                                ;               ERROR 10004     DATA COMPARE ERROR
                                ;               ERROR 10005     UNEXPECTED INTERRUPT IN
                                ;               ERROR 10006     UNEXPECTED INTERRPUT 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 **

                                BGNTST
                                        CALL    MODE0                   ;SET APPLICATION MODE
                                        BCS     1$                      ;IF NOT CORRECT

                                        CALL    LPBACK                  ;ANY LOOP?
                                        BCS     1$                      ;IF NOT

                                        CALL    RUNAPP                  ;LOAD AND RUN APPLICATION
                                        BCC     2$                      ;IF CORRECT

                                1$:     EXIT    TST

                                2$:     CALL    INIQIO                  ;INIT QIO PROCESSING
```

```
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+RDYO,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    CHKRSP                  ;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+RDYO,S6*400+S142+S106+S107+S109,1*400    ;RESPONSE FOR F14
5937 027470  000000  000000  000000  .WORD   0,0,0,0,0,0
5938
```

```
027504                                  9$:
027504  012701  027460                          MOV     #8$,R1                  ;SAVE RESPONSE LIST ADDRESS
027510  004737  010134                          CALL    CHKRSP                  ;THEN CHECK RESPONSES
027514  103002                                  BCC     10$                     ;IF TEST CORRECT

027516                                          EXIT    TST
027522                                  10$:
027522  004737  011776                          CALL    INIQIO                  ;INIT QIO PROCESSING

027526  112737  000252  005174                  MOVB    #252,TXBUF1             ;SET GOOD STATION ADDRESS IN BUFFER 1

027534  012701  027552                          MOV     #62$,R1
027540  004737  013154                          CALL    QIOP                    ;PROCESS QIO
027544  103063                                  BCC     13$                     ;IF CORRECT

027546                                          EXIT    TST

                                        ; PARAMETERS FOR QIO PROCESSING

027552  027556                          62$:    11$                             ;IN LIST TABLE BASE ADDRESS
027554  001750                                  1000.                           ;TIME-OUT LENGTH(N*10 MS)

                                        ; COMMAND LIST

027556                                  11$:
027556  000007                                  7.
027560  000006  002574  000376                  6,RXBUF0,$RDBS-2                        ;FIRST RECEIVE BUFFER
027566  000006  003174  000367                  6,RXBUF1,$RDBS-9.                       ;SECOND        "
027574  000006  003574  000066                  6,RXBUF2,54.                    ;THIRD        "
027602  000005  004574  000001                  5,TXBUF0,1                      ;FIRST XMIT BUFFER
027610  000005  004574  000366                  5,TXBUF0,$RDBS-10.                      ;SECOND "
027616  000005  005174  000367                  5,TXBUF1,$RDBS-9.                       ;THIRD  "
027624  000005  005574  000400                  5,TXBUF2,$RDBS                  ;FORTH  "

                                        ; RESPONSE LIST

027632                                  12$:
027632  000006                                  6
027634  000206  000000  170000                  6+RDY0,0,360*400                        ;TOO MANY BUFFERS FOR F6
027642  000205  000000  175000                  5+RDY0,0,372*400                        ;TOO SHORT BUFFER FOR F5
027650  000205  000000  170000                  5+RDY0,0,360*400                        ;TOO MANY BUFFERS FOR F5
027656  000205  000000  000400                  5+RDY0,0,1*400                          ;FIRST BUFFER SENT
027664  000206  000367  000400                  6+RDY0,$RDBS-9.,1*400                   ;SECOND BUFFER RECEIVED
027672  000205  000000  000400                  5+RDY0,0,1*400                          ;SECOND BUFFER SENT
027700  000000  000000  000000                  .WORD   0,0,0,0,0,0

027714                                  13$:
027714  012701  027632                          MOV     #12$,R1                 ;SAVE RESPONSE LIST ADDRESS
027720  004737  010134                          CALL    CHKRSP                  ;THEN CHECK RESPONSES
027724  103002                                  BCC     14$                     ;IF TEST CORRECT

027726                                          EXIT    TST

027732  012701  005174                  14$:    MOV     #TXBUF1,R1              ;CHECK RECEIVE BUFFER
027736  012702  002574                          MOV     #RXBUF0,R2
027742  012737  000367  002346                  MOV     #$RDBS-9.,LENGTH
027750  004737  011374                          CALL    COMPAR
```

```
5996
5997 027754                    ENDTST
```

```
                                .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.
                                ;//////////////////////////////////////////////////////////////////////////////


027756                                  BGNHRD

027760                                  GPRMA   ADDRES,0,0,160000,177776,YES
027770                                  GPRMA   VECTOR,2,0,0,774,YES
030000                                  GPRMD   PRIRTY,4,0,7000,4,7,YES
030012                                  GPRMD   LOOPBK,6,0,1,0,1,YES
                                ;       GPRMD   PDPTST,10,0,1,0,1,YES           ;JB REV A-0

030024                                  ENDHRD
                                        .EVEN



030024  104  105  126  ADDRES: .ASCIZ  /DEVICE CSR ADDRESS: /
030051  104  105  126  VECTOR: .ASCIZ  /DEVICE FIRST VECTOR ADDRESS: /
030107  104  105  126  PRIRTY: .ASCIZ  /DEVICE PRIORITY LEVEL: /
030137  111  123  040  LOOPBK: .ASCIZ  /IS EXTERNAL LOOP BACK CONNECTOR INSERTED? 0=NO,1=YES: /
030226  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::
```

```
                043660                  .=$FWEND
        043660  013352         BUFLGH:  .WORD    .-$BUFF                ;FIRMWARE CODE LENGTH
        043662  000000                  .WORD    0
        043664  000000                  .WORD    0
        043666  000000                  .WORD    0

        043670                 $PATCH::
        043670                          .B[illegible]    50

        044010                          LASTA.
        044014                 L$LAST::

        044014                          ENDMOD
```

```
KIMP    MACRO M1200  05-APR-84 11:29  PAGE 175                                  SEQ 142
** - IMPURE DATA AREA

      17
      18
      19 044014                                  BGNSETUP        1
      20 044014                                  BGNPTAB
      21 044020  177000                          .WORD   177000
      22 044022  000300                          .WORD   300
      23 044024  004000                          .WORD   4000
      24 044026  000000                          .WORD   0
      25 044030                                  ENDPTAB
      26 044030                                  ENDSETUP
      27
      28         000001                          .END
```

SYMBOL TABLE

```
ABORT   020742          BSEL7 = 000007          CG.STR= 000002          CSRPDV  031120 G        C$GPLO= 000030
ABOTX = 000010          BUFCLR  011530          CHARES= 000030          CSRTE   032042          C$GPRI= 000040
ADDRES  030024          BUFLD   011746          CHG     043154          CSTART  035602          C$INIT= 000010
ADR   = 000020 G        BUFLGH  043660          CHGMDM  033546          CSTOP   035652          C$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$PNTS= 000016
BAD0    002320          CB.RDB= 000004          CHKKMV  032332          CS.ERR= 100000          C$PNTX= 000015
BAD10   002330          CCONDP  035552          CHKLGT  032370          CS.HR = 002000          C$QIO = 000377
BAD12   002332          CCONF   033434          CHKMAX  013356          CS.[illegible] 040000   C$QUE = 000002 G
BAD14   002334          CCON1   033364          CHKNEX  032306          [illegible] 004000      C$RDBU= 000007
BAD16   002336          CCON2   035526          CHKOVR  032344          CS.RIP= 000010          C$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          CTOP    036324          C$SEFG= 000046
BIT01 = 000002 G        CDISAB  035734          CHKSEQ  032274          CTUS5   036540          C$SPRI= 000041
BIT02 = 000004 G        CDUP    036234          CHKSUC  032356          CTXKI1  033762          C$SVEC= 000037
BIT03 = 000010 G        CDUS5   036342          CHKTMB  032402          CTXKI2  035466          C$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$ESCA= 000010          C.CNT2= 000030
BI125.= 000002          CE.TMO= 100374          CON2    035162          C$ESEG= 000005          C.DAI = 100024 G
BOE   = 000400 G        CF.EOM= 000004          CON3    040176          C$ESUB= 000003          C.DAO = 100026 G
BSEL0 = 000000          CF.HDR= 000020          COPY    011552          C$ETST= 000001          C.DDI = 100020 G
BSEL1 = 000001          CF.LB = 100000          CRCV1   033552          C$EXIT= 000032          C.DDO = 100022 G
BSEL2 = 000002          CF.SOM= 000010          CRCV2   035500          C$FLG   000001 G        C.DXI = 100034 G
BSEL3 = 000003          CF.SYN= 000040          CRDMDM  033546          C$GETI  000026          C.DXO = 100036 G
BSEL4 = 000004          CF.TRN= 000100          CSRCSC= 100000          C$GFT.. 000027          C.FLG = 000022
BSEL5 = 000005          CG.DVM= 000004          CSRDP   032154          C$GMAN= 000043          C.FLG1= 000022
BSEL6 = 000006          CG.ENB= 000001          CSRLEN= 000010          C$GPHR= 000042          C.FLG2= 000032
```

SYMBOL TABLE

```
C.FNC = 000010          DFPTBL  002164 G        E00002  016743          FS.TX = 005000          G$OFFS= 000400
C.LIN = 000006          DIAGMC= 000000          E00003  017027          FS.XKL= 002000          G$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$RADB= 000000
C.RSV = 000002          DMAOUT  034464          E10004  016106          F$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$XFER= 000004
C.SEL6= 100006 G        DSDO    036306          E10008  016334          F$INIT= 000006          G$YES = 000010
C.SL10= 100[illegible]0 G       DSDS6   036502          E10009  016371          F$JMP = 000050          HDLSDL= 000001
C.SL12= 100[illegible]2 G       DSTART  035620          E10010  016421          F$MOD = 000000          HELP  = 000000
C.SL14= 100[illegible]4 G       DSTOP   035672          E10011  016471          F$MSG = 000011          HOE   = 100000 G
C.SL16= 100[illegible]6 G       DSUP    036270          E10012  016522          F$PROT= 000021          IBE   = 010000 G
C.STA = 000[illegible]07        DSUS3   036430          FCSER = 000367          F$PWR = 000017          IDLE    030700 G
C.STS = 000012          DUMMY1  032426          FC.CCP= 000020          F$RPT = 000012          IDU   = 000040 G
C.VEC0= 000060          DUMMY2  035106          FC.CTL= 000006          F$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.XXXX= 100000          EF.CON= 000036 G        FC.MAX= 000020          F$SUB = 000002          INIFLG  002516
C0.IEI= 000001          EF.NEW= 000035 G        FC.RCE= 000002          F$SW  = 000014          INIQIO  011776
C0.IEO= 000020          EF.PWR= 000034 G        FC.RCP= 000014          F$TEST= 000001          INLST   002406
C0.RQI= 000200          EF.RES= 000037 G        FC.TIM= 000010          F0    = 000000          INTIN   002506
C1.ERR= 000001          EF.STA= 000040 G        FC.XCP= 000012          F1    = 000001          INTOUT  002510
C1.MCL= 000100          ENATX = 000151          FC.XME= 000000          F10   = 000010          ISR   = 000100 G
C1.MDE= 000020          END     020750          FIRST = 000002          F11   = 000011          ITIN    012710
C1.MT1= 000010          ENDINT= 000070          FRMLER= 000372          F12   = 000012          ITOUT   013044
C1.MT2= 000002          ENDMA = 000040 G        FS.AST= 000000          F13   = 000013          IXE   = 004000 G
C1.RD = 000004          ENDSEI= 000005          FS.CIB= 002000          F14   = 000014          I$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          ENDX13= 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$PTAB= 000041
C2.RYI= 000020          ENTHUN= 000020          FS.KRX= 010000          GDREV   007126          I$PWR = 000041
C2.RYO= 000200          ERCNTR  002264          FS.KTX= 007000          GOOD    002274          I$RPT = 000041
C2400 = 000400          ERR   = 000400          FS.LTM= 001000          GOOD0   002276          I$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$JMP = 000167
DALON = 000040          ERRTYP  002236 G        FS.MRD= 014000          GOOD4   002302          KINVAL  031344
DATA    002340          EVL   = 000004 G        FS.MSN= 004000          GOOD6   002304          KINVA1  031362
DBLCMD= 000363          EXIT0   031370          FS.RTN= 001000          G$CNTO= 000200          KMVCSR  002504
DCONFP= 000356          EXIT1   032432          FS.RX = 006000          G$DELM= 000372          KMVER = 000357
DCONF1  032476          EXIT3   037714          FS.STA= 011000          G$DISP= 000003          LAST  = 000001
DCONF2  035270          E$END = 002100          FS.STM= 000000          G$EXCP= 000400          LCLOOP  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
```

SYMBOL TABLE

```
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.$NAME  002000 G       L10022  021316          MDM.FL= 000002
LF.MDC= 000100          LN.SUB= 000360          L.$PRIO  002042 G       L10023  021442          MDM.LD= 000006
LF.MFL= 004000          LN.TRI= 000006          L.$PROT  002122 G       L10024  021544          MDM.MA= 000010
LF.MTP= 000020          LNOPDV  031140 G        L.$PRT   002112 G       L10025  021564          MDM.NM= 000004
LF.PAC= 000200          LOCK    002260          L.$REPP  002062 G       L10026  022104          MDM.OM= 000011
LF.RDY= 040000          LOE   = 040000 G        L.$REV   002010 G       L10027  022210          MDM.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.$SPCP  002020 G       L10032  023172          MD108 = 000200
LGT   = 000002          LOOPBK  030137          L.$SPTP  002024 G       L10033  023556          MD111 = 000001
LINAR.= 004000          LOT   = 000010 G        L.$STA   002030 G       L10034  023630          MD140 = 000002
LINCP.= 002000          LPBACK  011706          L.$SW    002266         L10035  023742          MD141 = 000004
LINCR.= 100000          LSTAD   002500          L.$TEST  002114 G       L10036  024264          MECO    014126
LINCW.= 000100          LSTBK   002502          L.$TIML  002014 G       L10037  024202          MERR    013456
LINCX.= 003500          LSTLGH  002400          L.$UIT   002270         L10040  024212          MNONEX  025460
LINC1.= 000400          LTCYER= 000370          L.$UNIT  002012 G       L10041  024222          MODOP   033374
LINC2.= 001000          LTIS5   037174          L.CMR = 120016 G        L10042  024232          MODOWN= 000365
LINDI.= 010000          LTIS6A  037236          L.COST= 000013          L10043  024242          MODE  = 010000
LINHD.= 000002          LTIS7   037264          L.CTL = 000010          L10044  024252          MODEO   011574
LINOV.= 020000          L$ACP   002110 G        L.C1R = 120000 G        L10045  024262          MODHDL= 000026
LINPW.= 000200          L$APT   002036 G        L.C1W = 120002 G        L10046  024604          MODPDV  031130 G
LINRP.= 000004          L$AU    021316 G        L.C2R = 120004 G        L10047  024522          MPROM   002524
LINRW.= 000010          L$AUT   002070 G        L.C2W = 120006 G        L10050  024532          MPSTR = 000017
LINTU.= 000020          L$AUTO  021140 G        L.DDM = 000002          L10051  024542          MQIO    014315
LIN.AD  000330 G        L$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$DTP   002040 G        L.OWNR= 000017          L10064  044030          MSEL2   013626
LIN.OB  000317 G        L$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$DVTY  007330 G        L.UNT = 000011          MBNUM   014425          NEXT    020620
LIN.RP  000306 G        L$EF    002052 G        L.VEC = 000130          MCLR  = 040000          NKMCA0  002000 G
LIN.RS  000322 G        L$ENVI  002044 G        L.XXXX= 120000          MCSR0   014546          NOCHAN  036224
LIN.RW  000310 G        L$ERRT  002236 G        L10001  002176          MCSR1   014625          NOTIM   037166
LIN.R3  000340 G        L$ETP   002102 G        L10002  017236          MCSR2   014575          NXMEM = 000374
LIN.SO  000336 G        L$EXP1  002046 G        L10003  017314          MDAT0   014764          OUTBUF  006620
LIN.S1  000337 G        L$EXP4  002064 G        L10004  017352          MDAT1   015044          OUTLST  002410
LIN.TB  000324 G        L$EXP5  002066 G        L10005  017434          MDDMA = 000040          OUTNUM  002476
LIN.TS  000326 G        L$HARD  027760 G        L10006  017552          MDM     035374          OUTSEQ= 000371
LN.CLO= 000000          L$HIME  002120 G        L10007  017614          MDMCP.= 000002          O$APTS= 000000
LN.DUM= 000005          L$HPCP  002016 G        L10010  017652          MDMDL.= 000001          O$AU  = 000000
LN.LOA= 000004          L$HPTP  002022 G        L10011  020034          MDMDP.= 000004          O$BGNR= 000000
LN.LOO= 000003          L$HW    002164 G        L10012  020142          MDMSE.= 000010          O$BGNS= 000000
LN.OAU= 000003          L$ICP   002104 G        L10013  020406          MDMS1 = 000000          O$DU  = 000001
```

SYMBOL TABLE

```
O$ERRT= 000000          PRILEV  002512          REANEX  034040          SEL14 = 000014          S.PRIX= 000300
O$GNSW= 000000          PRIRTY  030107          REASEN  034050          SEL16 = 000016          S.RCVA= 110000 G
O$POIN= 000001          PRI00 = 000000 G        REASHO  034030          SEL2  = 000002          S.RCVB= 110010 G
O$SETU= 000001          PRI01 = 000040 G        REASN   034056          SEL4  = 000004          S.STSA= 110004 G
PARTNB= 160004          PRI02 = 000100 G        REAWI1  034114          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          PRSEL0  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          RUNNIN  020752          STA6    037576          TEMP    002374
PC.RF = 000006          QC.DCO= 000001          RXABO = 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          TIMDP   036742
PC.SCM= 000040          QC.VC4= 000100          RXBUF2  003574          SUB2    025064          TIMOUT  036716
PC.SE = 000012          QIOP    013154          RXENA = 000001          SUB3    025220          TMOUT   002404
PC.SI = 000013          QV.FLG  002521          R990$   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.YEL= 000004          RATE    002342          SCABOR= 000200          SUB7    026166          TSTF10  011124
PC.YF = 000004          RCDATA= 000001          SCCRC = 000100          SUCCES= 000001          TSTF11  011150
PC.YN = 000005          RCRCRX= 000100          SCENDR= 000200          SVCGBL= 000000          TSTF12  011174
PC.0F = 000014          RCRCTX= 000200          SCIP  = 000002          SVCINS= 177777          TSTF13  011220
PC.0N = 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.MOF= 000005          SYNCMO= 000040          TSTF17  011340
PDPTST  030226          RDATA   007400          SC.RTS= 000002          S$LSYM= 010000          TSTF2   010664
PDPTYP  002514          RDBOK   037716          SC106 = 000040          S.CMDA= 110006 G        TSTF3   010710
PDR0  = 172300          RDMDM1  033260          SC107 = 000010          S.CMDB= 110016 G        TSTF4   010734
PDVNM = 000005          RDMDM2  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
PRBECO  017316 G        RDYIST  031376          SECON = 000001          S.LOAD  002412          TSTF8   011054
PRBNUM  020410 G        RDY0  = 000200          SELNUM  002416          S.NMST= 000002          TSTF9   011100
PRBQIO  017654 G        RDYODN  031710          SEL0  = 000000          S.OWNR= 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
```

SYMBOL TABLE

```
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        $PDVNM  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          $RDBGT= 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          $RDBVT= 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          $SLTMA  000202 G
T$TSTS= 000001          UNIT    002272          $CCBLH  000246 G        $INTX7= 173346          $SLTMB  031034 G
T$$AU = 010022          UNLDB   031516          $CCBNM  000212 G        $KCE.E= 000102          $SLTN1  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        $LINDP  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          $LNRXA  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
NKMCA0.BIN,NKMCA0.SEQ/CRF/-SP=LIBA/ML,NKMCA0,KEXDEF,KASTOR.TMP,PGEND.MAC
```

```
                    ....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
```