

ICBC DEC/X11 SYSTEM EXERCISER MODULE
XICBCO.P11 12-OCT-78 12:00

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IDENTIFICATION

PRODUCT CODE: AC-E890C-MC
PRODUCT NAME: CXICBCO ICR-11 MODULE
PRODUCT DATE: SEPTEMBER 1978
MAINTAINER: DEC/X11 SUPPORT GROUP

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1. ABSTRACT

ICB IS AN IOMOD THAT EXERCISES ICR11 CONTROLLER AND FILE BOX. IT WILL DO CSR & ADR READ AND WRITES, CHECK FOR INTERRUPT CAPABILITIES AND CHECK REMOTE TTY DATA LOOP BACK. IT IS ASSUMED TTY SHORTING PLUG IS IN REMOTE END (#8096).

2. REQUIREMENTS

HARDWARE: ICR11 CONTROLLER WITH FILE BOX
STORAGE: ICB REQUIRES:
1. DECIMAL WORDS: 666
2. OCTAL WORDS: 1232
3. OCTAL BYTES: 2464

3. PASS DEFINITION

ONE PASS OF THE ICB MODULE CONSISTS OF CSR CHECKS, 256 TRANSMIT/RECEIVE SEQUENCES TO THE ICR REMOTE TTY, AND INTERRUPT CHECKS.

4. EXECUTION TIME

ONE PASS OF THE ICB MODULE RUNNING ALONE ON A PDP11/05 TAKES APPROXIMATELY 45 SECONDS.

5. CONFIGURATION REQUIREMENTS

DEFAULT PARAMETERS:
DEVADR: 171776, VECTOR: 234, BR1: 6, DEVCNT: 1
REQUIRED PARAMETERS:
NONE

6. DEVICE/OPTION SETUP

MAKE SURE ICR REMOTE END IS POWERED UP, REMOTE TTY PLUG IS IN, ALL INTERRUPT SENSE MODULES ARE UNPLUGGED

7. MODULE OPERATION

TEST SEQUENCE

- A. SET UP ICR REGISTERS FROM ADDR
- B. TEST RESET FUNCTION OF ICR
- C. TEST ICR INTERRUPT ENABLES TO SET AND CLEAR
- D. TEST RIF BIT TO SET/CLEAR
- E. FORCE MAINTENANCE INTERRUPT AND CHECK
- F. CHECK RIF FUNCTION ON INTERRUPT
- G. ISSUE RESET TO ICR
- H. CHECK OUTPUT BUSY
- I. SEND DATA TO REMOTE TTY
- J. WAIT FOR DA INTERRUPT
- K. INTERRUPT - IF DA GO TO L, IF TBMT GO TO H
- L. READ TTY DATA AND CHECK
- M. IF END OF PASS, REPORT END IF NOT GO TO H
- N. RESTART TEST AT LOCATION RESTRT

8. OPERATOR OPTIONS

NONE

9. NON-STANDARD PRINTOUTS

ALL PRINTOUTS ARE STANDARD DEC/X11.

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131 000000* IOMOD <ICBC > 171776,234,6,0,2,71
132 000000* MODULE 140000,ICBC 171776,234,6,0,2,71
133 ; TITLE ICBC DEC/X11 SYSTEM EXERCISER MODULE
134 ; DDICOM VERSION 6 23-MAY-78
135 ; *****LIST*****
136 *****LIST*****
137 000000* BEGIN:
138 000000* 041511 041502 040 MODNAM: -ASCII /ICBC / ;MODULE NAME
139 000005* 000 XFLAG: -BYTE OPEN ;USED TO KEEP TRACK OF WBUFF USAGE
140 000006* 171776 ADDR: 171776+0 ;1ST DEVICE ADDR.
141 000010* 000234 VECTDR: 234+0 ;1ST DEVICE VECTOR.
142 000012* 000 BR1: -BYTE PRTY6+0 ;1ST BR LEVEL.
143 000013* 000 BR2: -BYTE PRTY0+0 ;2ND BR LEVEL.
144 000014* 000001 DVID1: +1 ;DEVICE INDICATOR 1.
145 000016* 000000 SR1: OPEN ;SWITCH REGISTER 1
146 000020* 000000 SR2: OPEN ;SWITCH REGISTER 2
147 000022* 000000 SR3: OPEN ;SWITCH REGISTER 3
148 000024* 000000 SR4: OPEN ;SWITCH REGISTER 4
149 *****LIST*****
150 000026* 140000 STAT: 140000 ;STATUS WORD.
151 000030* 000246 INIT: START ;MODULE START ADDR.
152 000032* 000224 SPOINT: MODSP ;MODULE STACK POINTER.
153 000034* 000000 PASCNT: 0 ;PASS COUNTER.
154 000036* 000002 ICONT: 2 ;# OF ITERATIONS PER PASS=2
155 000040* 000000 ICONFY: 0 ;LOC TO COUNT ITERATIONS
156 000042* 000000 SOPCNT: 0 ;LOC TO SAVE TOTAL SOFT ERRORS
157 000044* 000000 HRDCNT: 0 ;LOC TO SAVE TOTAL HARD ERRORS
158 000046* 000000 SOPPAS: 0 ;LOC TO SAVE SOFT ERRORS PER PASS
159 000050* 000000 HRDPAS: 0 ;LOC TO SAVE HARD ERRORS PER PASS
160 000052* 000000 SYSCNT: 0 ;# OF SYS ERRORS ACCUMULATED
161 000054* 000000 RANUM: 0 ;HOLDS RANDOM # WHEN RAND MACRO IS CALLED
162 000056* 000000 COMFIC: 0 ;RESERVED FOR MONITOR USE
163 000056* 000000 RES1: 0 ;RESERVED FOR MONITOR USE
164 000060* 000000 RES2: 0 ;RESERVED FOR MONITOR USE
165 000062* 000000 SVR0: OPEN ;LOC TO SAVE R0.
166 000064* 000000 SVR1: OPEN ;LOC TO SAVE R1.
167 000066* 000000 SVR2: OPEN ;LOC TO SAVE R2.
168 000070* 000000 SVR3: OPEN ;LOC TO SAVE R3.
169 000072* 000000 SVR4: OPEN ;LOC TO SAVE R4.
170 000074* 000000 SVR5: OPEN ;LOC TO SAVE R5.
171 000076* 000000 SVR6: OPEN ;LOC TO SAVE R6.
172 000100* 000000 CSRA: OPEN ;ADDR OF CURRENT CSR.
173 000102* 000000 SBADR: OPEN ;ADDR OF GOOD DATA, OR
174 000102* 000000 ACSR: OPEN ;CONTENTS OF CSR.
175 000104* 000000 HASADR: OPEN ;ADDR OF BAD DATA, OR
176 000104* 000000 ASSTAT: OPEN ;STATUS REG CONTENTS.
177 000106* 000000 ERRRTYP: OPEN ;TYPE OF ERROR.
178 000106* 000000 ASB: OPEN ;EXPECTED DATA.
179 000110* 000000 AWAS: OPEN ;ACTUAL DATA.
180 000112* 000346 RSTRT: RSTRT ;RESTART ADDRESS AFTER END OF PASS
181 000114* 000000 WDT0: OPEN ;WORDS TO MEMORY PER ITERATION
182 000116* 000000 WDFR: OPEN ;WORDS FROM MEMORY PER ITERATION
183 000120* 000000 INTR: OPEN ;# OF INTERRUPTS PER ITERATION
184 000122* 000071 IDNUM: 71 ;MODULE IDENTIFICATION NUMBER=71
185 ;REPT SPSIZ ;MODULE STACK STARTS HERE.
186 ;NLIST
  
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187 ;WORD 0
188 ;LIST
189 ;ENDR
190 000224* MODSP:
191 ;*****LIST*****
192
  
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193 000224 000000 TR0: -WORD 0 ;TEMP STORAGE
194 000226 000000 ERRFLP: -WORD 0 ;ERROR INDICATOR
195 000230 171774 ICR: -WORD 171774 ;ICR ADDR REG.
196 000232 000000 TEMP1: -WORD 0 ;TEMP LOC
197 000234 000000 TEMP2: -WORD 0 ;TEMP LOC
198 000236 000000 INTPLG: -WORD 0 ;INTERRUPT OCCURRED FLAG
199 000240 000000 DATSWT: -WORD 0 ;DATA OUT INDICATOR
200 000242 000000 VECT2: -WORD 0 ;PSW PICKUP FOR TEST
201 000244 000000 TEMP3: -WORD 0 ;TEMP STORAGE
202
203 000246 012767 000400 177640 START: MOV #400,WDT0 ;400 WORDS TO MEN/ITERATION
204 000254 012767 000400 177634 MOV #400,WDFR ;400 WORDS FROM MEN/ITERATION
205 000256 012767 000002 177630 MOV #2,INTR ;2 INTERRUPTS/ITERATION
206 000270 012767 171000 177634 MOV #171000,TEMP1 ;CREATE MODULE ADDRESS OF ICR UNDER TEST
207 000276 012767 171776 177630 MOV #171776,TEMP2 ;SETUP FIRST ICR CSR ADDRESS
208 000304 025767 177476 177722 1$: CMP ADDR,TEMP2 ;COMPARE ICSR TO CALCULATF ONE
209 000312 001415 BEQ RESTR1 ;IF FOUND THEN BR RESTR1
210 000314 062767 000040 177710 ADD #40,TEMP1 ;NOT FOUND CREATE NEXT
211 000322 162767 000010 177704 SUB #10,TEMP2 ;MODULE ADDRESS AND CSR
212 000330 016767 177700 177672 MOV TEMP2,ICAR ;SET CSR TO FORM ADDR BUFFER
213 000336 162767 000002 177604 SUB #2,ICAR ;CREATE ICR OF ICR
214 000344 000757 BR 1$ ;LOOP BACK TO TEST NEW ADDR
215 000346 016767 177434 177524 RESTR1: MOV @ADDR,CSRA ;SET UP ICSR
216 000354 052777 040000 177424 BIS #40000,@ADDR ;ISSUE RESET
217 000362 005777 177420 MADDR TEST ;DID RESET WORK
218 000370 017767 177412 177512 MOV #35,ERRTYP ;YES/NO BIT 35
219 000376 005067 177504 CLR @ADDR,@WAS ;SET UP PERTINENT
220 ;INFORMATION FOR ERROR CALL
221
222
223
224 000402 104404 000000 ;*****
225 DATERS,BEGIN ;DATA ERROR!!!
226 ;*****
227 ;MAINT BIT 3 DID NOT CLEAR
228 ;ICR CSR
229
230
231
232 ;TEST OF ICR CSR ENABLE BITS - TTYEN,RIF
233 ;
234
235 000406 052777 000001 177372 3$: BIS #1,@ADDR ;SET RIF BIT
236 000414 001014 000001 177364 BIT #1,@ADDR ;RIF BIT SET?
237 ;YES, TEST OK CONT
238
239
240 000424 017767 177356 177450 MOV @ADDR,ACSR ;LOAD CONTENTS OF CSR FOR ERROR
241 MSGNS,BEGIN,RIFCLR ;ASCII MESSAGE CALL WITH COMMON HEADER
242 000432 104403 000000 002444- MOV #25,ERRTYP ;BIT STUCK
243 000440 012767 000025 177440 ;*****
244 ;*****
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248 000446 104405 000000 000000 ;*****
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249 000462 032777 000001 177316 BIT #1,@ADDR ;RIF CLEARED?
250 000470 001414 BEQ #5 ;YES, TEST OK CONT
251
252
253 000472 017767 177310 177402 MOV @ADDR,ACSR ;LOAD CONTENTS OF CSR FOR ERROR
254 000500 104403 000000 002450- MSGNS,BEGIN,RIFCLR ;ASCII MESSAGE CALL WITH COMMON HEADER
255 000506 012767 000025 177372 MOV #25,ERRTYP ;BIT STUCK
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305 000720 000000 000000 8$: BREAKS,BEGIN ;TEMPORARY RETURN TO MONITOR...
306 000720 104407 000000 BREAKS,BEGIN ;THEN CONTINUE AT NEXT INSTRUCTION.
307 000724 104407 000000
308
309
310
311
312 000730 005767 177302 TST INTPLG ;INTERRUPT OCCUR?
313 000734 001023 177272 BNE I0S ;YES, I0S
314 000736 005367 BNE I0S ;NO, WATCH DOG OVERFLOW?
315 000742 001366 BNE B5 ;NO, LOOP
316
317
318 000744 017767 177036 177130 MOV @ADDR,ACSR ;LOAD CONTENTS OF CSR FOR ERROR
319 000752 104403 000000 002404 MSGNS,BEGIN,NOINT ;ASCII MESSAGE CALL WITH COMMON HEADER
320 000760 012767 000023 177120 MOV #23,ERRTYP ;NO INTERRUPT
321
322 000766 104405 000000 000000 ;*****
323 HRDRS$,BEGIN,NULL ;NO INTERRUPT
324 ;*****
325
326 000774 000470 BR TTY3 ;NO INTERRUPT
327
328 000776 005267 177234 9$: INC INTPLG ;SET INTERRUPT FLAG
329 001002 000000 RTI ;RETURN FROM INTERRUPT
330 001004 032777 000200 176774 10$: BIT #200,@ADDR ;DID MODULE INTR CAUSE INTR
331 001012 001014 BNE I1S ;MODULE INTERRUPTED CONTINUE WITH TEST
332
333
334 001014 017767 176766 177060 MOV @ADDR,ACSR ;LOAD CONTENTS OF CSR FOR ERROR
335 001022 104403 000000 002410 MSGNS,BEGIN,NOINT ;ASCII MESSAGE CALL WITH COMMON HEADER
336 001030 012767 000023 177050 MOV #23,ERRTYP ;NO INTERRUPT
337
338 001036 104405 000000 000000 ;*****
339 HRDRS$,BEGIN,NULL ;MODULE INTERRUPT NOT POSTED
340 ;*****
341
342
343 001044 052777 000001 176734 11$: BIS #1,@ADDR ;SET RIF
344 001052 005777 177154 TST #1,ERRTYP ;INITIATE RIF
345 001056 032777 000200 176722 BIT #200,@ADDR ;MOD INT CLEARED
346 001064 001414 BEQ I2S ;RIF CLEARED MODULF INTR CONTINUF
347
348
349 001066 017767 176714 177006 MOV @ADDR,ACSR ;LOAD CONTENTS OF CSR FOR ERROR
350 001074 104403 000000 002420 MSGNS,BEGIN,RIFMOD ;ASCII MESSAGE CALL WITH COMMON HEADER
351 001102 012767 000025 176776 MOV #25,ERRTYP ;BIT STUCK
352
353 001110 104405 000000 000000 ;*****
354 HRDRS$,BEGIN,NULL ;RIF DIDN'T CLEAR MODINT
355 ;*****
356
357
358 001116 032777 000001 176662 12$: BIT #1,@ADDR ;RIF CLEARED?
359 001124 001414 BEQ TTY3 ;RIF IS CLEARED CONTINUF
360

```

```

361 001126 017767 176654 176746 MOV @ADDR,ACSR ;LOAD CONTENTS OF CSR FOR ERROR
362 001134 104403 000000 002414 MSGNS,BEGIN,RIFSET ;ASCII MESSAGE CALL WITH COMMON HEADER
363 001142 012767 000025 176736 MOV #25,ERRTYP ;BIT STUCK
364
365 001150 104405 000000 000000 ;*****
366 HRDRS$,BEGIN,NULL ;RIF SET AFTER RIF FUNCTION
367 ;*****
368
369
370 001156 052777 040000 176622 TTY3: BIS #40000,@ADDR ;ISSUE RESET
371
372 ;
373 ;TEST OF REMOTE TTY LOOP BACK UNDER INTERRUPT ENABLE
374 ;AN INCREMENTING PATTERN IS USED.
375 ;
376
377 001164 012777 001426 176616 MOV #ICRSRV,@VECTOR ;SET UP VECTOR FOR INTERRUPT
378 001172 005067 177042 CLR DATSRT ;DATA ON TTY'S WAY
379 001176 005067 176704 CLR ASB ;CLEAR PATTERN
380 001202 052777 000040 176576 TTY2: BIS #40,@ADDR ;SET REMOTE TTY ENABLE
381 001210 012767 000100 177016 MOV #100,TEMP2 ;SET WATCHDOG
382
383
384 001216 000000 000000 1$: BREAKS,BEGIN ;TEMPORARY RETURN TO MONITOR...
385 001222 104407 000000 000000 BREAKS,BEGIN ;THEN CONTINUE AT NEXT INSTRUCTION.
386
387 001226 005777 176554 TST @ADDR ;TRANSMISSION LINE INACTIVE
388 001232 100021 BPL ZS ;BR IF OK, NOT ACTIVE
389
390
391 001234 005367 176774 DEC TEMP2 ;DEC WATCHDOG
392 001240 001366 BNE I1S
393
394
395 001242 017767 176540 176632 MOV @ADDR,ACSR ;LOAD CONTENTS OF CSR FOR ERROR
396 001250 104403 000000 002424 MSGNS,BEGIN,OUTBSY ;ASCII MESSAGE CALL WITH COMMON HEADER
397 001256 012767 000016 176622 MOV #16,ERRTYP ;BUSY STUCK
398
399 001264 104405 000000 000000 ;*****
400 HRDRS$,BEGIN,NULL ;LINE BUSY
401 ;*****
402
403
404 001272 000167 177660 JMP TTY3 ;RETRY AFTER LINE BUSY
405
406 001276 005067 176734 2$: CLR INTPLG ;CLEAR INTERRUPT FLAG
407 001302 016777 176600 MOV ASB,TEMP1 ;SEND DATA
408 001310 005297 176724 INC DATSRT ;DATA ON TTY'S WAY
409 001314 005297 000006 176464 TTY1: BIS #6,@ADDR ;SET INTERRUPT ENABLES
410 001322 012767 001000 176714 MOV #1000,TEMP3 ;SET WATCHDOG
411
412
413 001330 000000 000000 1$: BREAKS,BEGIN ;TEMPORARY RETURN TO MONITOR...
414 001334 104407 000000 000000 BREAKS,BEGIN ;THEN CONTINUE AT NEXT INSTRUCTION.
415
416 001340 005767 176672 TST INTPLG ;INTERRUPT OCCUR?

```

```
417 001344 001402 BEQ 2$ ;NO, STAY IN LOOP
418
419 001346 000167 000062 JMP SERVIC ;YES, GO SERVICE IT
420
421 001352 005367 176666 2$: DEC TEMP3 ;DEC WATCHDOG
422 001356 001384 BNE 1$ ;IF NOT TIMED OUT STAY IN LOOP
423
424 ;NO INTERRUPT FROM REMOTE TTY TRANSMISSION
425
426
427
428 001360 042777 000006 176420 BIC #6,@ADDR ;CLEAR INTERRUPT ENABLES BEFORE PRINT
429
430
431 001366 017767 176414 176506 MOV @ADDR,ACSR ;LOAD CONTENTS OF CSR FOR ERROR
432 001374 104403 000000 002430 MSGNS,BEGIN,NOTTY ;ASCII MESSAGE CALL WITH COMMON HEADER
433 001402 012767 000023 176476 MOV #23,ERRTP ;NO INTERRUPT FROM REMOTE TTY
434 ;*****
435 001410 104405 000000 000000 HDRERS,BEGIN,NULL ;TTY HUNG
436 ;*****
437
438
439 001416 000167 000342 JMP FINI ;DROP MODULE
440
441 001422 000167 000326 3$: JMP ENPAS ;PASS DONE
442
443 ;
444 ;INTERRUPT SERVICE ROUTINE FOR TTY TEST
445 ;
446
447 001426 005267 176604 ICRSRV: INC INTPLG ;SET INTERRUPT FLAG
448 001432 000002 RTI ;RETURN
449 001434 052777 000001 176344 SERVIC: BIS #1,@ADDR ;SET RIF BIT
450 001442 042777 000005 176336 BIC #6,@ADDR ;CLEAR INTERRUPT ENABLES
451 001450 005067 176552 CLR ERRFLP ;CLEAR ERROR INDICATOR
452 001454 002777 010000 176324 BIT #10000,@ADDR ;DID ERROR CAUSE INTR.
453 BEQ 1$ ;NO, CHECK OTHERS
454 001464 005267 176536 ERRFLP ;INDICATE ERROR
455 001470 032777 000200 176310 1$: BIT #200,@ADDR ;MODULE INTERRUPT THE CAUSE
456 001476 001433 BEQ 2$ ;NO, CHECK FOR LINE ERROR
457 001480 002777 010000 176522 BIT #10000,@ICAR ;DATA AVAILABLE?
458 001506 001057 BNE 3$ ;YES, GO GET DATA
459 001510 032777 100000 176512 BIT #100000,@ICAR ;TRANSMITTER BUFFER EMPTY?
460 001516 001101 BNE 7$ ;YES, GO LOAD NEXT PATTERNS
461
462 ;WASN'T DA OR TBMT JUST MODINT, SHOULDN'T BE SO
463 ;INDICATE ERROR
464
465 001520 005777 176506 TST @TEMP1 ;ISSUE RIF
466 001524 017767 176500 176472 MOV @ICAR,TRO ;CLEAR ERROR
467
468
469
470 001532 017767 176250 176342 MOV @ADDR,ACSR ;LOAD CONTENTS OF CSR FOR ERROR
471 001540 104403 000000 002430 MSGNS,BEGIN,MODGOF ;ASCII MESSAGE CALL WITH COMMON HEADER
472 001546 012767 000011 176332 MOV #11,ERRTP ;ILLEGAL INTERRUPT
473 ;*****
```

```
473 001554 194405 000000 000000 HDRERS,BEGIN,NULL ;MOD INT ILLEGAL
474 ;*****
475
476 001562 000167 177370 JMP TTY3 ;ILLEGAL INTR. RETRY TEST
477
478
479 001566 005767 176434 2$: TST ERRFLP ;ERR CAUSES INTR.
480 001572 001014 BNE 3$
481
482
483
484 001574 017767 176206 176300 MOV @ADDR,ACSR ;LOAD CONTENTS OF CSR FOR ERROR
485 001602 104403 000000 002440 MSGNS,BEGIN,SPURIN ;ASCII MESSAGE CALL WITH COMMON HEADER
486 001610 012767 000011 176270 MOV #11,ERRTP ;ILLEGAL INTERRUPT
487 ;*****
488 001616 104405 000000 000000 HDRERS,BEGIN,NULL ;INTR THAT WASN'T MOD OR ERROR
489 ;*****
490
491
492
493 001624 017767 176400 176372 3$: MOV @ICAR,TRO ;CLEAR ERROR
494 001632 005067 176370 CLR ERRFLP ;CLEAR ERROR INDICATOR
495 001636 000167 177340 JMP TTY2 ;RETURN & RE-TRANSMIT
496
497 ;
498 ;DA WAS SET, READ DATA
499 ;
500
501 001642 017767 176364 176240 4$: MOV @TEMP1,AWAS ;READ TTY DATA
502 001650 016767 176356 176224 MOV @TEMP1,ACSR ;SET UP ERROR DATA
503 001656 026767 176226 176222 CMP AWAS,ASB ;COMPARE AGAINST SENT
504 001664 001402 BEQ 5$ ;CORRECT, GO TO 5$
505
506
507
508 001666 104404 000000 000000 ;*****
509 DATERS,BEGIN ;DATA ERROR!!!
510 ;*****
511 ;READ ERROR
512
513
514 001672 005267 176210 5$: INC DATSNT ;INC PATTERN
515 001676 005067 176336 CLR DATSNT ;CLEAR DATA ON IT'S WAY
516 001702 032767 000400 176176 BIT #400,ASB ;DOWNE
517 001710 001404 BEQ 7$ ;NO, 7$
518 001716 017767 176312 176304 6$: MOV @ICAR,TRO ;READ ICAR TO CLEAR ERROR BIT
519 001720 000415 BR ENPAS ;EXIT
520
521
522 001722 005767 176312 7$: TST DATSNT ;DATA IN XMISSION
523 001726 001005 BNE 8$ ;YES, 8$
524 001730 017767 176274 176266 MOV @ICAR,TRO ;READ ICAR TO CLEAR ERROR BIT
525 001736 009467 176280 176254 JMP TTY2 ;RE-SEND
526 001750 000167 177340 MOV @ICAR,TRO ;READ ICAR TO CLEAR ERROR BIT
527 001754 000167 177340 JMP TTY1 ;RE-SEND
528 001754 104413 000000 000000 ENPAS: ENDTIS,BEGIN ;SIGNAL END OF ITERATION.
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529          001760 000167 176362          JMP      RESTR      ;MONITOR SHALL TEST END OF PASS
530          001764 000167 176362          FINI:     ;LOOP
531          001764 104410 000000          ENDS,BEGIN          ;DROP THE MODULE
532
533          001770 047040 020117 047111 MES2:     .EVEN
534          001776 042524 051122 050125          .ASCIZ  ' NO INTERRUPT'
535
536          002004 000124 000124          MES3:     .ASCIZ  ' INTERRUPT NOT MODULE INTERRUPT'
537          002006 044440 052116 051105
538          002014 052522 052117 047040
539          002022 052117 046440 042117
540          002030 046125 020105 047111
541          002036 042524 051122 050125
542          002044 000124 000124
543          002046 051040 043111 051440 MES4:     .ASCIZ  ' RIF STAYED SET'
544          002054 040524 042531 020104
545          002062 042523 000124
546          002066 051040 043111 042040 MES5:     .ASCIZ  ' RIF DID NOT CLEAR INTERRUPT'
547          002074 042111 047040 052117
548          002102 041440 042514 051101
549          002110 044440 051116 051105
550          002118 052522 051101 000
551          002123 040 044514 042516 MES6:     .ASCIZ  ' LINE ACTIVE TOO LONG'
552          002130 040440 052103 053111
553          002136 020105 047524 020100
554          002144 047515 042515
555          002151 040 042524 047515 MES7:     .ASCIZ  ' REMOTE TTY TEST HUNG'
556          002156 042524 052040 054524
557          002164 052040 051505 020124
558          002172 052510 043516 000
559          002177 040 046111 042514 MES8:     .ASCIZ  ' ILLEGAL MODULE INTERRUPT'
560          002184 040507 020114 047515
561          002192 040504 042514 044440
562          002200 052116 051105 052522
563          002226 052120 000
564          002231 040 050123 051125 MES9:     .ASCIZ  ' SPURIOUS INTERRUPT'
565          002236 047511 051525 044440
566          002252 052120 051105 052522
567          002255 040 000
568          002255 040 044522 020106 MES10:    .ASCIZ  ' RIF BIT NOT SET'
569          002262 044502 020124 047516
570          002270 020124 042523 000124 MES11:    .ASCIZ  ' RIF BIT NOT CLEAR'
571          002276 051040 043111 041040
572          002304 051101 047040 052117
573          002312 041440 042514 051101
574          002320 000
575          002321 040 052124 020131 MES12:    .ASCIZ  ' TTY ENABLE BIT NOT SET'
576          002326 047105 041101 042514
577          002334 041040 052111 047040
578          002342 052117 051440 052105
579          002350 000
580          002351 040 052124 020131 MES13:    .ASCIZ  ' TTY ENABLE BIT NOT CLEAR'
581          002356 047105 041101 042514
582
583
584

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585          002364 041040 052111 047040
586          002372 052117 041440 042514
587          002400 000
588          002404 002404          .EVEN
589
590          002404 001770          NOINT:   MES2
591          002406 177777          177777
592
593          002410 002006          WOMOD:  MES3
594          002412 177777          177777
595
596          002414 002046          RIFSET: MES4
597          002416 177777          177777
598
599          002420 002066          RIFMOD: MES5
600          002422 177777          177777
601
602          002424 002123          OUTBSY: MES6
603          002426 177777          177777
604
605          002430 002151          NOTTY:  MES7
606          002432 177777          177777
607
608          002434 002177          MODGOF: MES8
609          002436 177777          177777
610
611          002440 002231          SPURIN: MES9
612          002442 177777          177777
613
614          002444 002255          RIFNOT: MES10
615          002446 177777          177777
616
617          002450 002276          RIFCLR: MES11
618          002452 177777          177777
619
620          002454 002321          TTYNOT: MES12
621          002456 177777          177777
622
623          002460 002351          TTYCLR: MES13
624          002462 177777          177777
625
626          000001          .END

```


RIFSET	002414R	363	596#						
RSTR1	000112R	180#							
SBADR	000102R	173#							
SERVIC	001434R	419#	449#						
SDFCNI	000042R	196#							
SOFFRS	104406	158#							
SOFFPA	000046R	152#							
SPOINT	000032R	1							
SPSIZ =	000040	1	185#						
SPURIN	002440R	485#	611#						
SR1	000016R	142#							
SR2	000019R	147#							
SR3	000022R	148#							
SR4	000024R	151#							
START	000246R	150#	203#						
STAT	000026R	165#							
SVR0	000062R	166#							
SVR1	000064R	167#							
SVR2	000066R	168#							
SVR3	000070R	169#							
SVR4	000072R	170#							
SVR5	000074R	171#							
SVR6	000076R	160							
SVSCNT	000052R	196#	206*	210*	344*	407*	465*	501*	502*
TEMP1	000232R	197#	207*	211*	212*	301*	314*	382*	392*
TEMP2	000234R	201#	410*	421*					
TEMP3	000244R	193#							
TRPDFD	000072	282#							
TR0	000224R	269#	466*	493*	518*	523*	525*		
TTYCLR	002460R	623#							
TTYNDT	002454R	620#							
TTY1	001314R	409#							
TTY2	001202R	381#							
TTY3	001156R	326#	524	391#	404	477			
VECT0R	000010R	141#	395*	396*	397*				
VECT2	000242R	200#	296*	297*	298*				
WASADR	000104R	175#							
WDFR	000116R	182#	204*						
WDTO	000114R	181#	203*						
XFLAG	000005R	139#							
.	= 002464R	588#							

. ABS. 000000 000
002464 001

ERRORS DETECTED: 0
DEFAULT GLOBSALS GENERATED: 0
XICBCO, XICBCO/SOL/CRF:SYM=DDXCOM, XICBCO
RUN-TIME: 1 2 4 SECONDS
RUN-TIME RATIO: 22/4=5.5
CORE USED: 7K (13 PAGES)