

TEXT LISTING

068-000306-04

PROGRAM

4200 COMMUNICATIONS SYSTEM  
RELIABILITY TEST

TEXT TAPE

097-000306-04

ABSTRACT

(ABC) THE COMMUNICATIONS SYSTEM RELIABILITY TEST IS A MAINTENANCE PROGRAM DESIGNED TO EXERCISE THE COMMUNICATIONS SYSTEM.

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0001 .MAIN
01 AOS ASSEMBLER REV 03.01
02 14:31:11 12/06/79
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07 *****
08 PROGRAM NAME: COMREL.TX PRT NUMBER:097-000306
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12 DESCRIPTION: 4200 COMMUNICATIONS SYSTEM RELIABILITY
13 TEST TEXT FILE
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16 REVISION HISTORY:
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PROGRAM NAME = COMREL.SR
REVISION HISTORY:
REV 03 DATE 10/19/78
REV 04 DATE 12/15/79
COMMENTS
IOP/4K DCU MOODS
DUAL PORT/MODEM
PROBLEMS+ENHANCE
NOTE1: COMREL.SR IS USED TO TEST COMMUNICATIONS SYSTEMS IN
ANY OF THE FOLLOWING CONFIGURATIONS: A) HOST PROCESSOR
AND COMM CHASSIS; B) HOST PROCESSOR WITH DCU AND COMM
CHASSIS; C) HOST PROCESSOR DCU, DUAL PORT CONTROLLER & COMM
CHASSIS; D) TWO HOST PROCESSORS, TWO DCU'S AND DUAL PORT
CONTROLLER AND COMM CHASSIS. IN THE FOLLOWING SECTIONS,
THE COMMENTS WILL BE LABELED WITH A,B,C,OR D TO INDICATE
WHICH CONFIGURATION THEY APPLY TO.
NOTE2: THE HOST PROCESSOR MAY, IN FACT, BE AN ECLIPSE
IOP. THE DCU MAY HAVE EITHER 1K OR 4K LOCAL MEMORY.
DCU=50,DCU=200
MACHINE REQUIREMENTS
(ABCD) NOVA (EXCEPT MICRO)/ECLIPSE FAMILY PROCESSOR = IN
CONFIGURATION D, 2 ARE NEEDED.
(ABCD) 16K READ WRITE MEMORY = IN CONFIGURATION D,
TWO ARE NEEDED.
(ABCD) CONSOLE/TELETYPE = IN CONFIGURATION D, TWO
ARE NEEDED.
(BCD) DCU=50 = IN CONFIGURATION D, TWO ARE NEEDED.
(CD) DUAL PORT CONTROLLER
(ABCD) HOST CHASSIS = IN CONFIGURATION D, TWO
ARE NEEDED.
(ABCD) COMM. CHASSIS (1-4) CONTAINING ANY COMBO OF
4,8,16 LINE ASYNC AND/OR 1,2 LINE SYNC CON-
TROLLERS NOT TO EXCEED 256 LINES FOR CONFIGURATIONS
(AB) OR 128 LINES FOR (CD) CONFIGURATIONS.
TEST REQUIREMENTS =
N/A

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10005 .MAIN

0006 .MAIN

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01 (C) DCU PROGRAM FOR SINGLE PORT MODE - THE DCU PRO-
02 GRAM IS LOADED AND STARTS AT THE WATCH DOG TIMER
03 START UP ROUTINE. THIS ROUTINE TURNS ON THE PORT
04 BEING RUN WATCH DOG TIMER. AFTER THE WDT IS TURNED
05 ON, THE DCU PROGRAM TURNS ON THE APPROPRIATE LINES
06 AS PREVIOUSLY DESCRIBED IN 5.1. THEN THE LINES ARE
07 CONSTANTLY CHECKED WITH THE PROGRAM GOING TO THE
08 (DMN6 ROUTINE) WHEN DONES OCCUR THE HOST PROCESSOR
09 CHECKS THE DATA FOR ACCURACY AND FLAGS THE OPERATOR
10 THRU USE OF ERROR MESSAGES IF ANY ERROR OCCURS.
11
12 (D) DCU PROGRAM FOR DUAL PORT MODE - THE DCU
13 PROGRAM FIRST TURNS ON THE WDT FOR ITS SIDE AND WAITS
14 FOR THE WDT FOR THE OTHER SIDE TO TURN ON. THEN IT
15 GOES TO DUAL PORT PART TWO THE COMM LINK CHECK WHICH
16 SENDS A SPECIFIC PATTERN FROM ONE PROCESSOR TO THE
17 OTHER AND BACK AGAIN. THEN THE DCU PROGRAM FOR THE
18 MASTER SIDE SENDS ALL THE SYSTEM CONFIGURATION IN-
19 FORMATION TO THE "SLAVE" THEN IT STARTS ALL ACTIVE
20 LINES AND TESTS THEM. AFTER 32 WATCH DOG TIMER CLOCKS
21 THE LOWEST ADDRESS LINE MODULE IS SWAPPED TO THE
22 SLAVE, AND THE SLAVE TESTS THAT LINE MODULE WHILE THE
23 MASTER TESTS ALL REMAINING LINE MODULES.
24 THIS CONTINUES UNTIL ALL LINES HAVE BEEN SWAPPED FROM
25 "MASTER" TO "SLAVE" AND BACK AGAIN. THIS IS THE END
26 OF PART FOUR OF THE DUAL PORT TESTING.
27
28 THE WATCH DOG TIMER IS THEN CHECKED IN THE FOLLOWING
29 MANNER. THE "MASTER" TURNS ON THE FIRST LINE ON THE
30 FIRST TWO AVAILABLE LINE MODULES AND CHECKS FOR A
31 DONE FROM EACH. THEN IT GIVES UP A LINE MODULE TO
32 THE "SLAVE". NEXT IT ISSUES A START AND CHECKS THAT
33 THE LINE MODULE STAYS ON THE SLAVE. THE MASTER THEN
34 SENDS A GUE TO THE SLAVE TO STOP SERVICING ITS WDT,
35 THIS CREATING AN ERROR WHEN THE MASTER SEES THE ERROR
36 IT ISSUES ANOTHER START WHICH TAKES THE LINE BACK.
37 THE "MASTER" THEN GIVES UP BOTH LINE BOTH LINE MODULES
38 AND BECOMES A "SLAVE" WHILE THE "SLAVE" BECOMES A
39 MASTER AND THE ENTIRE SEQUENCE IS REPEATED. AT THE
40 END OF THAT SEQUENCE A PASS COUNT IS PRINTED AND THE
41 PROGRAM LOOPS BACK TO THE LINE MODULE TESTING.
42
43 SWPDP 8
44
45 SWITCH SETTINGS
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47 LOCATION "SWREG" IS USED TO SELECT THE PROGRAM OPTIONS
48 (NOT SYSTEM CONFIGURATION). WHILE RUNNING UNDER DTOS,
49 THIS LOCATION WILL BE LOADED BY THE MONITOR.
50 UNDER STAND ALONE AND PROGRAM LOAD MODES THIS
51 LOCATION WILL BE SET ACCORDING TO THE ANSWERS SUPPLIED
52 BY THE OPERATOR. IN ANY CASE, THE OPTIONS CAN BE CHANGED
53 OR VERIFIED BY USING ONE OF THE COMMANDS GIVEN IN SEC.
54 8.2
55
56 SWITCH OPTIONS
57
58 DIFFERENT BITS AND THEIR INTERPRETATION AT LOCATION
59 "SWREG" IS AS FOLLOWS:
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| BIT | OCTAL VALUE | BINARY VALUE | INTERPRETATION  |
|-----|-------------|--------------|---|
| 1   | 40000       | 0            | LOOP ON ERROR   |
| 2   | 20000       | 1            | SKIP LOOPING ON ERROR                                     |
| 3   | 10000       | 0            | PRINT TO CONSOLE  |
| 4   | 04000       | 1            | ABORT PRINT OUT TO CONSOLE                                |
| 5   | 02000       | 0            | DO NOT PRINT % FAILURE                                    |
| 6   | 01000       | 1            | PRINT % FAILURE   |
| 7   | 00400       | 0            | ALLOW END OF PASS PRINT OUT                               |
| 8   | 00200       | 1            | SUPPRESS END OF PASS PRINT OUT                            |
| 9   | 00100       | 0            | DO NOT PRINT ON THE LINE PRINTER                          |
| 10  | 00010       | 1            | PRINT ON THE LINE PRINTER                                 |
| 11  | 00001       | 0            | DO NOT HALT ON ERROR                                      |
| 12  | 00000       | 1            | HALT ON ERROR   |
| 13  | 00000       | 0            | DON'T PRINT SUBTEST SUMMARY OR PASS                       |
| 14  | 00000       | 1            | PRINT SUMMARY AND/OR                                      |
| 15  | 00000       | 0            | PASSING OF EACH SUBTEST                                   |
| 16  | 00000       | 1            | PRINT ONLY THE FIRST ERROR                                |
| 17  | 00000       | 0            | PRINT EVERY ERROR   |
| 18  | 00000       | 1            | SWITCH COMMANDS   |
| 19  | 00000       | 0            | ONCE THE PROGRAM STARTS EXECUTION THE STATE OF ANY OF     |
| 20  | 00000       | 1            | THE BITS CAN BE CHANGED BY HITTING KEYS 1-9, A-F. THE     |
| 21  | 00000       | 0            | PROGRAM WILL CONTINUE RUNNING AFTER UPDATING THE OPTIONS. |
| 22  | 00000       | 1            | EACH KEY WILL COMPLEMENT THE STATE OF THE BIT AFFILIAT-   |
| 23  | 00000       | 0            | ED WITH IT, THUS BIT 4 CAN BE ALTERED BY HITTING KEY 4.   |
| 24  | 00000       | 1            | SETTING OF ANY BIT OF LOCATION "SWREG" WILL SET BIT 0.    |
| 25  | 00000       | 0            | (DEFAULT MODE IS DEFINED AS ALL BITS OF SWREG SET TO 0)   |
| 26  | 00000       | 1            | THE PROGRAM CAN BE LOCKED INTO SWITCH MODIFICATION MODE   |
| 27  | 00000       | 0            | BY TYPING A 0, IN WHICH CASE MORE THAN ONE BIT CAN BE     |
| 28  | 00000       | 1            | CHANGED BEFORE CONTROL IS ALLOWED TO RETURN TO THE        |
| 29  | 00000       | 0            | MAIN PROGRAM.   |
| 30  | 00000       | 1            | OTHER COMMANDS  |
| 31  | 00000       | 0            | "CR" A "RETURN" CAN BE TYPED TO CONTINUE THE PROGRAM      |
| 32  | 00000       | 1            | AFTER ITS LOCKED IN A SWITCH MODIFICATION MODE            |
| 33  | 00000       | 0            | "D" THIS COMMAND GIVEN AT ANY TIME WILL RESET "SWREG"     |
| 34  | 00000       | 1            | TO DEFAULT MODE AND RESTART THE PROGRAM.                  |
| 35  | 00000       | 0            | "R" THIS COMMAND GIVEN AT ANY TIME WILL RESTART THE       |
| 36  | 00000       | 1            | PROGRAM. SWITCHES ARE LEFT WITH THE VALUES THEY           |
| 37  | 00000       | 0            | HAD BEFORE THE COMMAND WAS ISSUED.                        |
| 38  | 00000       | 1            | "O" THIS COMMAND GIVEN AT ANY TIME WILL CAUSE THE         |
| 39  | 00000       | 0            | PROGRAM CONTROL TO GO TO ODT (NOTE: THIS IS AN            |
| 40  | 00000       | 1            | OPTIONAL COMMAND AND IS AVAILBLE ONLY IF                  |
| 41  | 00000       | 0            | ODTPK IS PRESENT)   |
| 42  | 00000       | 1            | "M" THIS COMMAND GIVEN AT ANY TIME WILL PRINT THE         |
| 43  | 00000       | 0            | CURRENT OPERATING MODES.                                  |

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8.2.2 SWITCHES DEFINED FOR COMREL (ADDENDUM TO 8.2)

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BIT OCTAL BINARY
VALUE VALUE
000002 1
0 0
000004 1
0 0
000010 1
0 0

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INHIBIT LINE ASSIGN PRINTOUT

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10006 .MAIN

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01 OPERATING PROCEDURE
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19.0 OPERATING PROCEDURE

19.1 CONNECT MODEM TEST PLUGS IF IT IS DESIRED TO TEST ANY MODEM LINES

19.2 LOAD THE TEST PROGRAM VIA THE BINARY LOADER OR DIAGNOSTIC OPERATING SYSTEM. IF AN ECLIPSE IOP IS TO BE USED THE PROGRAM WILL RUN IN THE HOST DIRECTORY. IF THE COMMUNICATIONS LINES ARE CONNECTED TO THE IOP. IF THE LINES ARE CONNECTED TO A DCU WHICH IS CONNECTED TO THE IOP, THEN THE PROGRAM MUST BE RUN FROM THE IOP DIRECTORY.

19.3 SET CONSOLE SWITCHES TO 200. PHESS START.

19.4 THE PROGRAM WILL OUTPUT A MESSAGE TO INDICATE IF MANUAL INPUT TO SPECIFY DETAILED LINE PARAMETERS IS REQUIRED. TYPING A ONE WILL RESULT IN QUESTIONS ABOUT DETAILED LINE SPECIFICATIONS LATER. TYPING ANY OTHER CHARACTER ALLOWS THE PROGRAM TO SPECIFY ITS OWN RANDOMLY SELECTED CHARACTERISTICS.

19.5 THE PROGRAM WILL ASK TO SELECT THE SYSTEM CONFIGURATION EITHER A DCU/50/200, AN ECLIPSE IOP, A DUAL PORT CHASSIS OR NONE. THE OPERATOR SHOULD TYPE THE PROPER RESPONSE

19.6 THE PROGRAM WILL REQUEST THE DEVICE CODE TO BE TYPED. THE OPERATOR SHOULD RESPOND WITH THE TWO DIGIT OCTAL DEVICE CODE ASSIGNED TO THE COMM SYSTEM (EITHER 34 OR 44) FOLLOWED BY A CARRIAGE RETURN.

19.7 IF A DCU IS IN THE SYSTEM THE PROGRAM WILL REQUEST THE 2 DIGIT OCTAL NUMBER OF THE DCU DEVICE CODE (1=76 ACCEPTABLE)

19.8 IS THE SYSTEM TO BE USED IN SINGLE PORT MODE ONLY? (1=YES, 0=NO) IF NO, IT CONTINUES WITH THE FOLLOWING QUESTION; IF YES, IT GOES TO QUESTION (9.10)

19.9 IS THIS MASTER OR SLAVE (1=MASTER, 0=SLAVE) IF SLAVE, THE PROGRAM JUMPS TO START OF WDT ROUTINE AND STARTS EXECUTION WAITING FOR MASTER TO START. IF MASTER, IT CONTINUES WITH FOLLOWING QUESTION. NOTE: THIS IS USED ONLY FOR CONFIGURATION D AND ANY ONE SIDE CAN BE MASTER THAT IS THE SIDE THAT IS THAT IS ASSIGNED AS MASTER FROM WDT FRONT PANEL.

19.10 TYPE 1 IF MODEM CONTROL, 0 IF NOT. IF MODULES ARE TO BE TESTED ENTER 1, IF NOT ENTER 0.

19.11 TYPE 1 IF CRC OPTION, 0 IF NOT. IF CRC OPTIONS ARE TO BE TESTED TYPE 1, IF NOT TYPE 0.









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;10.6 THE FOLLOWING MESSAGES REFER TO MODE (D)
; (FULL DUAL PORT)
;
;10.6.1 "HALT COMM LINK DONE IN ERROR" INDICATES
; DCU PROGRAM HALTED BECAUSE THE COMM LINE GOT A DONE
; WHEN IT SHOULD NOT HAVE
;
;10.6.2 "HALT CHECKSUM ERROR" INDICATES THAT A BIT
; OR BITS WAS DROPPED OR ADDED WHEN COMM LINE WAS BEING
; USED TO TRANSMIT LINE CONTROL BLOCK DATA FROM MASTER
; TO SLAVE.
;
;10.6.3 "COMM LINK DATA ERROR GOOD BAD DATA TO FOLLOW"
; INDICATES THAT COMM LINK FAILED WHILE SENDING SPECIFIC
; PATTERN FROM MASTER TO SLAVE AND BACK
;
;10.6.4 "PREVIOUS ERROR ON COMM LINK" INDICATES THAT DATA ERROR
; OCCURRED PREVIOUSLY.
;
;10.6.5 "NO. OF MODULES ASSIGNED IS..."
; "NO. OF LINES ASSIGNED IS..." THIS INDICATES THE
; LINES AND MODULES ASSIGNED TO EACH SIDE IN MODE D
; OR TO ONE SIDE IN MODE C. AS LINES ARE SWAPPED BE-
; TWEEN PROCESSORS THIS IS UPDATED.
;
;10.6.6 "END OF PART FOUR" INDICATES ALL LINE MODULES
; HAVE BEEN SWAPPED FROM ONE PROCESSOR TO THE OTHER
; AND BACK AGAIN.
;
;10.6.7 "NO. OF PASSES COMPLETED IS..." THIS INDICATES
; THE NUMBER OF TIMES PART 4 & 5 HAVE BEEN CYCLED.

10016 .MAIN
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MODEM CONTROL TEST PLUS CONNECTS:
ASYNC (ALM) SYNC (SLM)
RTS X TO RING X AND DSR X+1 DTR TO RING
RIS X+1 TO RING X+1 AND DSR X RTS TO DSR
DIR X TO CTS X AND CD X+1 SPA TO CD
DTR X+1 TO CTS X+1 AND CD X SPB TO CTS
X= ANY EVEN NUMBERED LINE

TO AID IN TROUBLE SHOOTING, EXAMINE THE LCB'S FOR
THE FAILING LINE(S) FOR ADDITIONAL INFORMATION. TO
FIND THE APPROPRIATE LCB STARTING ADDRESS, ADD THE LINE
NUMBER TO LCBPTR AND EXAMINE THAT LOCATION. A DESCRIP-
TION OF LCB WORDS IS FOUND IN 11.9.

THE RELIABILITY OF THE DCU SHOULD BE ESTABLISHED
BEFORE THIS PROGRAM IS RUN.

A PERIODIC PRINTOUT OF THE ACCUMULATED TRANSMIT AND
RECEIVED WORDS IS PROVIDED AFTER EACH PASS. THESE
NUMBERS ARE JUST AN INDICATION THAT ACTIVITY IS
TAKING PLACE.
THE PRINTOUT MAY BE FORCED BY TYPING A "SPACE BAR"

AN "OVERRUN" OR "RECEIVE BUFFER OVERFLOW" ERROR
PRINTOUT MAY BE AN INDICATION THAT THE THROUGHPUT
OF THIS PROGRAM (APPROXIMATELY 10000 CPS, FULL
DUPLEX) IS BEING EXCEEDED. IT MAY BE NECESSARY
ON A LARGE NUMBER OF HIGH BAUD RATE LINES (>4800)
TO TEST SMALLER GROUPS OF LINES AT A TIME, FORCE A
LOWER BAUD RATE BY ELECTING THE "ENTER OPERATOR
PARAMETERS" OPTION OR CHANGING THE BAUD RATE JUMPERS.

THE RANDOM NUMBERS ARE TRANSMITTED IN BLOCKS AT
A TIME AND COMPARED IN NON-INTERRUPT TIME. THE
TRANSMIT/RECEIVE BUFFER AREAS ARE DIVIDED
ACCORDING TO HOW MANY LINES ARE ACTIVE. THEN EACH
LINE IS GIVEN A RANDOM BLOCK LENGTH EVERY TIME
A NEW BLOCK IS SENT, WITHIN THE CONSTRAINTS OF THE
MAXIMUM BLOCK SIZE. TO TRANSMIT LARGER BLOCKS
OF CHARACTERS AT A TIME, THE OPERATOR MAY WANT TO
SELECT FEWER LINES TO ACTIVATE.

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10017 .MAIN
11.7 DESCRIPTION OF COMMUNICATION SYSTEM I/O FUNCTIONS:
01 DEVICE CODES MUX = 34 (OCTAL)
02 CRC = 35 (OCTAL)
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DOA AC,MUX SPECIFIES THE ABSOLUTE LINE ADDRESS TO
BE USED IN CONJUNCTION WITH A DATA OUT
INSTRUCTION TO TRANSMIT, RECEIVE, OR
MODEM.
BITS 0-6 NOT USED
BITS 7-14 ABSOLUTE LINE ADDRESS
0=RECEIVE OR MODEM CONTROL
1=TRANSMIT CONTROL
DOB AC,MUX SPECIFIES TRANSMIT DATA, TRANSMIT MODE
(TRANSPARENT OR BREAK), AND MODEM OUT.
BITS 0-1 TRANSMIT OR MODEM CONTROL
10=MODEM CONTROL
00=NORMAL TRANSMIT DATA
01=TRANSMIT BREAK(ASYNC ONLY)
BITS 2-3 TRANSPARENCY CONTROL (SYNC ONLY)
00=NORMAL TRANSMIT
10=TRANSMIT AND LEAVE XPARENT
11=TRANSMIT AND ENTER XPARENT
BITS 4-7 NOT USED
BITS 8-15 TRANSMIT DATA (IN TRANSMIT MODE)
MODEM CONTROL SIGNALS
BIT 12 1=TURN ON SPA (SYNC ONLY)
0=TURN OFF SPA (SYNC ONLY)
BIT 13 1=TURN ON SPB (SYNC ONLY)
0=TURN OFF SPB (SYNC ONLY)
BIT 14 1=TURN ON RTS
0=TURN OFF RTS
BIT 15 1=TURN ON DTR
0=TURN OFF DTR

10018 .MAIN
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DOC AC,MUX
BITS 0-1 00=XMIT/RECV CONTROL
NOT USED
BITS 2-14
BIT 15 0=OFF
1=ON
BITS 0-1 01=SYNC CHARACTER (SYNC ONLY)
NOT USED
BITS 2-7 SYNC CHARACTER
BITS 8-15
BITS 0-1 11=DLE CHARACTER (SYNC ONLY)
NOT USED
BITS 2-7 DLE CHARACTER
BITS 8-15

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10021 .MAIN
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DIC AC,MUX (CONTINUED)

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MODEM STATUS
BIT 11
CD STATUS
1=CDS ON
0=CDS OFF
BIT 12
CTS STATUS
1=CTS ON
0=CTS OFF
BIT 13
DSR STATUS
1=DSR ON
0=DSR OFF
BIT 14
RING STATUS
1=RING ON
0=RING OFF
BIT 15
MODEM STATUS CONTROL
1=MODEM STATUS

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10022 .MAIN
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EFFECT OF 'BUSY' AND 'DONE' ON COMMUNICATIONS CONTROL
BUSY: BUSY IS SET ON THE ASYNC LINES ON AN I/O RESET OR START PULSE. THIS STARTS AN ICLR CYCLE WHICH CLEARS MODEM MEMORY AND PRESETS THE IMPLIED ADDRESS COUNTER. ON COMPLETION OF THE ICLR CYCLE, BUSY RESETS, AND THE BOARD IS PLACED IN THE 'DIAGNOSTIC' MODE. THERE IS NO 'BUSY' FLOP ON SYNC LINES.
DONE: DONE SETS ON BOTH SYNC AND ASYNC LINES WHEN ONE OF THE FOLLOWING EVENTS OCCURS:
1. CHARACTER RECEIVED.
2. TRANSMIT BUFFER EMPTY
3. MODEM STATUS HAS CHANGED.
INTERRUPTS OCCUR IN THE ABOVE ORDER OF PRIORITY, AND FROM LOWEST TO HIGHEST NUMBERED LINES. A 'NIOC MUX' WILL CLEAR DONE, AS WELL AS A 'NIOB MUX' AND 'IOBST'.
IORESET: CLEARS LOGIC AND PLACES CONTROLLERS IN OFFLINE DIAGNOSTIC MODE. ALSO SETS 'BUSY' (ASYNC ONLY).
START: SAME AS IORESET (SELECTIVE ON PER CARD BASIS).
CLEAR: CLEARS 'DONE' AND INTERRUPT LOGIC AND PLACES CONTROLLERS IN ONLINE MODE.
IUPLS(MUX): STEPS INTERNAL CLOCKS IN 'DIAGNOSTIC' MODE.
IUPLS(CRC): STEPS TRANSMIT/RECEIVE CLOCK AND CRC CLOCK IN 'DIAGNOSTIC MODE' (SYNC ONLY).

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01 ;11.8 FORMAT OF PROGRAM INTERNAL CONTROL WORDS (LCB BLOCKS)
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;11.8 FORMAT OF PROGRAM INTERNAL CONTROL WORDS (LCB BLOCKS)
MASTER CONTROL WORD (MCW) 0
LINE ACTIVE
BIT 0
LINE SHOULD BE STARTED (DCU OR MONITOR PROGRAM)
BIT 1
NOT USED
BITS 2-7
IN DUAL PORT INDICATES FIRST, MIDDLE, OR LAST LINE IN A MODULE ACCORDING TO THE FOLLOWING TABLE:
BIT8 1
BIT9 0
FIRST LINE
MIDDLE LINE(S)
LAST LINE
BITS 10-13
NOT USED
BLOCK IS READY FOR CHECKING (BLOCK DONE)
BIT 14
BIT 15
0=ASYNC LINE
1=SYNC LINE
CONTROL REGISTER (CONT) 1
BIT 0
ERROR OCCURRED
BIT 1
USER SELECTED DATA LOADED
BITS 2-5
NOT USED
BIT 6
CRC POLYNOMIAL FOR THIS LINE (SYNC ONLY)
BITS 7-8
CLOCK SELECT (ASYNC ONLY)
BIT 9
NOT USED
BIT 10
STOP BITS (ASYNC ONLY)
BITS 11-12
CODE LEVEL
BITS 13-14
PARITY
BIT 15
CRC OPTION (SYNC ONLY)

MODEM OUTPUT REGISTER (MOD) 2
BIT 0
MODEM ACTIVE
BIT 1
OUTPUT NEW MODEM STATUS
BITS 2-11
NOT USED
BITS 12-15
NEW MODEM STATUS TO BE OUTPUTTED
MODEM REGISTER (MODS) 3
BIT 0
NEW MODEM STATUS HAS BEEN RECEIVED
BIT 1
USED TO INDICATE INTERMEDIATE MODEM INTERRUPT, FORCED TO ONE ON SYNC LINE.
BITS 2-3
NOT USED
BITS 4-7
OLD (PREVIOUS) MODEM STATUS
BITS 8-11
NOT USED
BITS 12-15
NEW (PRESENT) MODEM STATUS
TRANSMIT TABLE POINTER (XTP) 4
BITS 0-15
STARTING ADDRESS OF TRANSMIT BLOCK FOR THIS LINE
TRANSMIT TABLE SIZE (XTS) 5
BITS 0-15
NUMBER OF CHARACTERS IN BLOCK TO BE TRANSMITTED
TRANSMITTED WORD COUNT (XC) 6
BITS 0-15
NUMBER OF CHARACTERS IN BLOCK ALREADY TRANSMITTED
RECEIVE TABLE POINTER (RTP) 7
BITS 0-15
STARTING ADDRESS OF RECEIVE BLOCK FOR THIS LINE
RECEIVE TABLE SIZE (RTS) 8. (10)
BITS 0-15
MAXIMUM ALLOWABLE NUMBER OF RECEIVE WORDS (2*XTS)

```

10023 .MAIN

```

01
02
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04
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41

```

RECEIVED WORD COUNT (RC) 9. (11)  
BITS 0-15 NUMBER OF CHARACTERS RECEIVED  
IN THIS BLOCK  
SYNC WORD (SYNC) 10. (12)  
NOT USED  
BITS 0-7  
BITS 8-15 SYN CHARACTER  
DLE WORD (DLE) 11. (13)  
NOT USED  
BITS 0-7  
BITS 8-15 DLE CHARACTER (IN SYNC)  
BIT 15 EOC OCCURED FOR MODEM CHECK (ASYNC)  
CRC TEMPORARY (SCRC) 12. (14)  
PRESENT CRC TEMPORARY  
BITS 0-15  
TIME COUNTER (TIME) 13. (15)  
RTC READING AT LAST BLOCK DONE  
IF DCU SYSTEM, ELSE NUMBER  
OF TIMES THROUGH MONITOR ROUTINE  
TIMEOUT FOR INACTIVITY (TMO) 14. (16)  
TIME CONSTANT  
BITS 0-15  
SECOND TIMEOUT (TMX) 15. (17)  
USED

10026 .MAIN

```

01
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```

TRANSMIT WORD TABLE (XTBL)  
NOT USED  
BIT 0  
BIT 1 UNDERRUN FOR THE REST OF THE BLOCK SIZE  
BIT 2 DLE CHARACTER FOLLOWS  
BIT 3 0=LEAVE TRANSPARENCY  
1=ENTER TRANSPARENCY  
BITS 4-7 NOT USED  
BITS 8-15 TRANSMIT DATA  
RECEIVE WORD TABLE (XTBL\*8L)  
NOT USED  
BITS 0-3  
BITS 4-7 ERROR STATUS  
BITS 8-15 RECEIVE DATA WORD

10027 .MAIN

01  
02  
03  
04  
05  
06  
07

;12.0 SPECIAL FEATURES  
; ;  
; NONE

;13.0 RUN TIME IS DEPENDENT ON MODE OF OPERATION AND NUMBER  
; ;  
; AND TYPE OF LINES BEING TESTED.

\*\*00000 TOTAL ERRORS, 00000 FIRST PASS ERRORS

0028 .MAIN

STMPD 000051 MC 5/43