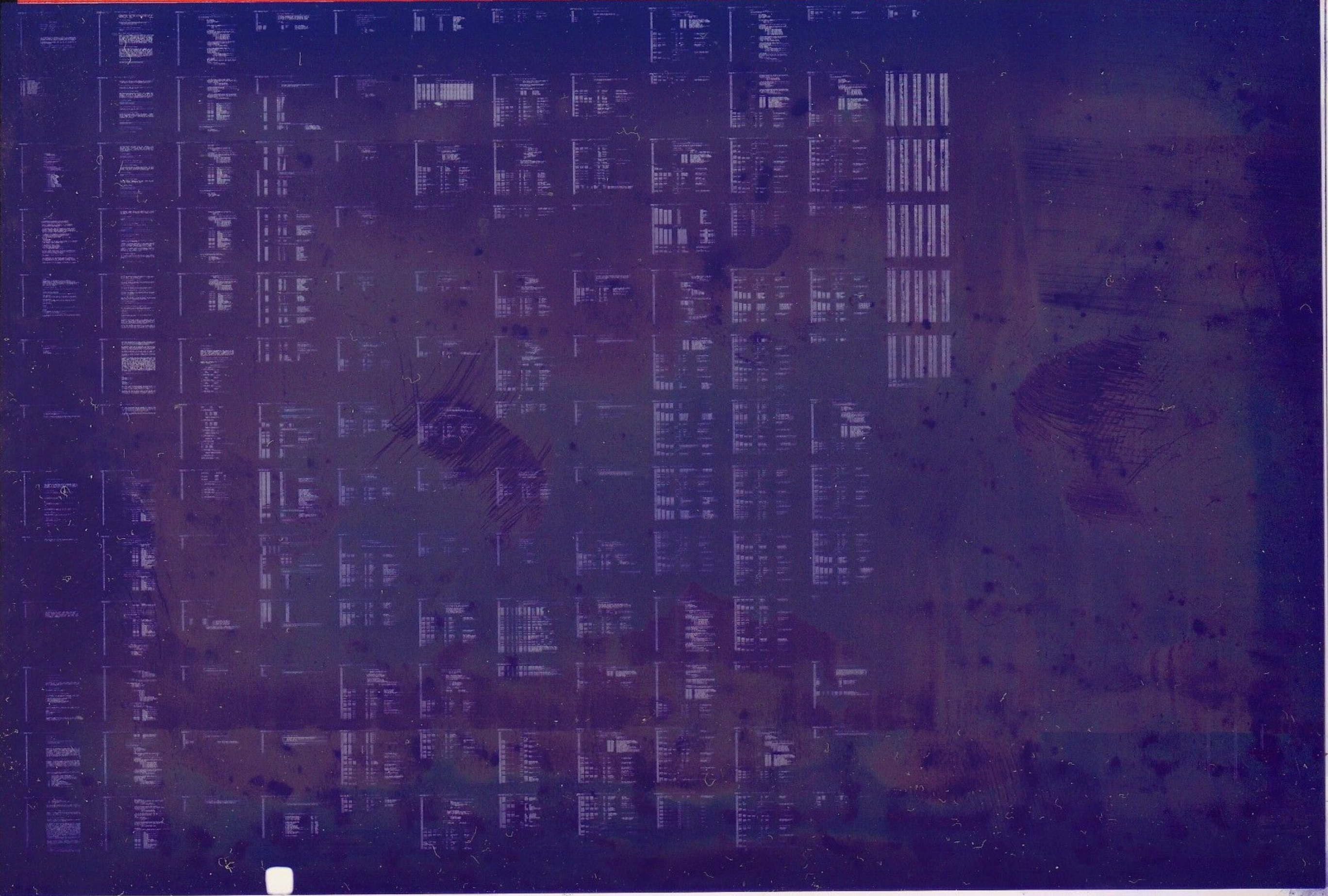


KMV11-A

FCTNL DIAG
CVKMCAO

AH-T374A-MC
FICHE 1 OF 1

MAY 1983
COPYRIGHT © 82-83
MADE IN USA



6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45

.REM @

IDENTIFICATION

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

THE INFORMATION IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT CORPORATION. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS THAT MAY APPEAR IN THIS DOCUMENT.

NO RESPONSIBILITY IS ASSUMED FOR THE USE OR RELIABILITY OF SOFTWARE ON EQUIPMENT THAT IS NOT SUPPLIED BY DIGITAL OR ITS AFFILIATED COMPANIES.

COPYRIGHT (C) 1982,1983 BY DIGITAL EQUIPMENT CORPORATION

THE FOLLOWING ARE TRADEMARKS OF DIGITAL EQUIPMENT CORPORATION:

DIGITAL	PDP	QBUS
DEC	DECUS	DECTAPE

CVKMCAN KMV11-A FCTNL DIAG MACRG M1200 06-JAN-83 10:39
TABLE OF CONTENTS

14- 1641	PROGRAM HEADER
16- 1714	DISPATCH TABLE
17- 1735	DEFAULT HARDWARE P-TABLE
18- 1775	GLOBAL EQUATES SECTION
19- 1981	GLOBAL DATA SECTION
21- 2199	GLOBAL TEXT SECTION
22- 2226	GLOBAL SUBROUTINES
50- 3572	GLOBAL ERROR REPORT SECTION
52- 3734	REPORT CODING SECTION
53- 3748	INITIALIZE SECTION
55- 3888	AUTODROP SECTION
56- 3931	CLEANUP CODING SECTION
57- 3972	DROP UNIT SECTION
58- 4016	ADD UNIT SECTION
73- 5987	HARDWARE PARAMETER CODING SECTION
74- 6056	
74- 6057	KMV11-A APPLICATION FIRMWARE SOURCE

47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97

TABLE OF CONTENTS

- 1.0 INTRODUCTION
 - 1.1 PROGRAM ABSTRACT
 - 1.2 HARDWARE INTRODUCTION
- 2.0 HARDWARE REQUIREMENTS
- 3.0 PRELIMINARY PROGRAM REQUIREMENTS
- 4.0 GENERAL PROGRAM CONSIDERATIONS
 - 4.1 DIAGNOSTIC SUPERVISOR
 - 4.2 EXECUTION TIME
- 5.0 PROGRAM LOAD MEDIA
- 6.0 OPERATING INSTRUCTIONS
 - 6.1 LOADING AND STARTING PROCEDURES
 - 6.1.1 LOADING PROCEDURES
 - 6.1.2 STARTING PROCEDURES
 - 6.1.3 STEPS FOR QUICK AND SIMPLE EXECUTION
 - 6.2 INITIAL DIALOGUE
 - 6.3 PROGRAM OPTIONS
 - 6.3.1 START COMMAND
 - 6.3.2 RESTART COMMAND
 - 6.3.3 CONTINUE COMMAND
 - 6.3.4 PROCEED COMMAND
 - 6.3.5 ADD COMMAND
 - 6.3.6 DROP COMMAND
 - 6.3.7 PRINT COMMAND
 - 6.3.8 DISPLAY COMMAND
 - 6.3.9 FLAGS COMMAND
 - 6.3.10 ZFLAGS COMMAND
 - 6.3.11 CONTROL CHARACTERS
 - 6.3.12 HARDWARE PARAMETERS
 - 6.3.13 SOFTWARE PARAMETERS
 - 6.3.14 EXTENDED DISCUSSION OF P-TABLE DIALOGUE
- 7.0 TEST DESCRIPTIONS
- 8.0 ERROR INFORMATION
 - 8.1 ERROR REPORTING

99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155

1.0 INTRODUCTION

1.1 PROGRAM ABSTRACT

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

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

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

THE PURPOSE OF THIS PROGRAM IS TO PERFORM TESTING OF:

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

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

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

THE XMIT/RECEIVE PATH IS TESTED :

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

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

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

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

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

156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199

VECTOR ADDRESS.

CAUTION:

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

1.2 HARDWARE INTRODUCTION

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

EXTERNAL LOOP BACK CONNECTORS:

KMV11-A CAN OPERATE UNDER THE RS422 OR RS423 RECOMMENDATIONS

RS422 LOOP BACK:

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

RS423 LOOP BACK:

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

RS232 LOOP BACK:

- SAME AS FOR RS423

CAUTION:

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

CAUTION:

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

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

CVKMCAO KMV11-A FCTNL DIAG
PROGRAM DOCUMENT

MACRO M1200 06-JAN-83 10:39 PAGE 5

201
202
203
204
205
206
207
208
209
210
211
212
213

2.0 HARDWARE REQUIREMENTS

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

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

215
216
217
218
219
220
221
222
223
224
225
226

3.0 PRELIMINARY PROGRAM REQUIREMENTS

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

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

228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284

4.0 GENERAL PROGRAM CONSIDERATIONS

4.1 DIAGNOSTIC SUPERVISOR

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

4.2 EXECUTION TIME

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

4.3 XXDP+

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

4.4 ACT

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

4.5 APT

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

4.6 MEMORY MANAGEMENT

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

4.7 MEMORY PARITY OPTION

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

4.8 ERROR LOGGING

THE NUMBER OF ERRORS WHICH HAVE OCCURRED ON EACH DEVICE

CVKMCAO KMV11-A FCTNL DIAG
PROGRAM DOCUMENT

MACRO M1200 06-JAN-83 10:39 PAGE 7-1

285
286
287

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).

CVKMCAD KMV11-A FCTNL DIAG
PROGRAM DOCUMENT

MACRO M1200 06-JAN-83 10:39 PAGE 8

289
290
291
292
293
294
295
296
297
298
299
300
301
302
303

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.

305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361

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 4.3.1)
- D) ANSWER HARDWARE AND SOFTWARE QUESTIONS
- E) GET END OF PASS MESSAGES OR ERROR MESSAGES
- F) TO END EXECUTION, ENTER CONTROL/C

6.2 INITIAL DIALOGUE

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

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

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

362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418

6.3 PROGRAM OPTIONS

6.3.1 START COMMAND

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

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

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

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

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

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

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

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

419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475

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

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

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

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

6.3.1.5 EFFECT OF START COMMAND

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

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

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

EXAMPLE:

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

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

476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532

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

6.3.2 RESTART COMMAND

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

6.3.2.1 TESTS, PASS, AND FLAGS SWITCHES

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

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

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

6.3.2.3 EFFECT OF RESTART COMMAND

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

6.3.3 CONTINUE COMMAND

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

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

533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589

<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

590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646

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

6.3.6 DROP COMMAND

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

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

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

6.3.6.2 EFFECT OF DROP COMMAND

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

6.3.7 PRINT COMMAND

PRI(NT)

6.3.7.1 EFFECT OF PRINT COMMAND

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

6.3.8 DISPLAY COMMAND

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

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

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

6.3.8.2 EFFECT OF DISPLAY COMMAND

647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703

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

6.3.9 FLAGS COMMAND

FLA(GS)

6.3.9.1 EFFECT OF FLAGS COMMAND

THE CURRENT SETTINGS OF ALL FLAGS ARE PRINTED.

6.3.10 ZFLAGS COMMAND

ZFL(AGS)

6.3.10.1 EFFECT OF ZFLAGS COMMAND

ALL FLAGS ARE CLEARED.

6.3.11 CONTROL CHARACTERS

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

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

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

6.3.12 HARDWARE PARAMETERS

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

1. KMV11-A (CSR ADDRESS : (O) 177000 ?

704 THIS IS THE ADDRESS AT WHICH THE CSR REGISTERS (SELO) RESIDE
 705 ON THE QBUS. THE ALLOWABLE RANGE IS 160000-177776
 706 (OCTAL), AND THE DEFAULT IS 177000.
 707
 708 2. DEVICE VECTOR ADDRESS : (0) 300 ?
 709
 710 THIS IS THE ADDRESS OF THE FIRST INPUT INTERRUPT VECTOR FOR
 711 THIS DEVICE. THE ALLOWABLE RANGE IS 000-674 (OCTAL), AND THE
 712 DEFAULT VALUE IS 300.
 713
 714 3. DEVICE PRIORITY LEVEL : (0) 4 ?
 715
 716 THIS IS THE CPU PRIORITY AT WHICH THE INTERRUPT HANDLERS OF
 717 THIS DEVICE WILL BE EXECUTED. THE DEFAULT VALUE IS 4.
 718
 719 4. WILL LOOP CONNECTOR BE USED 0=NO,1=YES : (0) 1 ?
 720
 721 THIS TELLS THE PROGRAM IF THE LOOP-BACK CONNECTOR IS PLUGGED
 722 IN OR NOT. THE ALLOWABLE VALUES ARE 0 AND 1, AND THE DEFAULT
 723 VALUE IS 1 (PLUGGED IN).
 724
 725 5. IS THE HOST COMPUTER A PDP11/23+ 0=NO,1=YES : (0) 1 ?
 726
 727 THIS TELLS THE PROGRAM IF IT CAN TEST OR NOT, THE NON EXISTANT
 728 MEMORY STATUS FLAG. THE ALLOWABLE VALUES ARE 0 AND 1, AND THE
 729 DEFAULT VALUE IS 1 (COMPUTER IS THE PDP11/23+)
 730
 731 6.3.13 SOFTWARE PARAMETERS
 732
 733 NO SOFTWARE PARAMETERS ARE REQUESTED BY THE LOGIC DIAGNOSTIC
 734
 735 6.3.14 EXTENDED DISCUSSION OF P-TABLE DIALOGUE
 736
 737 THE FULL CAPABILITY OF THE HARDWARE DIALOGUE IS REVEALED BY
 738 THE FOLLOWING DISCUSSION OF WHAT HAPPENS INTERNALLY.
 739
 740 AFTER THE INITIAL DIALOGUE, THE SUPERVISOR ISSUES THE QUES-
 741 TION BELOW:
 742
 743 CHANGE HW (L) ?
 744
 745 IF YOUR RESPONSE IS Y (YES), THE SUPERVISOR ASKS FOR THE
 746 NUMBER OF UNITS UNDER TEST:
 747
 748 # UNITS (D) ?
 749
 750 AS SOON AS THE QUESTION "# UNITS ?" IS ANSWERED (WITH THE
 751 NUMBER N, SAY) SPACE IN CORE IS ALLOCATED FOR N P-TABLES.
 752 ALL OF THE P-TABLES ARE OF THE SAME FORMAT, AND THERE IS A
 753 ONE-TO ONE CORRESPONDENCE BETWEEN THE HARDWARE PARAMETER
 754 QUESTIONS AND THE SLOTS IN THE P-TABLE FORMAT.
 755
 756 ON THE FIRST TRIP THRU THE QUESTIONS, ALL OF THE SLOTS IN
 757 ALL OF THE P-TABLES ARE FILLED. IF THE OPERATOR TYPES IN
 758 LESS THAN N EXPLICIT VALUES IN RESPONSE TO A PARTICULAR
 759 QUESTION, THESE VALUES ARE PLACED IN THE P-TABLES (ONE VALUE
 760

761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817

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 OPERATOR IN THE FORM 'UNIT XX' AT THE BEGINNING OF EACH SERIES). QUESTION 1 IS RESPONDED TO

CVKMCAD KMV11-A FCTNL DIAG
PROGRAM DOCUMENT

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

818
819
820
821
822
823
824
825
826

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

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

828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884

7.0 TEST DESCRIPTIONS

*****TEST01*****

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

MODE: APPLICATION MODE

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR

*****TEST02*****

** - SELF-TEST RUNNING TEST

KMV ON BOARD SWITCHES MUST BE:

E13-SW8 ON
E29-SW10 OFF

MODE: APPLICATION MODE

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

*****TEST03*****

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

MODE: APPLICATION MODE

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

885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941

*****TEST04*****

** - TEST OF THE CSR HANDSHAKING WITHOUT INTERRUPT

COMMAND LOADED: READ MODEM (F14)

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

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

*****TEST05*****

** - TEST OF THE CSR HANDSHAKING WITH INTERRUPTS

COMMAND LOADED: READ MODEM (F14)

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

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

942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998

ERROR 10008 PENDING
ERROR 10009 UNEXPECTED EPROM'S ON KMV
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 INTERRUPT OUT
ERROR 10007 NO MORE INTERRUPT WHILE QIO
PENDING
ERROR 10008 UNEXPECTED EPROM'S ON KMV
ERROR 10009 UNEXPECTED QIO RESPONSE

*****TEST07*****

** - TEST OF QIO PROCESSING AS BELOW:

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

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

999
1000
1001
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022
1023
1024
1025
1026
1027
1028
1029
1030
1031
1032
1033
1034
1035
1036
1037
1038
1039
1040
1041
1042
1043
1044
1045
1046
1047
1048
1049
1050
1051
1052
1053
1054
1055

RATE = 2.4K

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

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

SUBTEST3 - DECONFIGURATE THE LINE

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

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

THEN CURRENT STATE = S1
MODEM = ALL OFF

SUBTEST4 - TEST THAT WE ARE OFF LINE AGAIN

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

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

1056
1057
1058
1059
1060
1061
1062
1063
1064
1065
1066
1067
1068
1069
1070
1071
1072
1073
1074
1075
1076
1077
1078
1079
1080
1081
1082
1083
1084
1085
1086
1087
1088
1089
1090
1091
1092
1093
1094
1095
1096
1097
1098
1099
1100
1101
1102
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112

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

1113
1114
1115
1116
1117
1118
1119
1120
1121
1122
1123
1124
1125
1126
1127
1128
1129
1130
1131
1132
1133
1134
1135
1136
1137
1138
1139
1140
1141
1142
1143
1144
1145
1146
1147
1148
1149
1150
1151
1152
1153
1154
1155
1156
1157
1158
1159
1160
1161
1162
1163
1164
1165
1166
1167
1168
1169

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

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

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

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

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

REPORTS: ERROR 1000C KMV11 FAILS TO RESET MASTER
CLEAR
ERROR 10001 RUN FUNCTION NOT CORRECTLY
PERFORMED
ERROR 10002 WRITE FUNCTION NOT CORRECTLY
PERFORMED
ERROR 10003 READ FUNCTION NOT CORRECTLY
PERFORMED
ERROR 10004 DATA COMPARE ERROR
ERROR 10005 UNEXPECTED INTERRUPT IN
ERROR 10006 UNEXPECTED INTERRUPT OUT
ERROR 10007 NO MORE INTERRUPT WHILE QIO
PENDING
ERROR 10008 UNEXPECTED EPROM'S ON KMV
ERROR 10009 UNEXPECTED QIO RESPONSE
ERROR 10010 UNEXPECTED NUMBER OF RESP-
ONSES RECEIVED
ERROR 10011 UNEXPECTED DATA RECEIVED
ERROR 10012 LOOP BACK NOT USED

1170
1171
1172
1173
1174
1175
1176
1177
1178
1179
1180
1181
1182
1183
1184
1185
1186
1187
1188
1189
1190
1191
1192
1193
1194
1195
1196
1197
1198
1199
1200
1201
1202
1203
1204
1205
1206
1207
1208
1209
1210
1211
1212
1213
1214
1215
1216
1217
1218
1219
1220
1221
1222
1223
1224
1225
1226

*****TEST09*****

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

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

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

STATE = S6
MODEM = S142 ONLY

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

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

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

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

1227
1228
1229
1230
1231
1232
1233
1234
1235
1236
1237
1238
1239
1240
1241
1242
1243
1244
1245
1246
1247
1248
1249
1250
1251
1252
1253
1254
1255
1256
1257
1258
1259
1260
1261
1262
1263
1264
1265
1266
1267
1268
1269
1270
1271
1272
1273
1274
1275
1276
1277
1278
1279
1280
1281
1282
1283

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

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

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

PATTERN: INCREMENTAL

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

1284
1285
1286
1287
1288
1289
1290
1291
1292
1293
1294
1295
1296
1297
1298
1299
1300
1301
1302
1303
1304
1305
1306
1307
1308
1309
1310
1311
1312
1313
1314
1315
1316
1317
1318
1319
1320
1321
1322
1323
1324
1325
1326
1327
1328
1329
1330
1331
1332
1333
1334
1335
1336
1337
1338
1339
1340

CLOCK SOURCE INTERNAL
RATE = 64K

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

TEST

- TEST OF STATUS 1,360,372 AND CURRECT 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 FUJCTION NOT CORRECTLY
 PERFORMED
 ERROR 10004 DATA COMPARE ERROR
 ERROR 10005 UNEXPECTED INTERRUPT IN
 ERROR 10006 UNEXPECTED INTERRUPT OUT
 ERROR 10007 NO MORE INTERRUPT WHILE QIO
 PENDING
 ERROR 10008 UNEXPECTED EPROM'S ON KMV
 ERROR 10009 UNEXPECTED QIO RESPONSE
 ERROR 10010 UNEXPECTED NUMBER OF RESP-
 ONSES RECEIVED
 ERROR 10011 UNEXPECTED DATA RECEIVED
 ERROR 10012 LOOP BACK NOT USED

*****TEST11*****

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

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

1341
1342
1343
1344
1345
1346
1347
1348
1349
1350
1351
1352
1353
1354
1355
1356
1357
1358
1359
1360
1361
1362
1363
1364
1365
1366
1367
1368
1369
1370
1371
1372
1373
1374
1375
1376
1377
1378
1379
1380
1381
1382
1383
1384
1385
1386
1387
1388
1389
1390
1391
1392
1393
1394
1395
1396
1397

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

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

PATTERN: INCREMENTAL

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

*****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

1398
1399
1400
1401
1402
1403
1404
1405
1406
1407
1408
1409
1410
1411
1412
1413
1414
1415
1416
1417
1418
1419
1420
1421
1422
1423
1424
1425
1426
1427
1428
1429
1430
1431
1432
1433
1434
1435
1436
1437
1438
1439
1440
1441

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

CVKMAO KMV11-A FCTNL DIAG
PROGRAM DOCUMENT

MACRO M1200 06-JAN-83 10:39 PAGE 11

1443
1444
1445
1446
1447
1448
1449
1450
1451
1452
1453
1454
1455
1456
1457
1458
1459
1460
1461
1462
1463
1464
1465
1466
1467
1468
1469
1470
1471
1472
1473
1474
1475
1476
1477
1478
1479
1480
1481
1482
1483
1484
1485
1486
1487
1488
1489
1490
1491
1492
1493
1494
1495
1496
1497
1498
1499

8.0 ERROR INFORMATION

8.1 ERROR REPORTING

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

THE FOLLOWING EXAMPLE PROVIDE TYPICAL ERROR REPORT:

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

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

- ERROR REPORT LIST -

8.1.1 ERROR REPORTS NOTICED INSIDE SUB-ROUTINES

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

	READ	EXPECTED
SELO	040000	000000

** - ERROR REPORT 10001
RUN FUNCTION NOT CORRECTLY PERFORMED

	READ	EXPECTED
SELO	040000	000000

** - ERROR REPORT 10002
WRITE FUNCTION NOT CORRECTLY PERFORMED

	READ	EXPECTED
SELO	040000	000000

** - ERROR REPORT 10003
READ FUNCTION NOT CORRECTLY PERFORMED

	READ	EXPECTED
SELO	040000	000000

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

CVKMCAO KMV11-A FCTNL DIAG
PROGRAM DOCUMENT

MACRO M1200 06-JAN-83 10:39 PAGE 11-1

ADDRESS	READ	EXPECTED
1500	34000	002737
1501		
1502		
1503	** - ERROR REPORT 10005	
1504	UNEXPECTED INTERRUPT IN	
1505		
1506	SEL0	READ = 000000
1507	SEL2	READ = 000000
1508	SEL4	READ = 000000
1509	SEL6	READ = 000000
1510		
1511	NUMBER OF PENDING INPUTS = 06	
1512	NUMBER OF RESPONSES = 00	
1513		
1514	** - ERROR REPORT 10006	
1515	UNEXPECTED INTERRUPT OUT	
1516		
1517	SEL0	READ = 000000
1518	SEL2	READ = 000000
1519	SEL4	READ = 000000
1520	SEL6	READ = 000000
1521		
1522	NUMBER OF PENDING INPUTS = 06	
1523	NUMBER OF RESPONSES = 00	
1524		
1525	** - ERROR REPORT 10007	
1526	NO MORE INTERRUPT IN WHILE INPUTS ARE PENDING	
1527		
1528	NUMBER OF PENDING INPUTS = 06	
1529	NUMBER OF RESPONSES = 00	
1530		
1531	** - ERROR REPORT 10008	
1532	UNEXPECTED EPROM'S ECO LEVEL	
1533		
1534	OBTAINED ECO LEVEL = 000001	
1535	EXPECTED ONE = 000002	
1536		
1537	** - ERROR REPORT 10009	
1538	UNEXPECTED QIO RESPONSE	
1539		
1540	BAD QIO RESPONSE NUMBER = 2 (SPECIFY THE SEQUENCING NUMBER OF IT)	
1541		
1542	SEL2	READ = 000201
1543	SEL4	READ = 000000
1544	SEL4	READ = 000400
1545		
1546	** - ERROR REPORT 10010	
1547	UNEXPECTED NUMBER OF RESPONSES RECEIVED	
1548		
1549	EXPECTED NUMBER OF RESPONSES = 3	
1550	NUMBER OF RESPONSES RECEIVED = 1	
1551		
1552	** - ERROR REPORT 10011	
1553	UNEXPECTED DATA RECEIVED	
1554		
1555	TRANSMIT BUFFER ADDRESS : 005512	
1556	RECEIVE BUFFER ADDRESS : 002512	

1557
1558
1559
1560
1561
1562
1563
1564
1565
1566
1567
1568
1569
1570
1571
1572
1573
1574
1575
1576
1577
1578
1579
1580
1581
1582
1583
1584
1585
1586

RECORD SIZE : 100 (DECIMAL)
 BYTES IN ERROR : 88 (DECIMAL)

	ADDRESS	DATA
XMIT BUFFER:	005552	040
RCV BUFFER:	002552	000
XMIT BUFFER:	005553	041
RCV BUFFER:	002553	000

.... UP TO 8 ERROR ARE REPORTED ONLY

** - ERROR REPCRT 10012
 THIS TEST IS SKIPPED BECAUSE THERE IS NO EXTERNAL LOOP

8.1.2 ERROR REPORT NOTICED INSIDE THE TEST:

** - ERROR REPORT 00001
 SELF TEST IS NOT CORRECTLY RUN

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

SEL02 = 000000 EXPECTED VALUE = 000400

** - ERROR REPORT 00003
 RDYO NOT ASSERTED BY THE KMV FOR A VALID RESPONSE

SEL02 = 000000 EXPECTED VALUE = 000204

CVKMCAD KMV11-A FCTNL DIAG
PROGRAM DOCUMENT

MACRO M1200 06-JAN-83 10:39 PAGE 12

C
G

1588
1589
1590
1591
1592
1593
1594
1595
1596
1597
1598
1599

9.0 HISTORY

- VERSION 01, REVISION 00

NOVEMBER 1982

Ⓜ

CVKMCAO KMV11-A FCTNL DIAG
PROGRAM DOCUMENT

MACRO M1200 06-JAN-83 10:39 PAGE 13

```

1609          .NLIST ME
1610          002000          .=2000
1611
1612
1613
1614
1615
1616          .MCALL SVC
1617 002000          SVC          ; INITIALIZE SUPERVISOR MACROS
1618
1619
1620
1621
1622
1623 002000          BGNMOD VKMCAO
1624
1625
1626          177777          $LSTIN= -1
1627          177777          $LSTTAG= -1
1628          177777          SVCINS= -1          ; LIST INSTRUCTIONS, SHIFTED RIGHT
1629          177777          SVCTST= -1         ; LIST TEST TAGS, SHIFTED RIGHT
1630          177777          SVCSUB= -1         ; LIST SUBTEST TAGS, SHIFTED RIGHT
1631          177777          SVCGBL= -1        ; LIST GLOBAL TAGS, SHIFTED RIGHT
1632          177777          SVCTAG= -1        ; LIST OTHER TAGS, SHIFTED RIGHT
1633
1634          :          CHANGE THE VALUES OF THE SVC... SYMBOLS TO BE ZERO IF YOU WISH
1635          :          TO ALIGN THE MACRO CALLS AND THEIR EXPANSIONS. CHANGE THE
1636          :          SYMBOLS TO BE MINUS-ONE TO NOT LIST THE EXPANSIONS. YOU MAY
1637          :          CHANGE THE SYMBOLS AT ANY POINT IN YOUR PROGRAM.
1638
1639

```

CVKMCAO KMV11-A FCTNL DIAG
PROGRAM HEADER

MACRO M1200 06-JAN-83 10:39 PAGE 14

1641
1642
1643
1644
1645
1646
1647 002000
1648
1649
1650
1668
1669 002000
1670
1681

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

POINTER BGN0U,BGNSETUP

HEADER VKMCAO,A,0,180.,0

CVKMCAO KMV11-A FCTNL DIAG
PROGRAM HEADER

MACRO M1200 06-JAN-83 10:39 PAGE 15

1683
1684
1685
1686
1687
1688
1689
1690
1691
1692
1693
1694
1695
1709
1710
1711
1712

002122

002122 000000

002124 177777

002126 177777

002130

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

BGNPROT

0

-1

-1

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

ENDPROT

CVKMCAO KMV11-A FCTN_ DIAG
DISPATCH TABLE

MACRO M1200 06-JAN-83 10:39 PAGE 16

C
G

1714
1715
1716
1717
1718
1719
1720
1721 002130
1722
1729
1730
1731
1732
1733

.SBTTL DISPATCH TABLE

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

DISPATCH 12

CVKMCAD KMV11-A FCTNL DIAG
DEFAULT HARDWARE P-TABLE

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

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

.SBTTL GLOBAL EQUATES SECTION

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

.LIST ME
EQUA_S

: BIT DIFINITIONS

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

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

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

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

.; PRIORITY LEVEL DEFINITIONS

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

.; OPERATOR FLAG BITS

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

.NLIST ME

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

.; CSR OFFSETS DEFINITIONS

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

;LENGTH OF CSR IN WORDS

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL EQUATES SECTION

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

```

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

```

CVKMCA0 KMV11-A FCTNL DIAG
GLOBAL EQUATES SECTION

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

```

1898
1899
1900
1901
1902      000001      SUCCES = 1           ;COMMAND CORRECTLY PERFORMED
1903      000374      NXMEM  = 374          ;NON EXISTENT BUFFER MEMORY
1904      000373      BUFOVF = 373          ;BUFFER OVERFLOW
1905      000372      FRMLER = 372          ;FRAME LENGTH ERROR
1906      000371      OUTSEQ = 371          ;OUT OF SEQUENCE
1907      000370      LTCYER = 370          ;LATENCY ERROR
1908      000367      FCSER  = 367          ;FCS ERROR
1909      000365      MODDWN = 365          ;MODEM DOWN
1910      000364      RXABO  = 364          ;ABORT RECEIVED
1911      000363      DBLCMD = 363          ;DOUBLE COMMAND
1912      000360      TOOBUF = 360          ;MORE THAN TWO BUFFERS
1913      000357      KMVER  = 357          ;KMV RESSOURCE ERROR
1914      000356      DCONFP = 356          ;DECONFIGURATE PENDING
1915
1916
1917      ; DEC STD 52 STATE OF THE LINE (FROM KMV)
1918
1919
1920      000000      S1      = 0           ;OFF LINE
1921      000001      S3      = 1           ;LINE ENABLE
1922      000002      S5      = 2           ;PENDING START
1923      000003      S6      = 3           ;DATA EXCHANGE
1924      000004      S6A     = 4           ;LINE FAILURE
1925      000005      S7A     = 5           ;LINE DISCONNECT
1926      000006      S7B     = 6           ;DECONFIGURATE
1927
1928
1929      ; READ MODEM LEADS
1930
1931
1932      000001      S10)    = BIT00        ;(CD)DATA CHANNEL RECEIVED LINE
1933
1934      000002      S125    = BIT01        ;SIGNAL DETECTOR
1935      000004      S107    = BIT02        ;(RI)CALLING INDICATOR
1936      000010      S106    = BIT03        ;(DSR)DATA SET READY
1937      000020      S112    = BIT04        ;(CTS)READY FOR SENDING
1938      000040      S142    = BIT05        ;DATA SIGNAL RATE SELECTOR
1939
1940
1941      ; DEFINITIONS FOR APPLICATION FIRMWARE LOADING
1942
1943
1944      030354      $START  = COMEXE        ;START ADDRESS TO RUN FIRMWARE
1945      030354      $RAM    = $BUFF        ;FIRST RAM ADDRESS TO LOAD FIRMWARE
1946      160000      $$STR  = 160000       ;FIRST PROM ADDRESS IN KMV
1947      160002      ECONB  = $$STR+2      ;KMV FIRMWARE ECO LEVEL ADDRESS
1948      160004      PARTNB = $$STR+4      ;KMV PROM NUMBER
1949      000400      $RDBS  = 256.         ;LENGTH OF RDB'S
1950      000017      $RDBC  = 15.          ;NUMBER OF RDB'S
1951
1952
1953      ; CONFIGURATE PARAMETERS
1954      ; - LOADED IN SEL4

```

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL EQUATES SECTION

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

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

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL EQUATES SECTION

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

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

```

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

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

          ERR TBL
ERRTYP:: .WORD 0
ERRNBR:: .WORD 0
ERRMSG:: .WORD 0
ERRBLK:: .WORD 0

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

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

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

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

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

```

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL DATA SECTION

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

000000

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL DATA SECTION

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

```

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

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

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

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

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

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

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

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

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

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

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

```

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL DATA SECTION

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

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

PATLGH: .-PATRN

```

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

```

2177	007124	000112	
2178			
2179			
2180			
2181			
2182			
2183			
2184	007126	000001	

GDREV: .WORD 1

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL DATA SECTION

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

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

REGADR:

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

.BLKW 100

SSTACK:

CVKMCA0 KMV11-A FCTNL DIAG
GLOBAL DATA SECTION

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

2197
2198
2199
2200
2201
2202
2203
2204
2205
2206
2207
2208
2209
2210 007330
2211
2212
2213
2220
2221
2222
2223
2224

.SBTTL GLOBAL TEXT SECTION

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

::*****
:* NAMES OF DEVICES SUPPORTED BY PROGRAM
:*****
DEV TYP <M7500>

CVKMCA0 KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 23

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

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

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

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 24

2368
2369
2370
2371
2372
2373
2374
2375
2376
2377
2378
2379
2380
2381
2382
2383
2384
2385
2386
2387
2388
2389

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

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

CVKMCA0 KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 25

2391
2392
2393
2394
2395
2396
2397
2398
2399
2400
2401
2402
2403
2404
2405
2406
2407
2408
2409
2410

```

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

```

```

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

```


CVKMCAO KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 26

2412
2413
2414
2415
2416
2417
2418
2419
2420
2421
2422
2423
2424
2425
2426
2427
2428
2429
2430
2431

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

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

CVKMCA0 KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 27

2433
2434
2435
2436
2437
2438
2439
2440
2441
2442
2443
2444
2445
2446
2447
2448
2449
2450

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

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

CVKMCAD KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:30 PAGE 28

2452
 2453
 2454
 2455
 2456
 2457
 2458
 2459
 2460
 2461
 2462
 2463
 2464
 2465
 2466
 2467
 2468
 2469
 2470
 2471
 2472
 2473 007336
 2474 007346 011601
 2475 007350 012102
 2476 007352 010116
 2477 007354
 2478 007354
 2479 007356 012701 000074
 2480 007362 077101
 2481
 2482 007364 077205
 2483
 2484 007366
 2485 007376 000207
 2486

```

:++
: 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

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

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

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

        GET      12
        RETURN

```

CVKMCAD KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 29

2488
2489
2490
2491
2492
2493
2494
2495
2496
2497
2498
2499
2500
2501
2502
2503
2504
2505
2506
2507
2508
2509
2510
2511
2512
2513
2514
2515
2516
2517
2518
2519
2520
2521
2522
2523

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

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

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

CVKMCAD KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 C6-JAN-83 10:39 PAGE 30

2525
2526
2527
2528
2529
2530
2531
2532
2533
2534
2535
2536
2537
2538
2539
2540
2541
2542
2543
2544
2545
2546
2547
2548
2549
2550
2551
2552
2553
2554
2555
2556
2557
2558
2559
2560
2561
2562

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

```

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

```

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

CVKMCAD KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 31

```

2564
2565
2566
2567
2568
2569
2570
2571
2572
2573
2574
2575
2576
2577
2578
2579
2580
2581
2582 007620
2583 007640 010637 002364
2584 007644 012737 010004 000004
2585 007652 106737 000006
2586 007656 012701 003776
2587
2588
2589
2590 007662 005737 177572
2591
2592
2593
2594 007666 005046
2595 007670 012702 172340
2596 007674 012703 000010
2597 007700 012762 077406 177740 1$:
2598 007706 011622
2599 007710 062716 000200
2600 007714 077307
2601 007716 012742 177600
2602 007722 005042
2603 007724 012737 007742 000004
2604 007732 012737 000020 172516
2605 007740 000401
2606
2607 007742 022626 2$:
2608
2609 007744 005237 177572 3$:
2610 007750 012737 007774 000004
2611 007756 005737 143776 4$:
2612 007762 062712 000040
2613 007766 023712 172356
2614 007772 101371
2615
2616 007774 011202 5$:
2617 007776 005037 177572
2618 010002 000416
2619
2620

```

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

; CHECK IF M.M.U. INSTALLED
 TST SRC ;IS IT?
 ; YES, SIZE THE MEMORY BY USING THE M.M.

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

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

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

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

; SIZE MEMORY WITHOUT M.M.

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 31-1

```

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

```

2651
2652
2653
2654
2655
2656
2657
2658
2659
2660
2661
2662
2663
2664
2665
2666
2667
2668
2669
2670
2671
2672
2673
2674
2675
2676
2677
2678
2679
2680
2681
2682
2683
2684
2685
2686
2687
2688
2689
2690
2691
2692
2693
2694
2695
2696
2697
2698
2699
2700
2701
2702
2703
2704
2705
2706
2707

```

:++
: ROUTINE TO CHECK QIO RESPONSES
:
: DESCRIPTION: SUBSEQUENT RESPONSES(SEL2,SEL4,SEL6) ARE
:              COMPARED TO THE EXPECTED ONES
:
: INPUTS: R1 EXPECTED OUT LIST LENGTH
:         R1+2 EXPECTED OUT LIST BASE ADDRESS
:         OUTBUF RECEIVED OUT LIST ADDRESS
:         RSPCNT FOR THE NUMBER OF RESPONSES
:
: OUTPUTS: R0 TO R4 ARE DESTROYED
:         CARRY BIT CLEARED IF TEST OKE
:         CARRY SET IF NOT, IN THIS CASE,
:         BAD2,4,6 GIVES UN-EXPECTED RESPONSES
:         OUTNUM = THE SEQUENTIAL NUMBER OF UN-EXPECTED RESPONSE
:
: REPORTS: ERROR 10009          NOT EXPECTED RESPONSE RECEIVED
:         ERROR 10010          NOT EXPECTED NUMBER OF RESPONSES RECEIVED
:--
:
CHKRSP:
:
: GET OUT LIST LENGTH
: SAVE LIST POINTER
: POINT TO OUTLIST
: CLEAR BAD RESPONSE NUMBER POINTER
: INIT RESPONSE COUNTER
MOV      (R1)+,LSTLGH
SAVE     1
MOV      #OUTBUF,R3
CLR      OUTNUM
CLR      R2
:
: EXPECTED NUMBER OF RESPONSES?
: IF YES
CMP      RSPCNT,LSTLGH
BEQ     1$
:
: IF NOT, SET REPORT
MOV      LSTLGH,OUTNUM
ERRHRD  10010,E10010,PRBNUM
:
1$:
: GET RCV RESPONSE ID
: GET RCV STATUS
MOV      (R3),R4
MOVB    5(R3),R0
:
: GET COMPLETE RESPONSE BEFORE
: ANY REPORT
MOV      (R3)+,BAD2
MOV      (R3)+,BAD2+2
MOV      (R3)+,BAD2+4
SAVE     3
:
: KEEP FXX ONLY
BIC     #177760,R4
CLC
ASL     R4
: ADJUST FOR WORD BOUNDARY
: POINT TO THE RIGHT FUNCTION TEST
MOV      RSPLST(R4),R4
:
: THEN LOOK FOR THE RIGHT TEST
: ACCORDING TO THE EXPECTED STATUS
CMPB    #SUCCES,R0
BEQ     10$
CMPB    #NXMEM,R0
BEQ     9$
CMPB    #BUFOVF,R0
BEQ     8$
CMPB    #FRMLER,R0
BEQ     7$

```


CVKMAO KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 32-1

```

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

```

CVKMCA0 KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 32-2

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

2783
 2784
 2785
 2786
 2787
 2788 010554 010614
 2789 010556 010640
 2790 010560 010664
 2791 010562 010710
 2792 010564 010734
 2793 010566 010760
 2794 010570 J11004
 2795 010572 011030
 2796 010574 011124
 2797 010576 011150
 2798 010600 011174
 2799 010602 011220
 2800 010604 011244
 2801 010606 011270
 2802 010610 011314
 2803 010612 011340

: POSSIBLE RESPONSE POINTER LIST

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

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 34

```

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

```

2841
2842
2843
2844
2845
2846
2847
2848
2849
2850
2851
2852
2853
2854
2855
2856
2857
2858
2859
2860
2861
2862
2863
2864
2865
2866
2867
2868
2869
2870
2871
2872
2873
2874
2875
2876
2877
2878
2879
2880
2881
2882
2883
2884
2885
2886
2887
2888
2889
2890
2891
2892
2893
2894
2895
2896
2897

```

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

```

COMPAR:  SAVE      34
          CLR      ERRCNT          ;INIT ERROR COUNTER
          MOV      R1,XMTBUF       ;SAVE ADDRESSES
          MOV      R2,RCVBUF
          MOV      #BADLOC,R4     ;POINT TO ERROR TABLE
          MOV      LENGTH,R3      ;GET NUMBER OF BYTE

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

2$:      INC     R1                ;NEXT LOCATION
          INC     R2
          SOB     R3,1$          ;DEC R3 AND CONTINUE IF NOT NULL

          TST     ERRCNT          ;ANY ERROR?
          BNE     4$              ;YES, SET CARRY
          CLC     ;NO, CLEAR CARRY
          BR     5$              ;TERMINATE

3$:      INC     ERRCNT          ;INC ERROR COUNT
          CMP     #8.,ERRCNT      ;8 ERRORS ?
          BLO     2$              ;YES, JUST LOOP

          MOV     R1,(R4)+        ;IF NOT, SAVE BAD ADDRESS
          MOV     R2,(R4)+
          BR     2$              ;THEN LOOP BACK

4$:      ERRHRD  10011,E10011,PRBCOM ;REPORT
          WAIT   10000.
          SEC

5$:      GET     34
    
```

```

011374
011404 005037 002430
011410 010137 002424
011414 010237 002426
011420 012704 002432
011424 013703 002346
121112
011430 121112
011432 001010
011434 005201
011436 005202
011440 077305
011442 005737 002430
011446 001013
011450 000241
011452 000421
011454 005237 002430
011460 022737 000010 002430
011466 103762
011470 010124
011472 010224
011474 000757
011476
011506
011514 000261
011516
    
```

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 35-1

2898 011526 000207

RETURN

CVKMCAD KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 36

2900
2901
2902
2903
2904
2905
2906
2907
2908
2909
2910
2911
2912
2913
2914
2915
2916
2917
2918

011530
011534 013703 002346
011540 005021
011542 077302
011544
011550 000207

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

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

CVKMCA0 KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 37

2920
2921
2922
2923
2924
2925
2926
2927
2928
2929
2930
2931
2932
2933
2934
2935
2936
2937
2938
2939

011552
011556 013703 002346
011562 112122
011564 077302
011566
011572 000207

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

COPY: SAVE 3
MOV LENGTH,R3 ;GET NUMBER OF BYTE
1\$: MOVB (R1)+,(R2)+ ;COPY FROM SOURCE TO DESTINATION BUFFER
SOB R3,1\$;DEC COUNTER AND CONTINUE IF NOT NULL
GET 3
RETURN

2941
2942
2943
2944
2945
2946
2947
2948
2949
2950
2951
2952
2953
2954
2955
2956
2957
2958
2959
2960
2961
2962
2963
2964
2965
2966
2967
2968
2969
2970
2971
2972
2973
2974
2975
2976
2977
2978
2979
2980
2981
2982
2983
2984

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

```
MODE0:  SAVE    1
        MOV     KMVCSR,R5           ;GET CSR ADDRESS IN R5
        CLR    SELO(R5)           ;RESET SELO
        MOV    #MCLR,SELO(R5)     ;SET MODE 0 AND MCLR
        MOV    #10.,R1            ;SET WAIT OF 10 MS
1$:     WAIT    10.                ;WAIT 1 MS
        BIT    #MCLR,SELO(R5)     ;MCLR CLEARED?
        BEQ    2$                 ;IF YES
        SOB   R1,1$               ;IF NOT, LOOP TILL TIME-OUT
        CLR    GOOD0              ;SET REPORT FOR TIME OUT
        MOV    SELO(R5),BADO
        ERHRD  10000,E10000,PRSELO ;REPORT
        WAIT  10000.
        SEC
        BR    3$
2$:     CLC
3$:     GET    1
        RETURN
```

CVKMCAD KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

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

2986
 2987
 2988
 2989
 2990
 2991
 2992
 2993
 2994
 2995
 2996
 2997
 2998
 2999
 3000 011706 000241
 3001 011710 005737 002344
 3002 011714 001010
 3003
 3004 011716
 3005 011726
 3006 011734 000261
 3007 011736
 3008 011736 000207
 3009

```

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

LPBACK: CLC
        TST      LCLOOP      ;TEST IF PLUGGED?
        BNE      1$          ;YES

        ERRHRD  10012,E10012 ;NO, REPORT
        WAIT    10000.

1$:     SEC          ;SET CARRY IF NOT
        RETURN

```

CVKMCAD KRV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 40

3011
3012
3013
3014
3015
3016
3017
3018
3019
3020
3021
3022
3023
3024
3025
3026
3027
3028
3029
3030
3031
3032
3033
3034

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

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

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

3036
3037
3038
3039
3040
3041
3042
3043
3044
3045
3046
3047
3048
3049
3050
3051
3052
3053
3054
3055
3056
3057
3058
3059
3060
3061
3062
3063
3064
3065
3066
3067
3068
3069
3070
3071
3072
3073
3074
3075
3076
3077
3078
3079
3080
3081
3082
3083
3084
3085

```

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

```

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

3087
3088
3089
3090
3091
3092
3093
3094
3095
3096
3097
3098
3099
3100
3101
3102
3103
3104
3105
3106
3107
3108
3109
3110
3111
3112
3113
3114
3115
3116
3117
3118
3119
3120 012150
3121
3122
3123
3124 012170 005037 002412
3125 012174
3126 012174 012704 030354
3127 012200 013702 043726
3128 012204 012703 030354
3129 012210
3130 012210 005737 002412
3131 012214 001004
3132
3133 012216 004737 007506
3134 012222 103436
3135 012224 000422
3136
3137
3138
3139 012226
3140 012226 004737 007400
3141 012232 103432
3142
3143 012234 021465 000006

```

: **
: ROUTINE TO LOAD APPLICATION FIRMWARE
:
: DESCRIPTION: LOAD ALL THE FIRMWARE
:              TEST IF CORRECTLY LOADED
:              THEN SET FLAG
:
: INPUTS: $BUFF = APPLICATION CODE FILE
:         BUFLGH = APPLICATION FIRMWARE LENGTH
:         $RAM = KMV RAM LOAD ADDRESS
:         APPFLG = SET WHEN CODE IS CORRECTLY LOADED
:         S_LOAD = FLAG TO INDICATE LOAD(0) OR COMPARE(1)
:         R5 = CSR BASE ADDRESS
:
:         USING OF R1 TO R4,
:             R1 = TIME-OUT COUNTER
:             R2 = WORD LOADING COUNTER
:             R3 = RAM LOAD ADDRESS
:             R4 = BUFFER ADDRESS
:
: OUTPUTS: APPFLG = 1 IF CORRECTLY LOADED
:         CARRY SET IF ANY ERROR
:
: REPORT: ERROR 10002          WRITE FAILURE
:         ERROR 10003          READ FAILURE
:         ERROR 10004          DATA COMPARE ERROR
:
: --
:
: LDAPPL: SAVE      1234
:
: WRITE PHASE
:
1$: CLR      S_LOAD          ;0 FOR LOAD
:
: MOV      #$BUFF,R4        ;POINT TO SOURCE BUFFER
: MOV      BUFLGH,R2        ;SET LENGTH
: MOV      #$RAM,R3         ;POINT TO DESTINATION
:
2$: TST      S_LOAD          ;IS IT A LOAD?
: BNE     10$              ;BR IF COMPARE
:
: CALL     WDATA            ;WRITE DATA
: BCS     30$              ;IF ERROR
: BR      20$              ;IF OKE, WRITE NEXT DATA
:
: TO COMPARE
:
10$: CALL    RDATA          ;READ DATA
: BCS     30$
:
12$: CMP     (R4),SEL6(R5)  ;THE SAME?

```

CVKMCAD KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 42-1

```

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

```

3175
3176
3177
3178
3179
3180
3181
3182
3183
3184
3185
3186
3187
3188
3189
3190
3191
3192
3193
3194
3195
3196
3197
3198
3199
3200
3201
3202
3203
3204
3205
3206
3207
3208 012362
3209
3210 012402 012703 160002
3211
3212 012406 004737 007400
3213 012412 103441
3214
3215 012414 016537 000006 002326
3216 012422 023737 002326 007126
3217 012430 001437
3218
3219 012432
3220
3221
3222
3223 012442 012703 160004
3224 012446 012704 002556
3225 012452
3226 012452 004737 007400
3227 012456 103417
3228
3229 012460 016524 000006
3230 012464 062703 000002
3231 012470 020427 002572

```

:++
: ROUTINE TO CHECK KMV PROM ECO LEVEL AND PRINT PART NUMBER
:
: DESCRIPTION: BEGIN
:               READ ACTUAL ECO LEVEL AT ADDRESS=ECONB
:               COMPARE TO GDLVL
:               IF NOT EQUAL THEN REPORT ERROR
:               FOR KMV ADDRESS=PARTNB TO LAST CHR DO
:                 READ ASCII CHR
:
:               NEXT
:               PRINT PART NUMBER
:               END
:
: INPUTS: R5 = CSR BASE ADDRESS
:         PARTNB IS THE KMV PROM PART NUMBER ADDRESS
:         PROMNB IS THE ADDRESS OF GOOD ONE
:         ECONB IS THE ADDRESS OF ACTUAL PROM ECO LEVEL
:         GDLVL IS THE LEVEL EXPECTED BY THE DIAG.
:
:         USING OF R1 TO R4
:         R1=TIME-OUT COUNTER
:         R3=ROM LOAD ADDRESS
:         R4=GOOD CHR ADDRESS
:
: OUTPUTS: CARRY SET IF ANY ERROR
:
: REPORTS: ERROR 10003          READ FAILURE
:          ERROR 10008          BAD EPROM ECO LEVEL
:
:--
:
: REVCHK: SAVE      1234
:
: MOV      #ECONB,R3          ;INIT R3
: CALL     RDATA            ;READ DATA
: BCS     30$
:
: MOV      SEL6(R5),BAD6     ;GET SEL6
: CMP     BAD6,GDREV        ;THE SAME LEVEL?
: BEQ     40$               ;IF YES
:
: ERRHRD  10008,E10008,PRBECO ;IF NOT, REPORT
:
: ; PRINT PART NUMBER
:
: 1$:     MOV      #PARTNB,R3 ;INIT R3
:         MOV      #PROMNB,R4 ;INIT R4
:
: 2$:     CALL     RDATA      ;READ CHR
:         BCS     30$
:
:         MOV      SEL6(R5),(R4)+ ;SAVE IT
:         ADD     #2,R3          ;NEXT ADDRESS
:         CMP     R4,#PROMNB+12. ;READ COMPLETE?

```

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 43-1

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

3246
3247
3248
3249
3250
3251
3252
3253
3254
3255
3256
3257
3258
3259
3260
3261
3262
3263
3264
3265
3266
3267
3268
3269
3270
3271
3272
3273
3274
3275
3276
3277
3278
3279
3280
3281
3282
3283
3284
3285
3286
3287
3288
3289
3290
3291
3292
3293
3294
3295
3296
3297
3298
3299
3300

```

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

```

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

3302
3303
3304
3305
3306
3307
3308
3309
3310
3311
3312
3313
3314
3315
3316
3317
3318
3319
3320
3321
3322
3323
3324
3325
3326
3327
3328
3329
3330
3331
3332
3333
3334
3335
3336
3337
3338
3339
3340
3341
3342
3343
3344
3345
3346
3347
3348
3349
3350
3351
3352
3353
3354
3355
3356
3357
3358

```

:++
: INPUT INTERRUPT SERVICE ROUTINE
:
: DESCRIPTION: BEGIN
:               IF RQI NOT SET
:                 THEN REPORT ERROR
:               IF RDYI NOT SET
:                 THEN REPORT ERROR
:               IF NO QIO
:                 THEN INPUT DUMMY COMMAND
:               POINT TO CURRENT COMMAND IN LIST
:               INPUT PARAMETERS
:               IF NO MORE COMMAND IN LIST
:                 THEN CLEAR RQI
:               INPUT COMMAND NUMBER
:               CLEAR RDYI
:               END
:
: INPUTS: R5 = KMV CSR ADDRESS
:         INLIST POINT TO THE CURRENT COMMAND TO INPUT
:         REQCNT INDICATES THE NUMBER OF INPUT STILL TO DO
:         TMOU  INDICATES INTERRUPT TIME-OUT LENGTH
:
: OUTPUTS: ERRFLG SET SUCH AS,
:          BIT2 SET IF NO RQI OR RDYI
:--

```

```

ITIN:  MOV    R1,-(SP)           ;SAVE R1,R2
        MOV    R2,-(SP)
3335   BIT    #IEI,SELO(R5)      ;INT. ENABLE?
3336   BEQ    1$                ;NOT, SET ERROR
3337   BIT    #RQI,SELO(R5)     ;IS RQI SET?
3338   BEQ    1$                ;NOT, SET ERROR
3339   BIT    #RDYI,SEL2(R5)    ;IS RDYI SET?
3340   BNE    2$                ;YES, SERVE INT.
3341   1$:
3342   BIS    #BIT2,ERRFLG      ;SET ERROR FLAG
3343   BR     30$               ;THEN EXIT
3344
3345   2$:  TST    REQCNT          ;ANY-MORE COMMAND?
3346   BNE    3$                ;YES, PROCESS
3347   MOV    #F0,R2            ;NOT, SET DUMMY COMMAND
3348   BR     20$               ;THEN CLEAR RDYI AND EXIT
3349
3350   3$:  MOV    INLST,R1        ;POINT TO COMMAND PARAMETERS
3351   MOV    (R1)+,R2          ;READ COMMAND NUMBER
3352
3353   MOV    (R1)+,SEL4(R5)     ;SET SEL4
3354   MOV    (R1)+,SEL6(R5)     ;SET SEL6
3355
3356   MOV    R1,INLST          ;SAVE NEW POINTER
3357
3358   DEC    REQCNT            ;NEXT COMMAND?

```

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 45-1

```

3359 013016 001003          BNE    20$          ;ANY-MORE COMMAND, DON'T CLEAR RQI
3360 013020 042765 000200 000000    BIC    #RQI,SEL0(R5) ;NO-MORE COMMAND, CLEAR RQI
3361
3362 013026          20$:          ;
3363 013026 010265 000002          MOV    R2,SEL2(R5)    ;SET SEL2 WITH COMMAND NUMBER
3364
3365 013032          30$:          ;
3366 013032 013704 002404          MOV    TMOUT,R4      ;INIT AGAIN TIME-OUT
3367 013036 012602          MOV    (SP)+,R2      ;RSTORE R1,R2
3368 013040 012601          MOV    (SP)+,R1
3369 013042 000002          RTI
3370

```

3372
3373
3374
3375
3376
3377
3378
3379
3380
3381
3382
3383
3384
3385
3386
3387
3388
3389
3390
3391
3392
3393
3394
3395
3396
3397
3398
3399
3400
3401
3402
3403
3404
3405
3406
3407
3408
3409
3410
3411
3412
3413
3414
3415
3416
3417
3418
3419
3420

```

:++
: OUTPUT INTERRUPT SERVICE ROUTINE
:
: DESCRIPTION: BEGIN
:               IF RDYO NOT SET
:                 THEN REPORT ERROR
:               IF NO RESPONSE AWAITED
:                 THEN REPORT ERROR
:               SAVE RESPONSE IN BUFFER
:               UP-DATE RESPONSE COUNT
:               CLEAR RDYO
:               END
:
: INPUTS: R5 = KMV CSR ADDRESS
:         TMOUT INDICATES THE TIME-OUT VALUE FOR INT.
:         OUTLST POINTS TO THE CURRENT FREE BUFFER
:         RSPCNT CURRENT RESPONSE COUNT
:
: OUTPUTS: R4 = TMOUT
:          ERRFLG SET WITH BIT0 IF ANY ERROR
:--
ITOUT: MOV     R1,-(SP)           ;SAVE R1
      BIT     #IE0,SEL0(R5)      ;INT. ENABLE?
      BEQ    1$                  ;NOT, SET ERROR
      BIT     #RDYO,SEL2(R5)     ;IS RDYO SET?
      BNE    2$                  ;YES, SAVE
      BIS    #BIT0,ERRFLG       ;NOT, SET ERROR
      BR     30$                 ;THEN EXIT
      CMP    #20.,RSPCNT        ;OUTBUF FULL?
      BEQ    30$                 ;YES, TERMINATE
      MOV    OUTLST,R1          ;POINT TO FREE BUFFER
      MOV    SEL2(R5),(R1)+     ;SAVE .EL2 TILL SEL6
      MOV    SEL4(R5),(R1)+
      MOV    SEL6(R5),(R1)+
      MOV    R1,OUTLST          ;POINT TO NEXT FREE BUFFER
      INC    RSPCNT             ;ONE RESPONSE MORE
      BIC    #RDYO,SEL2(R5)     ;CLEAR RDYO
      MOV    TMOUT,R4           ;INIT AGAIN TIME-OUT
      MOV    (SP)+,R1           ;RESTORE R1
      RTI
  
```

3422
3423
3424
3425
3426
3427
3428
3429
3430
3431
3432
3433
3434
3435
3436
3437
3438
3439
3440
3441
3442
3443
3444
3445
3446
3447
3448
3449
3450
3451
3452
3453
3454
3455
3456
3457
3458
3459
3460
3461
3462
3463
3464
3465
3466
3467
3468
3469
3470
3471
3472
3473
3474
3475
3476
3477
3478

```

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

```

```

QIOP:  MOV      (R1)+,R2          ;GET BASE ADDRESS
      MOV      (R1),TMOUT        ;GET TIME-OUT LENGTH
      MOV      (R2)+,REQCNT      ;GET IN LIST LENGTH
      MOV      R2,INLST         ;POINT TO IN LIST
      MOV      TMOUT,R4          ;SET TIME OUT
      BIS      #RQI!IEI!IEO,SEL0(R5) ;SET REQUEST AND ENABLE INT.
1$:   WAIT     10.              ;WAIT FOR 1 MS
      TST     ERRFLG            ;ANY ERROR?
      BNE     10$              ;YES, REPORT
      SOB     R4,1$            ;NOT, LOOP TILL TIME-OUT
      TST     REQ CNT          ;NO-MORE REQUEST?
      BEQ     30$              ;YES, END OF QIO
      ERHRD   10007,E10007,PRQION ;REPORT
      BR      20$              ;SET CARRY AND EXIT
10$:  MOV      SEL0(R5),BAD0     ;SET BAD0
      MOV      SEL2(R5),BAD2     ;SET BAD2
      MOV      SEL4(R5),BAD4     ;SET BAD4
      MOV      SEL6(R5),BAD6     ;SET BAD6

```

CVKMCAD KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 47-1

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

CVKMCAD KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 48

3496
3497
3498
3499
3500
3501
3502
3503
3504
3505
3506
3507
3508
3509
3510
3511
3512
3513
3514
3515
3516
3517
3518
3519
3520
3521
3522
3523
3524
3525
3526
3527
3528
3529
3530
3531
3532
3533
3534
3535

```

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

```

```

CHKMAX: INLOOP          ;LOOP ON ERROR?
BCOMPLETE          2$   ;IF YES, EXIT

1$:  MOV      #100000,R0   ;TAKE A BREAK
     SOB     R0,1$

     RFLAGS  R0           ;READ OPERATOR FLAG
     BIT     #IDU,R0      ;DROPPING INHIBITED?
     BNE     2$           ;IF YES, EXIT

     INC     ERCNTR       ;UPDATE ERROR COUNTER
     CMP     MAXERR,ERCNTR ;TOO MANY ERRORS?
     BGT     2$           ;IF NOT, EXIT

     PRINTF  #MERR,MAXERR,LOGDEV ;IF YES, REPORT
     DODU    LOGDEV      ;THEN DROP UNIT

     DOCLN

2$:  RETURN              ;END THE SUBPASS

3$:  MERR:   .ASCIZ  /%N% MORE THAN %D3% ERRORS ON UNIT %D2%/
     .EVEN

```

```

013356
013360
013362 012700 100000
013366 077001
013370
013372 032700 000040
013376 001026
013400 005237 002264
013404 023737 002262 002264
013412 003020
013414
013444
013452
013454 000207
013456 045 116 045

```

CVKMCAD KMV11-A FCTNL DIAG
GLOBAL SUBROUTINES

MACRO M1200 06-JAN-83 10:39 PAGE 49

3537
3538
3539
3540
3541
3542
3543
3544
3545
3546
3547
3548
3549
3550
3551
3552
3553
3554
3555
3556
3557
3558
3559
3560
3561
3562
3563
3564
3565
3566
3567
3568
3569
3570

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

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

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


```

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

```

CVKMAO KMV11-A FCTNL DIAG
GLOBAL ERROR REPORT SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 50-1

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

CVKMCAO KMV11-A FCTNL DIAG
GLOBAL ERROR REPORT SECTION

MACRO M1200 06-JAN-83 10:39 PAGE 51-1

3699	020036			BGNMSG	PBRSP	
3700	020036				PRINTB	#MQION,OUTNUM
3701	020062				PRINTB	#MCSR2,BAD2
3702	020106				PRINTB	#MCSR1,BAD4,BAD6
3703	020136	004737	013356		CALL	CHKMAX
3704	020142			ENDMSG		
3705						
3706	020144			BGNMSG	PRBCOM	
3707	020144	005037	002274		CLR	GOOD
3708	020150	005037	002316		CLR	BAD
3709	020154	013704	002430		MOV	ERRCNT,R4
3710	020160	012703	002432		MOV	#BADLOC,R3
3711	020164				PRINTB	#MBCUFO,XMTBUF,RCVBUF
3712	020214				PRINTB	#MBCUF1,LENGTH,ERRCNT
3713	020244				PRINTB	#CDBFER
3714						
3715	020264	012702	000010		MOV	#8.,R2
3716	020270			1\$:		
3717	020270	012337	002420		MOV	(R3)+,XMTADD
3718	020274	012337	002422		MOV	(R3)+,RCVADD
3719	020300	117737	162114	002274	MOVB	@XMTADD,GOOD
3720	020306	117737	162110	002316	MOVB	@RCVADD,BAD
3721	020314				PRINTB	#MXMTER,XMTADD,GOOD
3722	020344				PRINTB	#MRCVER,RCVADD,BAD
3723	020374	005304			DEC	R4
3724	020376	001401			BEQ	2\$
3725	020400	077245			SOB	R2,1\$
3726	020402	004737	013356	2\$:	CALL	CHKMAX
3727	020406			ENDMSG		
3728						
3729	020410			BGNMSG	PRBNUM	
3730	020410				PRINTB	#MBCNUM,OUTNUM,RSPCNT
3731	020440	004737	013356		CALL	CHKMAX
3732	020444			ENDMSG		

CVKMCAO KMV11-A FCTNL DIAG
REPORT CODING SECTION

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

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

.SBTTL REPORT CODING SECTION

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

BGNRPT

EXIT RPT

ENDRPT

CVKMCAO KMV11-A FCTNL DIAG
INITIALIZE SECTION

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

```

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

```

CVKMAO KMV11-A FCTNL DIAG
INITIALIZE SECTION

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

```

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

```

CVKMCAO KVV11-A FCTNL DIAG
INITIALIZE SECTION

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

3884
3885
3886

CVKMAO KMV11-A FCTNL DIAG
AUTODROP SECTION

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

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

.SBTTL AUTODROP SECTION

```

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

```

```

.EVEN
      BGNAUTO

```

:DEVICE DOES NOT HAVE A "READY"

```

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

```


CVKMAO KMV11-A FCTNL DIAG
DROP UNIT SECTION

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

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

.SBTTL DROP UNIT SECTION

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

BGNDU

PRINTF #MDROP,RO ;UNIT DROPPED
EXIT DU

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

ENDDU

CVKMCAD KMV11-A FCTNL DIAG
ADD UNIT SECTION

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

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

.SBTTL ADD UNIT SECTION

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

BGNAU
ENDAU

CVKMCAD KMV11-A FCTNL DIAG
ADD UNIT SECTION

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

4040
4041
4045
4054
4088
4089
4090 021354

4091
4092
4093
4094
4095
4096
4097
4098
4099
4100 021354

4101
4102 021354
4103 021354 013701 002504
4104 021360 012737 021402 000004
4105 021366 012737 000340 000006
4106 021374 005711
4107 021376 000240
4108 021400 000423
4109
4110 021402 062706 000004
4111 021406 010137 002432
4112 021412 013737 002522 002272
4113 021420
4114 021430 013737 002252 000004
4115 021436 013737 002254 000006
4116 021444
4117
4118 021450 013737 002252 000004
4119 021456 013737 002254 000006
4120
4121
4122 021464 004737 011574
4123
4124
4125 021470
4126 021476

BADHEAD

** TEST1 **

VERIFY THAT THE KMV11-A CAN BE RESTARTED

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

MODE: APPLICATION MODE

REPORTS: ERROR 10000 KMV11 FAILS TO RESET MASTER CLEAR

BADHEAD

** TEST1 **

BGNTST

```
MOV    KMVCSR,R1      ;R1 CONTAINS BASE KMV11 ADDRESS
MOV    #2$,4          ;SET OUT TIMEOUT TRAP
MOV    #340,6         ;LEVEL 7
1$:    TST    (R1)     ;REFERENCE DEVICE REGISTERS
        BR    3$      ;IF ADDRESS EXISTS
2$:    ADD    #4,SP    ;ELSE, REPORT
        MOV    R1,BADLOC ;ADDRESS LOCATION
        MOV    UUT,UNIT ;UNIT NUMBER
        ERRHRD 0,E00000,BADAD ;BUS TIMEOUT,ADDRESS PROBLEM
        MOV    SAVE4,4 ;THEN RESTORE VECTOR AND EXIT
        MOV    SAVE6,6
        EXIT    TST
3$:    MOV    SAVE4,4
        MOV    SAVE6,6
        CALL   MODE0   ;SET MASTER CLEAR AND APPLICATION MODE
                          ;AND WAIT FOR SELO CLEARED BY THE KMV
        WAIT   10000.
ENDTST
```

CVKMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

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

4128 021500

BADHEAD

** TEST2 **

4129

: SELF-TEST RUNNING TEST

4130

4131

4132

4133

4134

4135

4136

4137

4138

4139

4140

4141 021500

BADHEAD

** TEST2 **

4142

4143 021500

BGNTST

4144 021500

004737

011574

CALL

MODE0

;SET APPLICATION MODE

4145 021504

103002

BCC

1\$

;IF NO ERROR, JUMP

4146

4147 021506

EXIT

TST

;ELSE, REPORT ERROR

4148

4149

: RUN SELF TEST

4150

4151 021512

005065

000000

1\$:

CLR

SELO(R5)

;RESET SELO

4152 021516

052765

140000

000000

BIS

#MCLR!RUN,SELO(R5)

;RUN IT

4153 021524

012701

000014

2\$:

MOV

#12.,R1

;INIT TIME OUT(20 S)

4154 021530

4155 021530

WAIT

10000.

;WAIT FOR 1S

4156 021536

032765

140000

000000

BIT

#MCLR!RUN,SELO(R5)

;TEST FOR SELO CLEARED?

4157 021544

001412

BEQ

3\$

;IF YES

4158 021546

077110

SOB

R1,2\$

;IF NOT, LOOP TILL TIME-OUT

4159

4160 021550

005037

002276

CLR

GOOD0

4161 021554

016537

000000

002320

MOV

SELO(R5),BADO

4162

4163

ERRHRD

1,E00001,PRSELO

;IF TIME OUT

4164 021572

4165 021572

4166 021600

3\$:

WAIT

10000.

ENDTST

CVKMA0 KMV11-A FCTNL DIAG
HARDWARE TESTS

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

4168 021602

BADHEAD

** TEST3 **

4169
4170
4171
4172
4173
4174
4175
4176
4177
4178
4179

: TEST IF APPLICATION PROGRAM CAN BE LOADED AND STARTED

: MODE: APPLICATION MODE

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

4180 021602

BADHEAD

** TEST3 **

4181
4182

4183 021602
4184 021602 004737 011574
4185 021606 103002

BGNTST

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

4186
4187 021610

EXIT TST ;IF NOT, REPORT

4188
4189 021614 004737 012554

1\$: CALL RUNAPP ;LOAD AND RUN APPLICATION

4190
4191 021620

ENDTST

CVKMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

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

4193 021622

BADHEAD

** TEST4 **

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

```

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

```

4216 021622

BADHEAD

** TEST4 **

4217
4218
4219 021622
4220 021622
4221 021626
4222
4223 021630
4224
4225 021634
4226 021640
4227
4228 021642
4229
4230 021646
4231 021652
4232 021656
4233 021664
4234 021664
4235 021672
4236 021700
4237 021702
4238
4239 021704
4240 021712
4241 021720
4242 021726
4243
4244 021736
4245
4246 021742
4247 021746

BGNTST

```

CALL MODE0 ;SET APPLICATION MODE
BCC 1$ ;IF CORRECTLY DONE
EXIT TST
1$: CALL RUNAPP ;LOAD AND RUN APPLICATION
BCC 2$ ;IF CORRECTLY DONE
EXIT TST
2$: CALL INIQIO ;INIT QIO PROCESSING
MOV #5,R4 ;SET WATCH DOG
MOV #RQI,SEL0(R5) ;REQUEST CSR TRANSACTION
3$: WAIT 100. ;WAIT FOR 1MS
BIT #RDYI,SEL2(R5) ;IS RDYI SET BY KMV?
BNE 4$ ;IF YES
SOB R4,3$ ;NOT, LOOP TILL TIME-OUT
MOV #2,SELNUM ;RDYI NEVER SET, REPORT
MOV SEL2(R5),BAD
MOV #RDYI,GOOD
ERRHRD 2,E00002,PRSEL
EXIT TST
4$: MOV #7$+2,R1 ;RDYI SET, POINT TO COMMAND
MOV (R1)+,R2 ;SAVE COMMAND NUMBER

```


CVKMCAD KMV11-A FCTNL DIAG MACRO M:200 06-JAN-83 10:39 PAGE 62-1
 HARDWARE TESTS

```

4248 021750 012165 000004      MOV      (R1)+,SEL4(R5)      ;SET SEL4
4249 021754 012165 000006      MOV      (R1)+,SEL6(R5)      ;SET SEL6
4250 021760 042765 000200 000000  BIC      #RQI,SEL0(R5)      ;THEN CLEAR RQI
4251 021766 010265 000002      MOV      R2,SEL2(R5)        ;AND SET SEL2
4252
4253 021772 012704 000005      MOV      #5,R4              ;SET WATCH DOG
4254 021776      5$:
4255 021776      WAIT     100.              ;WAIT 1MS
4256 022004 032765 000200 000002  BIT      #RDYO,SEL2(R5)     ;IS RDYO SET BY KMV?
4257 022012 001020      BNE      6$                ;IF YES
4258 022014 077410      SOB      R4,5$             ;NOT, LOOP TILL TIME-OUT
4259
4260 022016 012737 000002 002416  MOV      #2,SELNUM          ;RDYO NEVER SET, REPORT
4261 022024 016537 000002 002316  MOV      SEL2(R5),BAD
4262 022032 012737 000200 002274  MOV      #RDYO,GOOD
4263 022040      ERRHRD  3,E00003,PRSEL
4264 022050      EXIT     TST
4265
4266 022054 016537 000002 006620 6$:  MOV      SEL2(R5),OUTBUF     ;RDYO SET, SAVE RESPONSE
4267 022062 016537 000004 006622  MOV      SEL4(R5),OUTBUF+2
4268 022070 016537 000006 006624  MOV      SEL6(R5),OUTBUF+4
4269 022076 005237 002402      INC      RSPCNT
4270
4271 022102 012701 022130      MOV      #8$,R1            ;LOAD CORRECT RESPONSE FOR TEST
4272 022106 004737 010134      CALL     CHKRSP            ;THEN CHECK RESPONSE
4273 022112 103012      BCC      9$                ;IF RESPONSE CORRECT
4274
4275 022114      EXIT     TST
4276
4277      ; COMMAND LIST
4278
4279 022120      7$:
4280 022120 000001      1
4281 022122 000014 000000 000000      14,0,0          ;READ MODEM
4282
4283      ; RESPONSE LIST
4284
4285 022130      8$:
4286 022130 000001      1
4287 022132 000214 000000 174400      14+RDYO,0,371+400 ;READ MODEM RESPONSE
4288
4289 022140      9$:
4290 022140      ENDTST
    
```

CVKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 63

4292 022142

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

BADHEAD

** TEST5 **

: TEST THE CSR HANDSHAKING WITH INTERRUPTS

: COMMAND LOADED: READ MODEM (F14)

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

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

4311 022142

BADHEAD

** TEST5 **

4312
4313

4314 022142
4315 022142 004737 011574
4316 022146 103002
4317
4318 022150
4319
4320 022154 004737 012554
4321 022160 103002
4322
4323 022162
4324
4325 022166 004737 011776
4326
4327 022172 012701 022210
4328 022176 004737 013154
4329 022202 103014
4330

BGNTST

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

EXIT TST

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

EXIT TST

2\$: CALL 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

4331 022204
4332
4333
4334
4335 022210 022214
4336 022212 000062
4337
4338
4339
4340 022214
4341 022214 000001
4342 022216 000014 000000 000000
4343
4344
4345
4346 022224

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

: RESPONSE LIST

4\$:

CVKMAO KVV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 63-1

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

CVKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 64

4357 022246

4358
4359
4360
4361
4362
4363
4364
4365
4366
4367
4368
4369
4370
4371
4372
4373
4374
4375
4376
4377
4378
4379

BADHEAD

** TEST6 **

```

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

```

4380 022246

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

BADHEAD

** TEST6 **

BGNTST

```

:
: CALL      MODEO      :SET APPLICATION MODE
: BCS      4$          :IF NOT CORRECTLY DONE
:
: EMPTIED KMV POOL
:
: MOV      $RDBIN,TEMP  :SAVE THIS LOCATION
: MOV      $CCBIN,TEMP+2 :SAVE IT TOO
: MOV      #207,$RDBIN  :SET RETURN INSTEAD OF IT
: MOV      #207,$CCBIN
:
: CLR      APPFLG      :CLEAR FLAG
: CALL     RUNAPP      :LOAD APPLI. CODE
: BCS     4$           :EXIT IF ANY ERROR
:
3$: CALL     INIQIO    :INIT QIO PROCESSING
:
: MOV      #60$,R1     :TABLE ADDRESS IN R1
: CALL     QIOP        :PROCESS QIO
: BCC     7$           :IF CORRECTLY DONE
:
4$: BR      8$         :EXIT
:
: PARAMETERS FOR QIO PROCESSING
:
60$: 5$          :IN LIST TABLE BASE ADDRESS
:      700.      :TIME-OUT LENGTH(N*10 MS)
:
: COMMAND LIST

```

CVKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 64-1

```

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

```

5\$:

```

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

```

```

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

```

4431
4432
4433

; RESPONSE LIST

```

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

```

6\$:

```

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

```

```

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

```

4453
4454 022662
4455 022662
4456 022666
4457
4458

7\$:

```

MOV #6$,R1
CALL CHKRSP

```

```

:SAVE RESPONSE LIST ADDRESS
:THEN CHECK RESPONSES

```

```

4459 022672 005037 002414
4460 022676 013737 002374 031010
4461 022704 013737 002376 030752

```

8\$:

```

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

```

```

:TO LOAD AGAIN CODE
:RESTORE INITIAL CONTENTS

```

4462
4463 022712

ENDTST

CVKMAO KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 65

4465 022714

BADHEAD

** TEST7 **

: TEST OF QIO PROCESSING AS BELOW:

SUBTEST1 - STATE = S1

ALL THE COMMANDS EXCEPT F1 ARE PASSED
WHILE THE LINE IS NOT 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
RATE = 2.4K

EXPECTED RESPONSES ARE:

STATUS = 363 FOR SECOND F16

= 363 FOR SECOND F1

= 1 FOR F16 WITH MODEM OFF

= 1 FOR F4 WITH S109 CHANGE

= 1 FOR F4 WITH S106 CHANGE

= 1 FOR F4 WITH S107 CHANGE

= 1 FOR F1

CURRENT STATE = S6

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

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

EXPECTED RESPONSES ARE:

STATUS = 363 FOR F17

= 363 FOR F16

= 371 FOR F1

= 1 FOR F17

= 363 FOR F2

= 356 FOR F1

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

= 1 FOR F16 WITH THE SAME PARAMETERS

= 1 FOR F4 WITH S106 & S109 CHANGE

= 1 FOR F4 WITH S107 CHANGE

= 1 FOR F2 COMPLETED

THEN CURRENT STATE = S1

MODEM = ALL OFF

: SUBTEST4 - TEST THAT WE ARE OFF LINE AGAIN

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

CVKMCAD KMV11-A FCTNL DIAG MACRO M1200 06-JAN-83 10:39 PAGE 65-2
 HARDWARE TESTS

```

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


CVKMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 65-3

```

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

```

CVKMCAD KMV11-A FCTNL DIAG MACRO M1200 06-JAN-83 10:39 PAGE 65-4
 HARDWARE TESTS

```

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

CVKMCAD RMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 66

4737 024002

BADHEAD

** TEST8 **

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

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

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

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

SUBTEST1

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

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

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

SUBTEST2

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

EXPECTED RESPONSES ARE:

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

SUBTEST3

- TEST OF NON EXISTENT MEMORY STATUS 374

TWO RECEIVE BUFFER ARE AFFECTED ONE OF WHICH CONTAINS
A NON EXISTENT ADDRESS

TWO XMIT BUFFERS ARE PASSED ONE OF WHICH CONTAINS A NON
EXISTENT ADDRESS

EXPECTED RESPONSES ARE:

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

SUBTEST4

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

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

EXPECTED STATUS ARE:

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

SUBTEST5

- TEST THE ACTION OF RECEIVE ABORT COMMAND.

TWO RECEIVE BUFFERS ARE USED THEN, TWO XMIT BUFFERS

4738
4739
4740
4741
4742
4743
4744
4745
4746
4747
4748
4749
4750
4751
4752
4753
4754
4755
4756
4757
4758
4759
4760
4761
4762
4763
4764
4765
4766
4767
4768
4769
4770
4771
4772
4773
4774
4775
4776
4777
4778
4779
4780
4781
4782
4783
4784
4785
4786
4787
4788
4789
4790
4791
4792

4793
4794
4795
4796
4797
4798
4799
4800
4801
4802
4803
4804
4805
4806
4807
4808
4809
4810
4811
4812
4813
4814
4815
4816
4817
4818
4819
4820
4821
4822
4823
4824
4825
4826
4827
4828
4829
4830
4831 024002

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

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

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

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

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

BADHEAD

*** TEST8 ***

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

BGNTST
CALL MODE0 :SET APPLICATION MODE
BCS 1\$:IF NOT CORRECTLY DONE

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

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

1\$: EXIT 1ST

2\$: CALL INIQIO :INIT QIO PROCESSING

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

CVKMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 66-2

```

4849 024040 004737 013154          CALL   QIOP          :PROCESS QIO
4850 024044 103022                   BCC    5$           :IF CORRECTLY DONE
4851
4852 024046                   EXIT   TST
4853
4854                   ; PARAMETERS FOR QIO PROCESSING
4855
4856 024052 024056          60$:   3$           :IN LIST TABLE BASE ADDRESS
4857 024054 000764                   500.           :TIME-OUT LENGTH(N*10 MS)
4858
4859                   ; COMMAND LIST
4860
4861 024056          3$:
4862 024056 000001                   1
4863 024060 000001 100421 000000       1,SDLC+C2400+CLKDTE+S141,0      ;CONFIGURATE
4864
4865                   ; RESPONSE LIST
4866
4867 024066          4$:
4868 024066 000001                   1
4869 024070 000201 000000 000400       1+RDYO,0,1*400                ;CONFIGURATE DONE
4870 024076 000000 000000 000000       .WORD 0,0,0,0,0,0
4871
4872 024112          5$:
4873 024112 0127J1 024066          MOV    #4$,R1          :SAVE RESPONSE LIST ADDRESS
4874 024116 004737 010134          CALL   CHKRSP        :THEN CHECK RESPONSES
4875 024122 103002                   BCC    6$           :IF TEST IS CORRECT
4876
4877 024124                   EXIT   TST
4878
4879 024130 004737 011776          6$:   CALL   INIQIO          :INIT QIO PROCESSING
4880
4881 024134 012701 024152          MOV    #61$,R1       :TABLE ADDRESS IN R1
4882 024140 004737 013154          CALL   QIOP          :PROCESS QIO
4883 024144 103022                   BCC    9$           :IF CORRECTLY DONE
4884
4885 024146                   EXIT   TST
4886
4887                   ; PARAMETERS FOR QIO PROCESSING
4888
4889 024152 024156          61$:   7$           :IN LIST TABLE BASE ADDRESS
4890 024154 000144                   100.           :TIME-OUT LENGTH(N*10 MS)
4891
4892                   ; COMMAND LIST
4893
4894 024156          7$:
4895 024156 000001                   1
4896 024160 000014 000000 000000       14,0,0                ;READ MODEM
4897
4898                   ; RESPONSE LIST
4899
4900 024166          8$:
4901 024166 000001                   1
4902 024170 000214 001455 000400       14+RDYO,S6*400+S142+S106+S107+S109,1*400  ;RESPONSE FOR F14
4903 024176 000000 000000 000000       .WORD 0,0,0,0,0,0
4904
4905 024212          9$:

```

CVKMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 66-3

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

4943 024322

BADHEAD

** TEST9 **

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

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

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

: STATE = S6
: MODEM = S142 ONLY

: SUBTEST1

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

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

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

: SUBTEST2

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

EXPECTED RESPONSES ARE:

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

: SUBTEST3

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

EXPECTED RESPONSES ARE:

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

: SUBTEST4

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

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

EXPECTED STATUS ARE:

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

: SUBTEST5

- TEST OF ACTION OF RECEIVE ABORT COMMAND.

4944
4945
4946
4947
4948
4949
4950
4951
4952
4953
4954
4955
4956
4957
4958
4959
4960
4961
4962
4963
4964
4965
4966
4967
4968
4969
4970
4971
4972
4973
4974
4975
4976
4977
4978
4979
4980
4981
4982
4983
4984
4985
4986
4987
4988
4989
4990
4991
4992
4993
4994
4995
4996
4997
4998

4999
5000
5001
5002
5003
5004
5005
5006
5007
5008
5009
5010
5011
5012
5013
5014
5015
5016
5017
5018
5019
5020
5021
5022
5023
5024
5025
5026
5027
5028
5029
5030
5031
5032
5033
5034
5035 024322

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

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

SUBTEST6

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

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

SUBTEST7

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

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

PATTERN:

INCREMENTAL

REPORTS:

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

BADHEAD

** TEST9 **

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

BGNTST

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

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

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

1\$: EXIT TST

2\$: CALL INIQIO ;INIT QIO PROCESSING

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

CVKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 67-2

```

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

```

CVKMA0 KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 67-3

```

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

```

CVKMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

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

5147
5148
5149
5150
5151
5152
5153
5154
5155
5156
5157
5158
5159
5160
5161
5162
5163
5164
5165
5166
5167
5168
5169
5170
5171
5172
5173
5174
5175
5176
5177
5178
5179
5180
5181
5182
5183
5184
5185
5186
5187
5188
5189
5190
5191
5192
5193
5194
5195
5196
5197
5198
5199
5200
5201
5202
5203

024642
024642 004737 011776
024646 012701 024662
024652 004737 013154
024656 103065
024660 000207
024662 024666
024664 007640
024666
024666 000007
024666 000007 002574 000376
024670 000006 003174 000367
024676 000006 003574 000066
024704 000006 004574 000001
024712 000005 004574 000366
024720 000005 005174 000367
024726 000005 005574 000400
024734 000007
024742
024742 000007 000000 170000
024744 000206 000000 175000
024752 000205 000000 170000
024760 000205 000000 000400
024766 000205 000366 000400
024774 000206 000000 000400
025002 000205 000000 000400
025010 000206 000000 000400
025016 000000 000000 000000
025032
025032 012701 024742
025036 004737 010134
025042 103001
025044 000207
025046 012701 004574
025052 012702 002574
025056 012737 000366 002346
025064 004737 011374
025070 103001

; COMPLETE XMIT/RECEIVE BUFFER TEST COMMON TO TEST08 AND TEST09

SUB1: CALL INIQIO ;INIT QIO PROCESSING
MOV #60\$,R1 ;TABLE ADDRESS IN R1
CALL QIOP ;PROCESS QIO
BCC 5\$;IF OKE
RETURN

; PARAMETERS FOR QIO PROCESSING

60\$: 3\$;IN LIST TABLE BASE ADDRESS
4000. ;TIME-OUT LENGTH(N*10 MS)

; COMMAND LIST

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

; RESPONSE LIST

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

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

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

CVKMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 68-1

```

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

```

CVKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 68-2

```

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

```

CVKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

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

```

5318
5319 025550          SUB4:          CALL      INIQIO          ;INIT QIO PROCESSING
5320 025550 004737 011776          CALL      INIQIO          ;INIT QIO PROCESSING
5321
5322 025554 012701 025600          MOV       #60$,R1        ;TABLE ADDRESS IN R1
5323 025560 004737 013154          CALL      QIOP          ;PROCESS QIO
5324
5325 025564 012701 025604          MOV       #61$,R1        ;TABLE ADDRESS IN R1
5326 025570 004737 013154          CALL      QIOP          ;PROCESS QIO
5327 025574 103040          BCC      5$             ;IF OKE
5328
5329 025576 000207          RETURN
5330
5331          ; PARAMETERS FOR QIO PROCESSING
5332
5333 025600 025610          60$:      3$             ;IN LIST TABLE BASE ADDRESS
5334 025602 000150          104.      ;TIME-OUT LENGTH(N*10 MS)
5335
5336 025604 025634          61$:      33$            ;
5337 025606 000620          400.      ;
5338
5339          ; COMMAND LIST
5340
5341 025610          3$:
5342 025610 000003          3
5343 025612 000006 003174 000144          6,RXBUF1,100.          ;SECOND RX BUFFER
5344 025620 000005 005174 000376          5,TXBUF1,$RDBS-2      ;FIRST XMIT BUFFER
5345 025626 000005 005574 000144          5,TXBUF2,100.        ;SECOND XMIT BUFFER
5346
5347 025634 000001          33$:      1
5348 025636 000007 000000 000000          7,0,0          ;XMIT ABORT
5349
5350          ; RESPONSE LIST
5351
5352 025644          4$:
5353 025644 000002          2
5354 025646 000207 000000 000400          7+RDY0,0,1*400      ;OKE FOR F7
5355 025654 000206 000030 172000          6+RDY0,24.,364*400 ;ABORT RECEIVED FOR F6
5356 025662 000000 000000 000000          .WORD 0,0,0,0,0,0
5357
5358 025676          5$:
5359 025676 012701 025644          MOV       #4$,R1        ;SAVE RESPONSE LIST ADDRESS
5360 025702 004737 010134          CALL      CHKRSP        ;THEN CHECK RESPONSES
5361
5362 025706 000207          RETURN
5363
5364 025710          SUB5:
5365 025710 004737 011776          CALL      INIQIO          ;INIT QIO PROCESSING
5366
5367 025714 012701 025740          MOV       #60$,R1        ;TABLE ADDRESS IN R1
5368 025720 004737 013154          CALL      QIOP          ;PROCESS QIO
5369
5370 025724 012701 025744          MOV       #61$,R1        ;TABLE ADDRESS IN R1
5371 025730 004737 013154          CALL      QIOP          ;PROCESS QIO
5372 025734 103046          BCC      5$             ;IF OKE
5373
5374 025736 000207          RETURN

```

CVKMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 68-4

```

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

```

CVKMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 68-5

```

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

```


CVKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 68-6

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

SS:

MOV #4\$,R1
CALL CHKRSP

RETURN

;SAVE RESPONSE LIST ADDRESS
;THEN CHECK RESPONSES

CVKMAO KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 69-1

```

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

```

CVKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 69-2

```

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

```

5623 026616

BADHEAD

** TEST11 **

5624
5625
5626
5627
5628
5629
5630
5631
5632
5633
5634
5635
5636
5637
5638
5639
5640
5641
5642
5643
5644
5645
5646
5647
5648
5649
5650
5651
5652
5653
5654
5655
5656
5657
5658
5659
5660

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

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

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

: PATTERN: INCREMENTAL

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

5661 026616

BADHEAD

** TEST11 **

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

BGNTST

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

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

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

1\$: EXIT TST

2\$: CALL INIQIO ;INIT QIO PROCESSING

CVKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 70-1

```

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

```

CVKMAO KMV11-A FCTNL DIAG
HARDWARE TESTS

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

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

```

9$:
    MOV    #8$,R1           ;SAVE RESPONSE LIST ADDRESS
    CALL   CHKRSP          ;THEN CHECK RESPONSES
    BCC    10$             ;IF TEST CORRECT

    EXIT   TST

10$:
    CALL   SHORTST         ;FOR SHORT XMIT/RECEIVE BUFFER TEST

ENDTST

```

CVKMCAD KMV11-A FLTNL DIAG
HARDWARE TESTS

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

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

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

SHORTST:

CALL INIQIO ;INIT QIO PROCESSING
MOV #60\$,R1 ;TABLE ADDRESS IN R1
CALL QIOP ;PROCESS QIO
BCC 5\$;IF CORRECT
RETURN

; PARAMETERS FOR QIO PROCESSING

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

; COMMAND LIST

3\$:

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

; RESPONSE LIST

4\$:

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

5\$:

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

RETURN

6\$:

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

CVKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

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

5804 027302 000207
5805
5806 027304 012701 005174
5807 027310 012702 003174
5808 027314 012737 000367
5809 027322 004737 011374
5810
5811 027326 000207

002346

7\$:

RETURN

MOV #TXBUF1,R1
MOV #RXBUF1,R2
MOV #SRDBS-9.,LENGTH
CALL COMPAR

:CHECK SECOND RECEIVE BUFFER

RETURN

5813 027330

BADHEAD

** TEST12 **

5814
5815
5816
5817
5818
5819
5820
5821
5822
5823
5824
5825
5826
5827
5828
5829
5830
5831
5832
5833
5834
5835
5836
5837
5838
5839
5840
5841
5842
5843
5844
5845
5846
5847
5848
5849
5850

```

: TEST OF XMIT/RECEIVE BUFFER PROCESSING AT 48K
: WITH FULL MODEM CONTROL AND ADDRESS SEARCH
:
: CONFIGURATE:  SDLC PROTOCOL
:                FULL MODEM CONTROL
:                WITH ADDRESS SEARCH(252)
:                CLOCK SOURCE INTERNAL
:                RATE = 48K
:
: TEST:          - TEST OF STATUS 1,360,372 AND CORRECT XMIT/RECEIVE
:                OF 1 OF 2 BUFFERS.
:                THREE BUFFERS ARE PASSED FOR RECEPTION WHILE FOUR
:                XMIT BUFFERS ARE GIVEN ONE OF WHICH WITH 1 BYTE LONG
:                AND ONE OF WHICH WITH BAD STATION ADDRESS
:                EXPECTED RESPONSES ARE:
:                  STATUS = 360 FOR F6 THIRD BUFFER PASSED
:                  = 372 FOR F5 1 BYTE LONG BUFFER
:                  = 360 FOR F5 THIRD BUFFER PASSED
:                  = 1   FOR F5 FIRST BUFFER XMITTED
:                  = 1   FOR F5 SECOND BUFFER XMITTED
:                  = 1   FOR F6 SECOND BUFFER RECEIVED
:
: PATTERN:      INCREMENTAL
:
: REPORTS:      ERROR 10000  KMV11 FAILS TO RESET MASTER CLEAR
:                ERROR 10001  RUN FUNCTION NOT CORRECTLY PERFORMED
:                ERROR 10002  WRITE FUNCTION NOT CORRECTLY PERFORMED
:                ERROR 10003  READ FUNCTION NOT CORRECTLY PERFORMED
:                ERROR 10004  DATA COMPARE ERROR
:                ERROR 10005  UNEXPECTED INTERRUPT IN
:                ERROR 10006  UNEXPECTED INTERRUPT OUT
:                ERROR 10007  NO MORE INTERRUPT WHILE QIO PENDING
:                ERROR 10008  UNEXPECTED EPROM'S ON KMV11-A
:                ERROR 10009  UNEXPECTED QIO RESPONSE
:                ERROR 10010  UNEXPECTED NUMBER OF RESPONSES RECEIVED
:                ERROR 10011  UNEXPECTED DATA RECEIVED
:                ERROR 10012  NO LOOP BACK

```

5851 027330

BADHEAD

** TEST12 **

5852
5853
5854 027330
5855 027330
5856 027334
5857
5858 027336
5859 027342
5860
5861 027344
5862 027350
5863
5864 027352
5865
5866 027356
5867

```

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

```

CVKMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

MACRO M1200 06-JAN-83 10:39 PAGE 72-1

```

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

```

CVKMCAD KMV11-A FCTNL DIAG
HARDWARE TESTS

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

```

5925 027540          9$:
5926 027540 012701 027514      MOV    #8$,R1          ;SAVE RESPONSE LIST ADDRESS
5927 027544 004737 010134      CALL   CHKRSP         ;THEN CHECK RESPONSES
5928 027550 103002              BCC    10$           ;IF TEST CORRECT
5929
5930 027552          EXIT    TST
5931 027556          10$:
5932 027556 004737 011776      CALL   INIQIO         ;INIT QIO PROCESSING
5933
5934 027562 112737 000252 005174  MOVB   #252, TXBUF1    ;SET GOOD STATION ADDRESS IN BUFFER 1
5935
5936 027570 012701 027606      MOV    #62$,R1
5937 027574 004737 013154      CALL   QIOP           ;PROCESS QIO
5938 027600 103063              BCC    13$           ;IF CORRECT
5939
5940 027602          EXIT    TST
5941
5942          ; PARAMETERS FOR QIO PROCESSING
5943
5944 027606 027612      62$:  11$           ;IN LIST TABLE BASE ADDRESS
5945 027610 001750      1000.       ;TIME-OUT LENGTH(N*10 MS)
5946
5947          ; COMMAND LIST
5948
5949 027612      11$:
5950 027612 000007          7.
5951 027614 000006 002574 000376      6,RXBUF0,$RDBS-2      ;FIRST RECEIVE BUFFER
5952 027622 000006 003174 000367      6,RXBUF1,$RDBS-9.    ;SECOND ..
5953 027630 000006 003574 000066      6,RXBUF2,54.         ;THIRD ..
5954 027636 000005 004574 000001      5, TXBUF0,1          ;FIRST XMIT BUFFER
5955 027644 000005 004574 000366      5, TXBUF0,$RDBS-10. ;SECOND ..
5956 027652 000005 005174 000367      5, TXBUF1,$RDBS-9.  ;THIRD ..
5957 027660 000005 005574 000400      5, TXBUF2,$RDBS     ;FORTH ..
5958
5959          ; RESPONSE LIST
5960
5961 027666      12$:
5962 027666 000006          6
5963 027670 000206 000000 170000      6+RDY0,0,360*400    ;TOO MANY BUFFERS FOR F6
5964 027676 000205 000000 175000      5+RDY0,0,372*400    ;TOO SHORT BUFFER FOR F5
5965 027704 000205 000000 170000      5+RDY0,0,360*400    ;TOO MANY BUFFERS FOR F5
5966 027712 000205 000000 000400      5+RDY0,0,1*400      ;FIRST BUFFER SENT
5967 027720 000206 000367 000400      6+RDY0,$RDBS-9.,1*400 ;SECOND BUFFER RECEIVED
5968 027726 000205 000000 000400      5+RDY0,0,1*400      ;SECOND BUFFER SENT
5969 027734 000000 000000 00C000      .WORD 0,0,0,0,0,0
5970
5971 027750          13$:
5972 027750 012701 027666      MOV    #12$,R1        ;SAVE RESPONSE LIST ADDRESS
5973 027754 004737 010134      CALL   CHKRSP         ;THEN CHECK RESPONSES
5974 027760 103002              BCC    14$           ;IF TEST CORRECT
5975
5976 027762          EXIT    TST
5977
5978 027766 012701 005174      14$:  MOV    #TXBUF1,R1      ;CHECK RECEIVE BUFFER
5979 027772 012702 002574      MOV    #RXBUF0,R2
5980 027776 012737 000367 002346  MOV    #SRDBS-9.,LENGTH
5981 030004 004737 011374      CALL   COMPAR

```

CVKMCAO KMV11-A FCTNL DIAG
HARDWARE TESTS

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

5982
5983 030010

ENDTST

5985
5986
5987
5988
5989
5990
5991
5992
5993
5994
5995
5996
5997
5998
5999
6000
6001
6002
6003
6004
6005
6006
6007
6008
6009
6010
6011
6012
6019
6020
6021
6022
6023
6024
6025
6026
6027
6028
6029
6030
6031
6032
6033
6034
6043
6044
6051
6052
6053

030012
030014
030024
030034
030046
030060
030072

104
104
104
111
111

105
105
105
123
123

126
126
126
040
040

.SBTTL HARDWARE PARAMETER CODING SECTION

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

BGNHRD

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

ENDHRD
.EVEN

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

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

2				
3		043726		
4	043726	013352	BUFLGH: .=\$FWEND	
5	043730	000000	.WORD .-\$BUFF	:FIRMWARE CODE LENGTH
6	043732	000000	.WORD 0	
7	043734	000000	.WORD 0	
8				
9	043736		\$PATCH::	
10	043736		.BLKW 50	
11				
12	044056		LASTAD	
	044062		L\$LAST::	
13				
14	044062		ENDMOD	
15				

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

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

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

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

KIMP MACRO M1200 06-JAN-83 10:39 PAGE 175-2
SYMBOL TABLE

C.FNC = 000010	DFPTBL 002164 G	E00002 016743	FS.TX = 005000	G\$OFFS= 000400
C.LIN = 000006	DIAGMC= 000000	E00003 017027	FS.XKL= 002000	G\$OF SI= 000376
C.LNK = 000000	DIMDM1 033404	E00004 017123	FTIME = 002256	G\$PRMA= 000001
C.MDS = 100030 G	DIMDM2 035474	E10000 015610	F\$AU = 000015	G\$PRMD= 000002
C.MOD = 000011	DISINT= 000050	E10001 015652	F\$AUTO= 000020	G\$PRML= 000000
C.PBIM= 100032 G	DLO = 000040	E10002 015735	F\$BGN = 000040	G\$RADA= 000140
C.PRI = 000200	DMAIN 034236	E10003 016022	F\$CLEA= 000007	G\$RADB= 000000
C.RSV = 000002	DMAOUT 034532	E10004 016106	F\$DU = 000016	G\$RADD= 000040
C.SELO= 100000 G	JMODCH 036274	E10005 016171	F\$END = 000041	G\$RADL= 000120
C.SEL2= 100002 G	DMODWR 036750	E10006 016221	F\$HARD= 000004	G\$RADO= 000020
C.SEL4= 100004 G	DMODWX 036756	E10007 016252	F\$HW = 000013	G\$XFER= 000004
C.SEL6= 100006 G	DSDO 036354	E10008 016334	F\$INIT= 000006	G\$YES = 000010
C.SL10= 100010 G	DSDS6 036550	E10009 016371	F\$JMP = 000050	HDLSDL= 000001
C.SL12= 100012 G	DSTART 035666	E10010 016421	F\$MOD = 000000	HELP = 000000
C.SL14= 100014 G	DSTOP 035740	E10011 016471	F\$MSG = 000011	HOE = 100000 G
C.SL16= 100016 G	DSUP 036336	E10012 016522	F\$PROT= 000021	IBE = 010000 G
C.STA = 000007	DSUS3 036476	FC.SER = 000367	F\$PWR = 000017	IDLE = 030746 G
C.STS = 000012	DUMMY1 032474	FC.CCP= 000020	F\$RPT = 000012	IDU = 000040 G
C.VECO= 000060	DUMMY2 035154	FC.CTL= 000006	F\$SEG = 000003	IEI = 000001
C.VEC2= 000070	DUMMY3 037756	FC.KCP= 000016	F\$SOFT= 000005	IEO = 000020
C.WRK = 000004	ECONB = 160002	FC.KIL= 000004	F\$SRV = 000010	IER = 020000 G
C.XXXX= 100000	EF.CON= 000036 G	FC.MAX= 000020	F\$SUB = 000002	INIFLG 002516
CO.IEI= 000001	EF.NEW= 000035 G	FC.RCE= 000002	F\$SW = 000014	INIQIO 011776
CO.IEO= 000020	EF.PWR= 000034 G	FC.RCP= 000014	F\$TEST= 000001	INLST 002406
CO.RQI= 000200	EF.RES= 000037 G	FC.TIM= 000010	F0 = 000000	INTIN 002506
C1.ERR= 000001	EF.STA= 000040 G	FC.XCP= 000012	F1 = 000001	INTOUT 002510
C1.MCL= 000100	ENATX = 000151	FC.XME= 000000	F10 = 000010	ISR = 000100 G
C1.MDE= 000020	END 020762	FIRST = 000002	F11 = 000011	ITIN 012710
C1.MT1= 000010	ENDINT= 000070	FRMLER= 000372	F12 = 000012	ITOUT 013044
C1.MT2= 000002	ENDMA = 000040 G	FS.AST= 000000	F13 = 000013	IXE = 004000 G
C1.RD = 000004	ENDSEI= 000005	FS.CIB= 002000	F14 = 000014	ISAU = 000041
C1.RUN= 000200	ENDXI1= 000020	FS.CON= 001000	F15 = 000015	ISAUTO= 000041
C1.WRT= 000040	ENDXI2= 000060	FS.CRA= 001000	F16 = 000016	ISCLN = 000041
C111 = 000004	ENDXI3= 000070	FS.DCN= 002000	F17 = 000017	ISDU = 000041
C112 = 000040	END1 021172	FS.DIS= 003000	F2 = 000002	ISHRD = 000041
C1200 = 000000	ENMDM1 033356	FS.DMS= 017000	F3 = 000003	ISINIT= 000041
C140 = 000010	ENMDM2 035454	FS.DVC= 001000	F4 = 000004	ISMOD = 000041
C141 = 000020	ENNIRX= 000040	FS.EMS= 016000	F5 = 000005	ISMSG = 000041
C142 = 000100	ENRX = 000331	FS.ENB= 002000	F6 = 000006	ISPROT= 000040
C19K = 002000	ENRXAD= 000335	FS.KIL= 000000	F7 = 000007	ISPTAB= 000041
C2.RYI= 000020	ENTHUN= 000020	FS.KRX= 010000	GDREV 007126	ISPWR = 000041
C2.RYO= 000200	ERCNTR 002264	FS.KTX= 007000	GOOD 002274	ISRPT = 000041
C2400 = 000400	ERR = 000400	FS.LTM= 001000	GOOD0 002276	ISSEG = 000041
C48K = 002400	ERRBLK 002244 G	FS.MCG= 005000	GOOD10 002306	ISSETU= 000041
C4800 = 001000	ERRCNT 002430	FS.MCH= 004000	GOOD12 002310	ISSRV = 000041
C56K = 003000	ERRFLG 002370	FS.MCR= 013000	GOOD14 002312	ISSUB = 000041
C64K = 003400	ERRMSG 002242 G	FS.MOR= 013000	GOOD16 002314	ISTST = 000041
C9600 = 001400	ERRNBR 002240 G	FS.MOW= 014000	GOOD2 002300	J\$JMP = 000167
DALON = 000040	ERRTYP 002236 G	FS.MRD= 014000	GOOD4 002302	KINVAL 031412
DATA 002340	EVL = 000004 G	FS.MSN= 004000	GOOD6 002304	KINVA1 031430
DBLCMD= 000363	EXITO 031436	FS.RTN= 001000	G\$CNT0= 000200	KMVC SR 002504
DCONFP= 000356	EXIT1 032500	FS.RX = 006000	G\$DELM= 000372	KMVER = 000357
DCONF1 032544	EXIT3 037762	FS.STA= 011000	G\$DISP= 000003	LAST = 000001
DCONF2 035336	E\$END = 002100	FS.STM= 000000	G\$EXCP= 000400	LCLOOP 002344
DDISAB 036022	E\$LOAD= 000035	FS.STO= 012000	G\$HILI= 000002	LC.SM = 000274
DECONS 032730	E00000 016611	FS.STP= 001000	G\$LOLI= 000001	LC.S1 = 000076
DENAB 035770	E00001 016674	FS.STR= 000000	G\$NO = 000000	LDAPPL 012150

KIMP MACRO M1200 06-JAN-83 10:39 PAGE 175-3
 SYMBOL TABLE

LDLDB	031664	LN.OFF=	000001	L\$INIT	020454	G	L10014	020444	MDMS3	=	000001	
LENGTH	002346	LN.ON	=	000000	L\$LADP	002026	G	L10015	020452	MDMS5	=	000002
LF.ACT=	100000	LN.OOP=	000004	L\$LAST	044062	G	L10016	021172	MDMS6	=	000003	
LF.BWT=	000007	LN.OPE=	000001	L\$LOAD	002100	G	L10017	021262	MDMS6A=	000004		
LF.DLO=	000040	LN.REF=	000002	L\$LUN	002074	G	L10020	021266	MDMS7A=	000005		
LF.ENA=	002000	LN.SER=	000002	L\$MREV	002050	G	L10021	021350	MDMS7B=	000006		
LF.LPB=	001000	LN.STA=	000017	L\$NAME	002000	G	L10022	021352	MDM.FL=	000002		
LF.MDC=	000100	LN.SUB=	000360	L\$PRIO	002042	G	L10023	021476	MDM.LD=	000006		
LF.MFL=	004000	LN.TRI=	000006	L\$PROT	002122	G	L10024	021600	MDM.MA=	000010		
LF.MTP=	000020	LNOPDV	031206	L\$PRT	002112	G	L10025	021620	MDM.NM=	000004		
LF.PAC=	000200	LOCK	002260	L\$REPP	002062	G	L10026	022140	MDM.OM=	000011		
LF.RDY=	040000	LOE	=	040000	L\$REV	002010	G	L10027	022244	MDM.ST=	000005	
LF.REA=	010000	LOGDEV	002246	L\$RPT	020446	G	L10030	022712	MDROP	021316		
LF.TIM=	000010	LOKFLG	002520	L\$SPC	002056	G	L10031	024000	MD105	=	000002	
LF.UNL=	020000	LOOP	=	001000	L\$SPCP	002020	G	L10032	023226	MD108	=	000200
LGT	=	LOOPBK	030205	L\$SPTP	002024	G	L10033	023412	MD111	=	000001	
LINAR.	=	LOT	=	000010	L\$STA	002030	G	L10034	023664	MD140	=	000002
LINCP.	=	LPBACK	011706	L\$SW	002266	G	L10035	023776	MD141	=	000004	
LINCR.	=	LSTAD	002500	L\$TEST	002114	G	L10036	024320	MECO	014126		
LINCW.	=	LSTBK	002502	L\$TIML	002014	G	L10037	024236	MERR	013456		
LINCX.	=	LSTLGH	002400	L\$UIT	002270	G	L10040	024246	MNONEX	025514		
LINC1.	=	LTCYER=	000370	L\$UNIT	002012	G	L10041	024256	MODDP	033442		
LINC2.	=	TS5	037242	L.CMR	=	120016	G	L10042	024266	MODDWN=	000365	
LINDI.	=	TS6A	037304	L.COST=	000013	G	L10043	024276	MODE	=	010000	
LINH.	=	TS7	037332	L.CTL	=	000010	G	L10044	024306	MODE0	011574	
LINOV.	=	LSACP	002110	L.C1R	=	120000	G	L10045	024316	MODHDL=	000026	
LINPW.	=	LSAPT	002036	L.C1W	=	120002	G	L10046	024640	MODPDV	031176	G
LINRP.	=	LSAU	021352	L.C2R	=	120004	G	L10047	024556	MPROM	002524	
LINRW.	=	LSAUT	002070	L.C2W	=	120006	G	L10050	024566	MPSTR	=	000017
LINTU.	=	LSAUTO	021174	L.DDM	=	000002	G	L10051	024576	MQIO	014315	
LIN.AD	000330	L\$CCP	002106	L.DDS	=	000004	G	L10052	024606	MQION	014706	
LIN.A3	000332	L\$CLEA	021264	L.DLC	=	000003	G	L10053	024616	MRCVER	015463	
LIN.A5	000333	L\$CO	002032	L.DLS	=	000006	G	L10054	024626	MRDEXP	013532	
LIN.B1	000334	L\$DEPO	002011	L.FLG	=	000000	G	L10055	024636	MSEL	014227	
LIN.B2	000335	L\$DESC	002176	L.KRBA=	000014	G	L10056	026614	MSELO	013572		
LIN.CP	000342	L\$DESP	002076	L.LEN	=	000020	G	L10057	027050	MSEL10	013746	
LIN.FL	000304	L\$DEVP	002060	L.MPF	=	000020	G	L10060	030010	MSEL12	014002	
LIN.LP	000312	L\$DISP	002132	L.NMST=	000016	G	L10061	030072	MSEL14	014036		
LIN.NM	000314	L\$DLY	002116	L.NSTA=	000012	G	L10062	044066	MSEL16	014072		
LIN.OA	000316	L\$DTP	002040	L.OWNER=	000017	G	L10064	044076	MSEL2	013626		
LIN.OB	000317	L\$DTYP	002034	L.PRI	=	000240	G	MAXERR	002262	MSEL4	013660	
LIN.OM	000315	L\$DU	021270	L.RTR	=	120010	G	MBBUF0	015117	MSEL6	013712	
LIN.PB	000331	L\$DUT	002072	L.RTW	=	120012	G	MBBUF1	015224	MXMTER	015411	
LIN.RB	000320	L\$DVTY	007330	L.UNT	=	000011	G	MBNUM	014425	NEXT	020572	
LIN.RP	000306	L\$EF	002052	L.VEC	=	000130	G	MCLR	=	040000		
LIN.RS	000322	L\$ENVI	002044	L.XXXX=	120000	G	MCSR0	014546	NOCHAN	036272		
LIN.RW	000310	L\$ERRT	002236	L10001	002176	G	MCSR1	014625	NOTIM	037234		
LIN.R3	000340	L\$ETP	002102	L10002	017236	G	MCSR2	014575	NXMEM	=	000374	
LIN.S0	000336	L\$EXP1	002046	L10003	017314	G	MDAT0	014764	OUTBUF	006620		
LIN.S1	000337	L\$EXP4	002064	L10004	017352	G	MDAT1	015044	OUTLST	002410		
LIN.TB	000324	L\$EXP5	002066	L10005	017434	G	MDDMA	=	000040	OUTNUM	002476	
LIN.TS	000326	L\$HARD	030014	L10006	017552	G	MDM	035442	OUTSEQ=	000371		
LN.CLO=	000100	L\$HIME	002120	L10007	017614	G	MDMCP.	=	000002	OSAPTS=	000000	
LN.DUM=	000005	L\$HPCP	002016	L10010	017652	G	MDMDL.	=	000001	OSAU	=	000000
LN.LOA=	000004	L\$HPTP	002022	L10011	020034	G	MDMDP.	=	000004	OSBGNR=	000000	
LN.LOO=	000003	L\$HW	002164	L10012	020142	G	MDMSE.	=	000010	OSBGNS=	000000	
LN.OAU=	000003	L\$ICP	002104	L10013	020406	G	MS1	=	000000	OSDU	=	000001
										OSERRT=	000000	

KIMP MACRO M1200 06-JAN-83 10:39 PAGE 175-4
SYMBOL TABLE

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

KIMP MACRO M1200 06-JAN-83 10:39 PAGE 175-5
SYMBOL TABLE

TYPO0	011364	T1	021354	G	XMT3	040076	\$CMPDV	000236	G	\$LNOLG=	000021	G
TYPO1	011367	T10	026362	G	XSTART	035712	\$CMQIN=	173610		\$LN0TB	000302	G
TSARGC=	000001	T11	026616	G	X\$ALWA=	000000	\$CMQRM=	173624		\$LSTIN=	177777	
TS(CODE=	004032	T12	027330	G	X\$FALS=	000040	\$CRCT	043666		\$LSTTA=	177777	
TS.FRN=	000003	T2	021500	G	X\$OFFS=	000400	\$CRCTC	043662		\$LTFNC	000270	G
TS.EXCP=	000000	T3	021602	G	X\$TRUE=	000020	\$CRCTX	043560		\$MODDP	035132	G
TSFLAG=	000040	T4	021622	G	X990\$	042030	\$CSLO	031240	G	\$MODLG=	000005	G
TSFREE=	044076	T5	022142	G	X999\$	042040	\$CSL2	031300	G	\$MODTB	000372	G
TSGMAN=	000000	T6	022246	G	ZF.COU=	001000	\$CSL2\$	031332		\$OVERR	043420	
TSHILI=	000001	T7	022714	G	ZF.DDM=	000001	\$CSRDP	031216	G	\$PATCH	043736	G
TSLAST=	000001	T7.1	022742		ZF.DLC=	000002	\$CSRGLG=	000003	G	\$PDVNM	000206	G
TSLOLI=	000000	T7.2	023230		ZF.LLC=	000004	\$CSRTB	000274	G	\$PDVTA	000200	G
TSLSYM=	010000	T7.3	023414		ZF.LMC=	000100	\$CTCMP=	173006		\$PDVTB	031070	G
TSLTNO=	000014	T7.4	023666		ZF.MFL=	000010	\$DBG	=	000001	\$RAM	=	030354
TSNEST=	177777	T8	024002	G	ZF.MUX=	000040	\$DDCCP=	172632		\$RCCMP=	173026	
TSNSO =	000000	T8.1	024230		ZF.TIM=	000200	\$DDDIS=	172474		\$RDBAF	000230	G
TSNS1 =	000004	T8.2	024240		Z.DAT =	000010	\$DDENB=	172466		\$RDBC =	000017	
TSNS2 =	000002	T8.3	024250		Z.DSP =	000000	\$DDKCP=	172622		\$RDBCT	000224	G
TSPCNT=	000000	T8.4	024260		Z.FLG =	000006	\$DDKIE=	172422		\$RDBGT=	172074	
TSPTAB=	010063	T8.5	024270		Z.LEN =	000010	\$DDMSN=	172502		\$RDBIN	031010	G
TSPTHV=	000001	T8.6	024300		Z.LLN =	000004	\$DDRCP=	172612		\$RDBLH	000250	G
TSPTNU=	000001	T8.7	024310		Z.MAP =	000012	\$DDSTP=	172460		\$RDBNM	000216	G
TSSAVL=	177777	T9	024322	G	Z.NAM =	000002	\$DDSTR=	172452		\$RDBQP=	172162	
TSSSEGL=	177777	T9.1	024550		Z.SCH =	000005	\$DDXME=	172406		\$RDBRT=	172216	
TSSIZE=	000006	T9.2	024560		\$ABORE	043336	\$DDXMP=	172602		\$RDBS =	000400	
TSSUBN=	000000	T9.3	024570		\$AUXDP=	174372	\$DLCRQ=	173034		\$RDBSZ	000220	G
TSTAGL=	177777	T9.4	024600		\$BREAK	030750	\$ENDRC	042474		\$RDBTH	000234	G
TSTAGN=	010065	T9.5	024610		\$BUFF	030354	\$ENDRE	043460		\$RDBWT=	172140	
TSTEMP=	000000	T9.6	024620		\$CCBAF	000226	\$FRKHD	000242	G	\$RDQCT	000254	G
TSTEST=	000014	T9.7	024630		\$CCBC =	000005	\$FWEND=	043726		\$RDQSL	000252	G
TSTSTM=	177777	UAM =	000200	G	\$CCBCT	000222	\$HIGH	000272	G	\$REC	043344	
TSTSTS=	000001	UNIT	002272		\$CCBIN	030752	\$INTSX=	173246		\$SLTMA	000202	G
TSSAU =	010022	UNLDB	031564		\$CCBLH	000246	\$INTX7=	173346		\$SLTMB	031102	G
TSSAUT=	010017	UUT	002522		\$CCBNM	000212	\$KCE.E=	000102		\$SLTNM	000210	G
TSSCLE=	010020	VECTOR	030117		\$CCBRT=	172352	\$KCE.I=	000200		\$START=	030354	
TSSDAT=	010064	VKMCAO	002000	G	\$CCBS =	000034	\$KLCMP=	173016		\$STKDP	000240	G
TSSDU =	010021	WDATA	007506		\$CCBSZ	000214	\$LDBAF	000232	G	\$STMDA	000262	G
TSSHAR=	010061	WRIRET	034224		\$CHKDP	032156	\$LDBGT=	172044		\$STMDB	000264	G
TSSHW =	010001	WRITE =	020000		\$CHKLG=	000013	\$LDBRT=	172216		\$STMFC	000266	G
TSSINI=	010016	XDP	042626		\$CHKTB	000344	\$LINDP	037734	G	\$XMCMP=	172776	
TSSMSG=	010014	XMTADD	002420		\$CKINT=	174042	\$LLCRQ=	173116		\$XXX	042002	
TSSPC =	000001	XMTBUF	002424		\$CLKCT	000256	\$LLCTA	000204	G	\$STR	=	160000
TSSPRO=	010000	XMTKIL	033300		\$CLKDC	000260	\$LLCTB	031106	G	\$STRADD=	030354	
TSSPTA=	010063	XMTKI2	035216		\$CLKTK=	000024	\$LNRXA	042050	G	\$STR	030354	G
TSSRPT=	010015	XMTKI3	040170		\$CLKVL=	005216	\$LNSPC	042564	G	.WAIT	007336	
TSSSUB=	010055	XMT1	033050		\$CLMEM	031052	\$LNTXA	041640	G	..SIZE	007620	
TSSTES=	010060	XMT2	035162									

. ABS. 044076 000
00C000 001
ERRORS DETECTED: 0

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