

DH11

SINGLE LINE DATA
MD-11-DZDHF-B

EP-DZDHF-B-DL-A

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FICHE 1 OF 1

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5.2.4 EOP (END OF PASS)

THIS ROUTINE IS ENTERED ONCE PER PASS AFTER ALL TESTS HAVE BEEN COMPLETED. THIS ROUTINE TYPES THE MAINDEC IDENTIFICATION CODE OF THE PROGRAM, CLEARS ERROR FLAGS AND UPDATES THE PASS COUNT. IF THE PROGRAM WAS LOADED UNDER ACT11 OR DDP, THE ROUTINE CHECKS FOR RETURN TO THE ACT11 OR DDP MONITOR. IF THE PROGRAM IS NOT UNDER MONITOR CONTROL, THE ROUTINE TRANSFERS TO BEGIN.

5.2.5 SCOPE (SCOPE LOOP AND ITERATION HANDLER)

THIS ROUTINE IS ENTERED EACH TIME A TEST IS COMPLETED. THE ROUTINE CHECKS FOR THE FOLLOWING UPON ENTRY

- IF SW10=1, THE ROUTINE WILL TRANSFER TO THE NEXT TEST IN SEQUENCE, AFTER CLEARING ERROR FLAGS.
- IF SW11=1, THE ROUTINE WILL TRANSFER TO THE NEXT TEST IN SEQUENCE, AFTER CLEARING ERROR FLAGS.
- IF SW14=1, THE ROUTINE WILL LOOP ON THE CURRENT TEST REGARDLESS OF THE ITERATION COUNT.

IF NONE OF THE ABOVE IS TRUE, THE ROUTINE WILL ADD 1 TO THE COUNT OF TEST ITERATIONS, AND COMPARE THIS VALUE TO THE NUMBER OF ITERATIONS THAT SHOULD BE PERFORMED. IF THESE NUMBERS ARE EQUAL, THE ROUTINE WILL TRANSFER TO THE NEXT TEST IN SEQUENCE. IF THE NUMBERS ARE NOT EQUAL, THE TEST CURRENTLY IN PROGRESS WILL BE REPEATED.

5.2.6 SCOPR (FREEZE ON CURRENT DATA)

THE CALL TO THIS ROUTINE FOLLOWS IMMEDIATELY AFTER THE CALL TO THE ERROR HANDLER IN THOSE TESTS THAT HAVE VARIABLE PARAMETERS. THIS ROUTINE IS ALWAYS ENTERED IN THOSE TESTS, WHETHER OR NOT AN ERROR OCCURS. IF SW09=1, THE ROUTINE WILL TRANSFER CONTROL BACK TO THE TEST AT A POINT WHICH WILL ALLOW REPEATING THE FUNCTION UNDER TEST CONTINUOUSLY WITH THE SAME DATA. IF THIS OPTION IS SELECTED, THE ROUTINE "SCOPE" IS NEVER ENTERED AND ITERATION COUNTS WILL NOT BE UPDATED.


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: TRANSMIT ALL CHARACTERS ONE AT A TIME ON LINE 0.
: CHARACTER LENGTH IS 9 BITS.
: LINE SPEED IS 9600 BAUD.

001274 012767 000340 176474 T1: MOV #340,PS ;DISABLE ALL INTERRUPTS
001280 012767 000010 014656 MOV #10,I,COUNT ;SET UP FOR 10 ITERATIONS
001290 012767 001434 014644 MOV #4$,ESCAPE ;SET UP TO ESCAPE TO NEXT TEST
001300 012767 001360 014640 MOV #1$,FREEZ1 ;SET UP TO LOOP WITH DATA
001310 012777 004000 014566 MOV #BIT11,JDHSCR ;MASTER CLEAR INTERFACE
001320 012703 000000 ;SET UP LINE NUMBER
001336 012757 100000 014654 MOV #0*400+100000,TDATA ;SET EXPECTED LINE NUMBER
;AND VALID DATA FLAG
;EXPECTED DATA
;SELECT LINE 0
;SELECT 9 BITS CHARATER
;LENGTH, 9600 BAUD SPEED
;FOR LINE 0
;TRANSMIT 1 CHARACTER
;ADDRESS OF TRANSMIT DATA
;START TRANSMITTER
;WAIT FOR CHARACTER
;TO BE RECEIVED
;GET RECEIVED CHARACTER
;COMPARE EXPECTED AND
;RECEIVED DATA
;DATA ERROR
;CHECK FOR LOOP WITH CURRENT DATA
;UPDATE TRANSMIT DATA

001344 012777 000000 014546 MOV #0,JDHSCR
001352 012777 033503 014544 MOV #33503,JDHLPR

001360 012777 177777 014542 1$: MOV #-1,JDHBC
001366 012777 016220 014530 MOV #TDATA,JDHBA
001374 012777 000001 014530 MOV #1,JDHBR
001402 105777 014512 2$: TSTB JDHSCR
001406 100375 BPL 2$
001410 017704 014506 MOV JDHNR, R4
001414 020467 014500 CMP R4,TDATA
001420 001401 BEQ 3$
001422 104000 HLT 0
001424 104410 3$: SCOPE1
001426 105267 014566 INCB TDATA
001430 001352 BNE 1$
001434 104400 4$: SCOPE ;CHECK FOR ITERATIONS, LOOP

: TRANSMIT ALL CHARACTERS ONE AT A TIME ON LINE 1.
: CHARACTER LENGTH IS 9 BITS.
: LINE SPEED IS 9600 BAUD.

001436 012767 000340 176332 T2: MOV #340,PS ;DISABLE ALL INTERRUPTS
001444 012767 000010 014514 MOV #10,I,COUNT ;SET UP FOR 10 ITERATIONS
001452 012767 001576 014502 MOV #4$,ESCAPE ;SET UP TO ESCAPE TO NEXT TEST
001460 012767 001522 014476 MOV #1$,FREEZ1 ;SET UP TO LOOP WITH DATA
001466 012777 004000 014424 MOV #BIT11,JDHSCR ;MASTER CLEAR INTERFACE
001474 012703 000001 ;SET UP LINE NUMBER
001500 012757 100400 014512 MOV #1*400+100000,TDATA ;SET EXPECTED LINE NUMBER
;AND VALID DATA FLAG
;EXPECTED DATA
;SELECT LINE 1
;SELECT 9 BITS CHARATER
;LENGTH, 9600 BAUD SPEED
;FOR LINE 1
;TRANSMIT 1 CHARACTER
;ADDRESS OF TRANSMIT DATA
;START TRANSMITTER
;WAIT FOR CHARACTER
;TO BE RECEIVED

001506 012777 000001 014404 MOV #1,JDHSCR
001514 012777 033503 014402 MOV #33503,JDHLPR

001522 012777 177777 014400 1$: MOV #-1,JDHBC
001530 012777 016220 014370 MOV #TDATA,JDHBA
001536 012777 000002 014366 MOV #2,JDHBR
001544 105777 014350 2$: TSTB JDHSCR
001550 100375 BPL 2$
    
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000000 001552 017704 014344      MOV      3DHNR, R4      ;GET RECEIVED CHARACTER
000000 001556 020467 014436      CMP      R4, TDATA     ;COMPARE EXPECTED AND
000000 001562 001401              BEQ      3$            ;RECEIVED DATA
000000 001564 104000              HLT      0             ;DATA ERROR
000000 001566 104410      3$:      SCOPE1        ;CHECK FOR LOOP WITH CURRENT DATA
000000 001570 105267 014424      INCB     TDATA         ;UPDATE TRANSMIT DATA
000000 001574 001352              BNE      1$            ;CHECK FOR ITERATIONS, LOOP
000000 001576 104400      4$:      SCOPE

;TRANSMIT ALL CHARACTERS ONE AT A TIME ON LINE 2.
;CHARACTER LENGTH IS 8 BITS.
;LINE SPEED IS 9600 BAUD.

000000 001600 012767 000340 176170  T3:      MOV      #340, PS      ;DISABLE ALL INTERRUPTS
000000 001605 012767 000010 014352      MOV      #10, ICOUNT ;SET UP FOR 10 ITERATIONS
000000 001614 012767 001740 014340      MOV      #4$, ESCAPE   ;SET UP TO ESCAPE TO NEXT TEST
000000 001622 012767 001664 014334      MOV      #1$, FREEZ1   ;SET UP TO LOOP WITH DATA
000000 001630 012777 004000 014262      MOV      #BIT11, 3DHSCR ;MASTER CLEAR INTERFACE
000000 001636 012703 000002              MOV      #2, R3        ;SET UP LINE NUMBER
000000 001642 012767 101000 014350      MOV      #2*400+100000, TDATA

;SET EXPECTED LINE NUMBER
;AND VALID DATA FLAG
;EXPECTED DATA
;SELECT LINE 2
;SELECT 8 BITS CHARACTER
;LENGTH, 9600 BAUD SPEED
;FOR LINE 2
;TRANSMIT 1 CHARACTER
;ADDRESS OF TRANSMIT DATA
;START TRANSMITTER
;WAIT FOR CHARACTER
;TO BE RECEIVED
;GET RECEIVED CHARACTER
;COMPARE EXPECTED AND
;RECEIVED DATA
;DATA ERROR
;CHECK FOR LOOP WITH CURRENT DATA
;UPDATE TRANSMIT DATA

000000 001650 012777 000002 014242      MOV      #2, 3DHSCR
000000 001656 012777 033503 014240      MOV      #33503, 3DHLP

;SET EXPECTED LINE NUMBER
;AND VALID DATA FLAG
;EXPECTED DATA
;SELECT LINE 2
;SELECT 8 BITS CHARACTER
;LENGTH, 9600 BAUD SPEED
;FOR LINE 2
;TRANSMIT 1 CHARACTER
;ADDRESS OF TRANSMIT DATA
;START TRANSMITTER
;WAIT FOR CHARACTER
;TO BE RECEIVED
;GET RECEIVED CHARACTER
;COMPARE EXPECTED AND
;RECEIVED DATA
;DATA ERROR
;CHECK FOR LOOP WITH CURRENT DATA
;UPDATE TRANSMIT DATA

000000 001664 012777 177777 014236  1$:      MOV      #-1, 3DHBC
000000 001672 012777 016220 014226      MOV      #TDATA, 3DHBA
000000 001700 012777 000004 014224      MOV      #4, 3DHBR
000000 001706 105777 014206  2$:      TSTB     3DHSCR
000000 001712 100375              BPL      2$
000000 001714 017704 014202      MOV      3DHNR, R4
000000 001720 020467 014274      CMP      R4, TDATA
000000 001724 001401              BEQ      3$
000000 001726 104000              HLT      0
000000 001730 104410      3$:      SCOPE1
000000 001732 105267 014262      INCB     TDATA
000000 001736 001352              BNE      1$
000000 001740 104400      4$:      SCOPE

;TRANSMIT ALL CHARACTERS ONE AT A TIME ON LINE 3.
;CHARACTER LENGTH IS 8 BITS.
;LINE SPEED IS 9600 BAUD.

000000 001742 012767 000340 176026  T4:      MOV      #340, PS
000000 001750 012767 000010 014210      MOV      #10, ICOUNT
000000 001756 012767 002102 014176      MOV      #4$, ESCAPE
000000 001764 012767 002026 014172      MOV      #1$, FREEZ1
000000 001772 012777 004000 014120      MOV      #BIT11, 3DHSCR
000000 002000 012703 000003              MOV      #3, R3
000000 002004 012767 101400 014206      MOV      #3*400+100000, TDATA

;SET EXPECTED LINE NUMBER
;AND VALID DATA FLAG
;EXPECTED DATA
;SELECT LINE 3

000000 002012 012777 000003 014100      MOV      #3, 3DHSCR

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10000000 002020 012777 033503 014076      MOV      #33503, @DHLPR      ;SELECT 8 BITS CHARATER
10000001 002026 012777 177777 014074 1$:  MOV      #-1, @DHBC        ;LENGTH, 9600 BAUD SPEED
10000002 002034 012777 016220 014064      MOV      #TDATA, @DHBA     ;FOR LINE 3
10000003 002042 012777 000010 014062      MOV      #10, @DHBAR       ;TRANSMIT 1 CHARACTER
10000004 002050 105777 014044      TSTB    @DHSCR             ;ADDRESS OF TRANSMIT DATA
10000005 002054 100375 014044      BPL     @DHSCR             ;START TRANSMITTER
10000006 002056 017704 014040      MOV     @DHNRC, R4         ;WAIT FOR CHARACTER
10000007 002062 020467 014132      CMP     R4, TDATA         ;TO BE RECEIVED
10000008 002066 001401 014132      BEQ     @DHSCR             ;GET RECEIVED CHARACTER
10000009 002070 104000 014132      HLT     0                 ;COMPARE EXPECTED AND
10000010 002072 104410 014132      SCOPE1 0                 ;RECEIVED DATA
10000011 002074 105267 014120      INCB   TDATA              ;DATA ERROR
10000012 002100 001352 014120      BNE    @DHSCR             ;CHECK FOR LOOP WITH CURRENT DATA
10000013 002102 104400 014120      SCOPE  1$                ;UPDATE TRANSMIT DATA
10000014                                     ;CHECK FOR ITERATIONS, LOOP
10000015                                     ;TRANSMIT ALL CHARACTERS ONE AT A TIME ON LINE 4.
10000016                                     ;CHARACTER LENGTH IS 8 BITS.
10000017                                     ;LINE SPEED IS 9600 BAUD.
10000018
10000019 002104 012767 000340 175664 7$:  MOV      #340, PS         ;DISABLE ALL INTERRUPTS
10000020 002112 012767 000010 014046      MOV     #10, ICOUNT      ;SET UP FOR 10 ITERATIONS
10000021 002120 012767 002244 014034      MOV     #4$, ESCAPE       ;SET UP TO ESCAPE TO NEXT TEST
10000022 002126 012767 002170 014030      MOV     #1$, FREEZ1       ;SET UP TO LOOP WITH DATA
10000023 002134 012777 004000 013756      MOV     #BIT11, @DHSCR    ;MASTER CLEAR INTERFACE
10000024 002142 012703 000004 014044      MOV     #4, R3             ;SET UP LINE NUMBER
10000025 002146 012767 102000 014044      MOV     #4*400+100000, TDATA ;SET EXPECTED LINE NUMBER
10000026                                     ;AND VALID DATA FLAG
10000027                                     ;EXPECTED DATA
10000028 002154 012777 000004 013736      MOV     #4, @DHSCR        ;SELECT LINE 4
10000029 002162 012777 033503 013734      MOV     #33503, @DHLPR    ;SELECT 8 BITS CHARATER
10000030                                     ;LENGTH, 9600 BAUD SPEED
10000031                                     ;FOR LINE 4
10000032 002170 012777 177777 013732 1$:  MOV     #-1, @DHBC        ;TRANSMIT 1 CHARACTER
10000033 002176 012777 016220 013722      MOV     #TDATA, @DHBA     ;ADDRESS OF TRANSMIT DATA
10000034 002204 012777 000020 013720      MOV     #20, @DHBAR       ;START TRANSMITTER
10000035 002212 105777 013702 013702      TSTB   @DHSCR             ;WAIT FOR CHARACTER
10000036 002216 100375 013702 013702      BPL    @DHSCR             ;TO BE RECEIVED
10000037 002220 017704 013676      MOV    @DHNRC, R4         ;GET RECEIVED CHARACTER
10000038 002224 020467 013770      CMP    R4, TDATA         ;COMPARE EXPECTED AND
10000039 002230 001401 013770      BEQ    @DHSCR             ;RECEIVED DATA
10000040 002232 104000 013770      HLT    0                 ;DATA ERROR
10000041 002234 104410 013756 013756      SCOPE1 0                 ;CHECK FOR LOOP WITH CURRENT DATA
10000042 002236 105267 013756      INCB   TDATA              ;UPDATE TRANSMIT DATA
10000043 002242 001352 013756      BNE    @DHSCR             ;CHECK FOR ITERATIONS, LOOP
10000044 002244 104400 013756      SCOPE  1$                ;CHECK FOR ITERATIONS, LOOP
10000045                                     ;TRANSMIT ALL CHARACTERS ONE AT A TIME ON LINE 5.
10000046                                     ;CHARACTER LENGTH IS 8 BITS.
10000047                                     ;LINE SPEED IS 9600 BAUD.
10000048
10000049 002246 012767 000340 175522 7$:  MOV     #340, PS         ;DISABLE ALL INTERRUPTS
10000050 002254 012767 000010 013704      MOV     #10, ICOUNT      ;SET UP FOR 10 ITERATIONS
10000051 002262 012767 002406 013672      MOV     #4$, ESCAPE       ;SET UP TO ESCAPE TO NEXT TEST
  
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M02

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00000000 00000000 012767 002332 013666 MOV #16,FREEZ1 ;SET UP TO LOOP WITH DATA
00000000 00000000 012777 004000 013614 MOV #BIT11,2DHSCR ;MASTER CLEAR INTERFACE
00000000 00000000 012703 000006 ;SET UP LINE NUMBER
00000000 00000000 012767 102400 013702 MOV #5,R3
00000000 00000000 012767 102400 013702 MOV #5*400+100000,TDATA
00000000 00000000 012777 000005 013574 MOV #5,2DHSCR ;SET EXPECTED LINE NUMBER
00000000 00000000 012777 033503 013572 MOV #33503,2DHLPR ;AND VALID DATA FLAG
00000000 00000000 012777 000005 013574 MOV #5,2DHSCR ;EXPECTED DATA
00000000 00000000 012777 033503 013572 MOV #33503,2DHLPR ;SELECT LINE 5
00000000 00000000 012777 177777 013570 16: MOV #-1,2DHBC ;SELECT 8 BITS CHARACTER
00000000 00000000 012777 016220 013560 MOV #TDATA,2DHBA ;LENGTH, 9600 BAUD SPEED
00000000 00000000 012777 000040 013556 MOV #40,2DHBAR ;FOR LINE 5
00000000 00000000 105777 013540 26: TSTB 2DHSCR ;TRANSMIT 1 CHARACTER
00000000 00000000 100376 26: BPL 26 ;ADDRESS OF TRANSMIT DATA
00000000 00000000 017704 013534 MOV 2DHNR,R4 ;START TRANSMITTER
00000000 00000000 020467 013626 CMP R4,TDATA ;WAIT FOR CHARACTER
00000000 00000000 001401 ;TO BE RECEIVED
00000000 00000000 104000 ;GET RECEIVED CHARACTER
00000000 00000000 104410 36: HLT 0 ;COMPARE EXPECTED AND
00000000 00000000 105267 013614 36: SCOPE1 ;RECEIVED DATA
00000000 00000000 001352 ;DATA ERROR
00000000 00000000 104400 46: BNE 16 ;CHECK FOR LOOP WITH CURRENT DATA
00000000 00000000 104400 46: SCOPE ;UPDATE TRANSMIT DATA
00000000 00000000 104400 46: SCOPE ;CHECK FOR ITERATIONS, LOOP

;TRANSMIT ALL CHARACTERS ONE AT A TIME ON LINE 5.
;CHARACTER LENGTH IS 8 BITS.
;LINE SPEED IS 9600 BAUD.

00000000 00000000 012767 000340 175360 17: MOV #340,PS ;DISABLE ALL INTERRUPTS
00000000 00000000 012767 000010 013542 MOV #10,COUNT ;SET UP FOR 10 ITERATIONS
00000000 00000000 012767 002550 013530 MOV #4,SCOPE ;SET UP TO ESCAPE TO NEXT TEST
00000000 00000000 012767 002474 013524 MOV #1,FREEZ1 ;SET UP TO LOOP WITH DATA
00000000 00000000 012777 004000 013452 MOV #BIT11,2DHSCR ;MASTER CLEAR INTERFACE
00000000 00000000 012703 000006 ;SET UP LINE NUMBER
00000000 00000000 012767 103000 013540 MOV #5,R3
00000000 00000000 012767 103000 013540 MOV #5*400+100000,TDATA
00000000 00000000 012777 000005 013432 MOV #5,2DHSCR ;SET EXPECTED LINE NUMBER
00000000 00000000 012777 033503 013430 MOV #33503,2DHLPR ;AND VALID DATA FLAG
00000000 00000000 012777 000005 013432 MOV #5,2DHSCR ;EXPECTED DATA
00000000 00000000 012777 033503 013430 MOV #33503,2DHLPR ;SELECT LINE 6
00000000 00000000 012777 177777 013426 16: MOV #-1,2DHBC ;SELECT 8 BITS CHARACTER
00000000 00000000 012777 016220 013416 MOV #TDATA,2DHBA ;LENGTH, 9600 BAUD SPEED
00000000 00000000 012777 000100 013414 MOV #100,2DHBAR ;FOR LINE 6
00000000 00000000 105777 013376 26: TSTB 2DHSCR ;TRANSMIT 1 CHARACTER
00000000 00000000 100376 26: BPL 26 ;ADDRESS OF TRANSMIT DATA
00000000 00000000 017704 013372 MOV 2DHNR,R4 ;START TRANSMITTER
00000000 00000000 020467 013464 CMP R4,TDATA ;WAIT FOR CHARACTER
00000000 00000000 001401 ;TO BE RECEIVED
00000000 00000000 104000 ;GET RECEIVED CHARACTER
00000000 00000000 104410 36: HLT 0 ;COMPARE EXPECTED AND
00000000 00000000 105267 013452 36: SCOPE1 ;RECEIVED DATA
00000000 00000000 001352 ;DATA ERROR
00000000 00000000 104400 46: BNE 16 ;CHECK FOR LOOP WITH CURRENT DATA
00000000 00000000 104400 46: SCOPE ;UPDATE TRANSMIT DATA
00000000 00000000 104400 46: SCOPE ;CHECK FOR ITERATIONS, LOOP

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H03

000000.PTC

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000000 012767 000001 011222 MOV #1,ICOUNT ;SET UP FOR 1 ITERATIONS
000000 012767 005124 011210 MOV #4$,ESCAPE ;SET UP TO ESCAPE TO NEXT TEST
000000 012767 005014 011204 MOV #1$,FREEZ1 ;SET UP TO LOOP WITH DATA
000000 012777 004000 011132 MOV #BIT11,JDHSCR ;MASTER CLEAR INTERFACE
000000 012702 000001 ;FIRST SPEED CODE
000000 012705 000002 ;LINE 2 WILL BE TESTED
000000 012767 101000 011216 MOV #2*,R5
MOV #2*400+100000,RDATA ;SET EXPECTED LINE NUMBER
;AND VALID DATA FLAG
;EXPECTED DATA
;13 SPEEDS WILL BE TESTED
;FIRST SPEED =50 BAUD.
;8 BITS PER CHARACTER
;SELECT LINE 2
;SET LINE SPEED AND
;CHARACTER LENGTH
;ADDRESS OF TRANSMITTER
;DATA BUFFER
;400 (OCTAL) BYTES
;WILL BE TRANSMITTED
;START TRANSMITTER
;WAIT FOR DATA TO BE RECEIVED
005004 012700 000015 MOV #15,R0
005010 012701 002103 MOV #2103,R1
13: 005014 010577 011100 MOV R5,JDHSCR
005020 010177 011100 MOV R1,JDHLPR
;GET RECEIVED DATA
;COMPER EXPECTED AND RECEIVED DATA
;STOP TRANSMITTER
;DATA ERROR
;CHECK FOR LOOP AT CURRENT SPEED
;RESTART TRANSMITTER
;UPDATA EXPECTED DATA
005024 012777 016226 011074 MOV #TBUF,JDHBA
005032 012777 177400 011070 MOV #-400,JDH3C
005040 012777 000004 011064 MOV #4,JDHBAR
005044 105777 011046 25: TSTB JDHSCR
005048 100375 011042 BPL R5
005054 017702 011042 MOV JDHNR,R3
005060 020367 011136 CMP R3,RDATA
005064 001407 011040 BEQ R3
005070 005077 011040 CLR JDHBAR
005074 104001 011026 35: HLT 1
SCOPE1
MOV #4,JDHBAR
005076 012777 000004 011026 INCB RDATA
005104 105267 011112 ADD #2100,R1
005110 001356 002100 INC R0
005116 005202 002100 DEC R0
005120 001334 002100 BNE 15
005124 104400 45: SCOPE
;SINGLE LINE DATA TEST
;TRANSMIT A BLOCK OF 400 (OCTAL) CHARACTERS ON LINE 3
;CHARATER LENGTH IS 8 BITS
;LINE SPEED WILL START AT 50 BAUD AND BE INCREMENTED
;TO 9600 BAUD.
;A BLOCK OF 400 CHARACTERS WILL BE TRANSMITTED
;AT EACH SPEED
005126 012767 000340 172642 T24: MOV #340,PS
005134 012767 000001 011024 MOV #1,ICOUNT
005142 012767 005322 011012 MOV #4$,ESCAPE
005150 012767 005212 011006 MOV #1$,FREEZ1
005158 012777 004000 010734 MOV #BIT11,JDHSCR
005164 012702 000001 ;FIRST SPEED CODE
005170 012705 000003 ;LINE 3 WILL BE TESTED
005174 012767 101400 011020 MOV #3,R5
MOV #3*400+100000,RDATA ;SET EXPECTED LINE NUMBER
;AND VALID DATA FLAG
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000000 005202 012700 000015      MOV      #15,R0      :EXPECTED DATA
000000 005206 012701 002103      MOV      #2103,R1   :13 SPEEDS WILL BE TESTED
000000 005212 010577 010702      1$: MOV      R5,2DHSCR :FIRST SPEED =50 BAUD.
000000 005216 010177 010702      MOV      R1,2DHLPR  :8 BITS PER CHARACTER
000000 005222 012777 016226 010676      MOV      #TBUF,2DHBA :SELECT LINE 3
000000 005230 012777 177400 010672      MOV      #-400,2DHBC :SET LINE SPEED AND
000000 005236 012777 000010 010656      MOV      #10,2DHBAR  :CHARACTER LENGTH
000000 005244 105777 010650      2$: TSTB     2DHSCR    :ADDRESS OF TRANSMITTER
000000 005250 100375 010644      BPL      2$         :DATA BUFFER
000000 005252 017703 010644      MOV      2DHNRC,R3  :400 (OCTAL) BYTES
000000 005256 020367 010740      CMP      R3,RDATA   :WILL BE TRANSMITTED
000000 005262 001407 010642      BEQ      3$         :START TRANSMITTER
000000 005264 005077 010642      CLR      2DHBAR     :WAIT FOR DATA TO BE RECEIVED
000000 005270 104001 010642      HLT      1         :GET RECEIVED DATA
000000 005272 104410 010630      SCOPE1  :COMPER EXPECTED AND RECEIVED DATA
000000 005274 012777 000010 010630      MOV      #10,2DHBAR :STOP TRANSMITTER
000000 005302 105267 010714      3$: INCB     RDATA    :DATA ERROR
000000 005306 001356 002100      BNE     2$         :CHECK FOR LOOP AT CURRENT SPEED
000000 005310 062701 002100      ADD     #2100,R1   :RESTART TRANSMITTER
000000 005314 005202 002100      INC     R2         :UPDATE EXPECTED DATA
000000 005316 005200 002100      DEC     R0         :UPDATE LINE SPEED
000000 005320 001234 002100      BNE     1$         :UPDATE SPEED CODE
000000 005322 104400 002100      4$: SCOPE  :SINGLE LINE DATA TEST
000000 005324 012767 000340 172444      72$: MOV      #340,PS  :TRANSMIT A BLOCK OF 400 (OCTAL) CHARACTERS ON LINE 4
000000 005332 012767 000001 010626      MOV      #1,ICOUNT  :CHARATER LENGTH IS 8 BITS
000000 005340 012767 005520 010614      MOV      #4$,ESCAPE :LINE SPEED WILL START AT 50 BAUD AND BE INCREMENTED
000000 005346 012767 005410 010610      MOV      #1$,FREEZ1 :TO 9600 BAUD.
000000 005354 012777 004000 010536      MOV      #BIT11,2DHSCR :A BLOCK OF 400 CHARACTERS WILL BE TRANSMITTED
000000 005362 012702 000001 010536      MOV      #1,R2     :AT EACH SPEED
000000 005366 012705 000004      MOV      #4,R5     :DISABLE ALL INTERRUPTS
000000 005372 012767 102000 010622      MOV      #4*400+100000,RDATA :SET UP FOR 1 ITERATIONS
000000 005400 012700 000015      MOV      #15,R0    :SET UP TO ESCAPE TO NEXT TEST
000000 005404 012701 002103      MOV      #2103,R1  :SET UP TO LOOP WITH DATA
000000 005410 010577 010504      1$: MOV      R5,2DHSCR :MASTER CLEAR INTERFACE
000000 005414 010177 010504      MOV      R1,2DHLPR :FIRST SPEED CODE
000000 005420 012777 016226 010500      MOV      #TBUF,2DHBA :LINE 4 WILL BE TESTED
000000 005400 012700 000015      MOV      #15,R0    :SET EXPECTED LINE NUMBER
000000 005404 012701 002103      MOV      #2103,R1  :AND VALID DATA FLAG
000000 005410 010577 010504      1$: MOV      R5,2DHSCR :EXPECTED DATA
000000 005414 010177 010504      MOV      R1,2DHLPR :13 SPEEDS WILL BE TESTED
000000 005420 012777 016226 010500      MOV      #TBUF,2DHBA :FIRST SPEED =50 BAUD.
000000 005400 012700 000015      MOV      #15,R0    :8 BITS PER CHARACTER
000000 005404 012701 002103      MOV      #2103,R1  :SELECT LINE 4
000000 005410 010577 010504      1$: MOV      R5,2DHSCR :SET LINE SPEED AND
000000 005414 010177 010504      MOV      R1,2DHLPR :CHARACTER LENGTH
000000 005420 012777 016226 010500      MOV      #TBUF,2DHBA :ADDRESS OF TRANSMITTER
000000 005400 012700 000015      MOV      #15,R0    :DATA BUFFER
000000 005404 012701 002103      MOV      #2103,R1
000000 005410 010577 010504      1$: MOV      R5,2DHSCR
000000 005414 010177 010504      MOV      R1,2DHLPR
000000 005420 012777 016226 010500      MOV      #TBUF,2DHBA
  
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000000.PFC

1656	005426	012777	177400	010474		MOV	#-400,3DHBC	:400 (OCTAL) BYTES
1657								:WILL BE TRANSMITTED
1658	005434	012777	000020	010470		MOV	#20,3DHBAR	:START TRANSMITTER
1659	005442	105777	010452		2\$:	TSTB	3DHSCR	:WAIT FOR DATA TO BE RECEIVED
1660	005446	100375				BPL	2\$	
1661	005450	017703	010446			MOV	3DHNR, R3	:GET RECEIVED DATA
1662	005454	020367	010542			CMP	R3, RDATA	:COMPER EXPECTED AND RECEIVED DATA
1663	005460	001407				BEQ	3\$	
1664	005462	005077	010444			CLR	3DHBAR	:STOP TRANSMITTER
1665	005466	104001				HLT	1	:DATA ERROR
1666	005470	104410				SCOPE1		:CHECK FOR LOOP AT CURRENT SPEED
1667	005472	012777	000020	010432		MOV	#20,3DHBAR	:RESTART TRANSMITTER
1668	005500	105267	010516		3\$:	INCB	RDATA	:UPDATA EXPECTED DATA
1669	005504	001356				BNE	2\$	
1670	005506	062701	002100			ADD	#2100, R1	:UPDATE LINE SPEED
1671	005512	005202				INC	R2	:UPDATE SPEED CODE
1672	005514	005300				DEC	R0	
1673	005516	001334				BNE	1\$	
1674	005520	104400			4\$:	SCOPE		
1675								:SINGLE LINE DATA TEST
1676								:TRANSMIT A BLOCK OF 400 (OCTAL) CHARACTERS ON LINE 5
1677								:CHARATER LENGTH IS 8 BITS
1678								:LINE SPEED WILL START AT 50 BAUD AND BE INCREMENTED
1679								:TO 9600 BAUD.
1680								:A BLOCK OF 400 CHARACTERS WILL BE TRANSMITTED
1681								:AT EACH SPEED
1684	005522	012767	000340	172246	T2\$:	MOV	#340, PS	:DISABLE ALL INTERRUPTS
1685	005530	012767	000001	010430		MOV	#1, ICOUNT	:SET UP FOR 1 ITERATIONS
1686	005536	012767	005716	010416		MOV	#4\$, ESCAPE	:SET UP TO ESCAPE TO NEXT TEST
1687	005544	012767	005606	010412		MOV	#1\$, FREEZ1	:SET UP TO LOOP WITH DATA
1688	005552	012777	004000	010340		MOV	#BIT11, 3DHSCR	:MASTER CLEAR INTERFACE
1689	005560	012702	000001			MOV	#1, R2	:FIRST SPEED CODE
1690	005564	012705	000005			MOV	#5, R5	:LINE 5 WILL BE TESTED
1691	005570	012767	102400	010424		MOV	#5*400+100000, RDATA	
1692								:SET EXPECTED LINE NUMBER
1693								:AND VALID DATA FLAG
1694								:EXPECTED DATA
1695	005576	012700	000015			MOV	#15, R0	:13 SPEEDS WILL BE TESTED
1696	005602	012701	002103			MOV	#2103, R1	:FIRST SPEED =50 BAUD.
1697								:8 BITS PER CHARACTER
1698	005606	010577	010306		1\$:	MOV	R5, 3DHSCR	:SELECT LINE 5
1699	005612	010177	010306			MOV	R1, 3DHLPR	:SET LINE SPEED AND
1700								:CHARACTER LENGTH
1701	005616	012777	016226	010302		MOV	#TBUF, 3DHBA	:ADDRESS OF TRANSMITTER
1702								:DATA BUFFER
1703	005624	012777	177400	010276		MOV	#-400, 3DHBC	:400 (OCTAL) BYTES
1704								:WILL BE TRANSMITTED
1705	005632	012777	000040	010272		MOV	#40, 3DHBAR	:START TRANSMITTER
1706	005640	105777	010254		2\$:	TSTB	3DHSCR	:WAIT FOR DATA TO BE RECEIVED
1707	005644	100375				BPL	2\$	
1708	005646	017703	105250			MOV	3DHNR, R3	:GET RECEIVED DATA
1709	005652	020367	010344			CMP	R3, RDATA	:COMPER EXPECTED AND RECEIVED DATA
1710	005656	001407				BEQ	3\$	
1711	005660	005077	010246			CLR	3DHBAR	:STOP TRANSMITTER


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1776 006114 104400 43: SCOPE
1777 :SINGLE LINE DATA TEST
1778 :TRANSMIT A BLOCK OF 400 (OCTAL) CHARACTERS ON LINE 7
1779 :CHARATER LENGTH IS 8 BITS
1780 :LINE SPEED WILL START AT 50 BAUD AND BE INCREMENTED
1781 :TO 9600 BAUD.
1782 :A BLOCK OF 400 CHARACTERS WILL BE TRANSMITTED
1783 :AT EACH SPEED
1784
1785 006116 012767 000340 171652 T30: MOV #340,PS ;DISABLE ALL INTERRUPTS
1786 006124 012767 000001 010034 MOV #1,ICOUNT ;SET UP FOR 1 ITERATIONS
1787 006132 012767 006312 010022 MOV #4$,ESCAPE ;SET UP TO ESCAPE TO NEXT TEST
1788 006140 012767 006202 010016 MOV #1$,FREEZ1 ;SET UP TO LOOP WITH DATA
1789 006146 012777 004000 007744 MOV #BIT11,3DHSCR ;MASTER CLEAR INTERFACE
1790 006154 012702 000001 MOV #1,R2 ;FIRST SPEED CODE
1791 006160 012705 000007 MOV #7,R5 ;LINE 7 WILL BE TESTED
1792 006164 012767 103400 010030 MOV #7*400+100000,RDATA ;SET EXPECTED LINE NUMBER
1793 ;AND VALID DATA FLAG
1794 ;EXPECTED DATA
1795 006172 012700 000015 MOV #15,R0 ;13 SPEEDS WILL BE TESTED
1796 006176 012701 002103 MOV #2103,R1 ;FIRST SPEED =50 BAUD,
1797 ;8 BITS PER CHARACTER
1798 006202 010577 007712 13: MOV R5,3DHSCR ;SELECT LINE 7
1799 006206 010177 007712 MOV R1,3DHLPB ;SET LINE SPEED AND
1800 ;CHARACTER LENGTH
1801 006212 012777 016226 007706 MOV #TBUF,3DHBA ;ADDRESS OF TRANSMITTER
1802 ;DATA BUFFER
1803 006220 012777 177400 007702 MOV #-400,3DHBC ;400 (OCTAL) BYTES
1804 ;WILL BE TRANSMITTED
1805 006226 012777 000200 007676 MOV #200,3DHBAR ;START TRANSMITTER
1806 006234 105777 007660 23: TSTB 3DHSCR ;WAIT FOR DATA TO BE RECEIVED
1807 006240 100375 BFL 23
1808 006242 017702 007654 MOV 3DHNR0,R3 ;GET RECEIVED DATA
1809 006246 020367 007750 CMP R3,RDATA ;COMPER EXPECTED AND RECEIVED DATA
1810 006252 001407 BEQ 33
1811 006254 005077 007652 CLR 3DHBAR ;STOP TRANSMITTER
1812 006260 104001 HLT ! ;DATA ERROR
1813 006262 104410 SCOPE1 ;CHECK FOR LOOP AT CURRENT SPEED
1814 006264 012777 000200 007640 MOV #200,3DHBAR ;RESTART TRANSMITTER
1815 006272 105267 007724 33: INCB RDATA ;UPDATE EXPECTED DATA
1816 006276 001356 BNE 23
1817 006300 062701 002100 ADD #2100,R1 ;UPDATE LINE SPEED
1818 006304 005202 INC R2 ;UPDATE SPEED CODE
1819 006306 005300 DEC R0
1820 006310 001324 BNE 13
1821 006312 104400 43: SCOPE
1822 :SINGLE LINE DATA TEST
1823 :TRANSMIT A BLOCK OF 400 (OCTAL) CHARACTERS ON LINE 10
1824 :CHARATER LENGTH IS 8 BITS
1825 :LINE SPEED WILL START AT 50 BAUD AND BE INCREMENTED
1826 :TO 9600 BAUD.
1827 :A BLOCK OF 400 CHARACTERS WILL BE TRANSMITTED
1828 :AT EACH SPEED

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011030 016702 005170      MOV      BYTCNT,R2
011034 005402      NEG      R2
011036 010177 005062      MOV      R1,3DHLPB      ;SET LINE SPEED AND
                                ;CHARACTER LENGTH
011042 012777 016226 005056      MOV      #TBUF,3DHBA      ;ADDRESS OF TRANSMITTER
                                ;DATA BUFFER
011050 016777 005150 005052      MOV      BYTCNT,3DHBC      ;400 (OCTAL) BYTES
                                ;WILL BE TRANSMITTED
011056 012777 000004 005046      MOV      #4,3DHBAR      ;START TRANSMITTER
011064 105777 005030 28:      TSTB    3DHSCR      ;WAIT FOR DATA TO BE RECEIVED
011070 100375      BPL     28
011072 017703 005024      MOV      3DHNR, R3      ;GET RECEIVED DATA
011076 020367 005120      CMP     R3,RDATA      ;COMPER EXPECTED AND RECEIVED DATA
011082 001407      BEQ     38
011104 005077 005022      CLR     3DHBAR      ;STOP TRANSMITTER
011110 104002      HLT     ;DATA ERROR
011112 104410      SCOPE1 ;CHECK FOR LOOP AT CURRENT SPEED
011114 012777 000004 005016      MOV      #4,3DHBAR      ;RESTART TRANSMITTER
011122 105267 005074 38:      INCB   RDATA      ;UPDATA EXPECTED DATA
011126 005302      DEC     R2
011130 001355      BNE     38
011132 105067 005064      CLRB   RDATA      ;INITIALIZE EXPECTED
                                ;RECEIVED DATA
011136 005201      INC     R1      ;UPDATA CHARACTER LENGTH
011140 005204      INC     R4
011142 006267 005056      ASL    BYTCNT
011146 005200      DEC     R0
011150 001325      BNE     18
011152 104400 48:      SCOPE

;SINGLE LINE DATA TEST
;TRANSMIT A BLOCK OF 400 (OCTAL) CHARACTERS ON LINE 3
;LINE SPEED IS 9600 BAUD
;CHARACTER LENGTH WILL START AT 5 BITS AND BE INCREMENTED
;TO 8 BITS
;A BLOCK OF 400 CHARACTERS WILL BE TRANSMITTED
;AT EACH CHARACTER LENGTH

011154 012767 000340 166614 744:      MOV      #340,PS      ;DISABLE ALL INTERRUPTS
011160 012767 000001 004776      MOV      #1,ICOUNT    ;SET UP FOR 1 ITERATIONS
011170 012767 011372 004764      MOV      #48,ESCAPE   ;SET UP TO ESCAPE TO NEXT TEST
011176 012767 011244 004760      MOV      #16,FREEZ1   ;SET UP TO LOOP WITH DATA
011204 012777 004000 004706      MOV      #BIT11,3DHSCR ;MASTER CLEAR INTERFACE
011212 005004      CLR     R4      ;FIRST CHARACTER LENGTH CODE (5 BITS)
011214 012705 000003      MOV      #3,R5      ;LINE 3 WILL BE TESTED
011220 012767 101400 004774      MOV      #3*400+100000,RDATA

;SET EXPECTED LINE NUMBER
;AND VALID DATA FLAG
;EXPECTED DATA
;4 CHARACTER LENGTHS
;WILL BE TESTED
;FIRST CHARACTER LENGTH =5 BITS.,
;LINE SPEED =9600 BAUD
;40 CHARACTERS AT 5 BITS
;SELECT LINE 3

011226 012700 000004      MOV      #4,R0
011232 012701 033500      MOV      #33500,R1
011236 012767 177740 004760      MOV      #-40,BYTCNT
011244 010577 004650 18:      MOV      R5,3DHSCR
011250 016702 004750      MOV      BYTCNT,R2

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1011374 PTC

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011374 011374 005402          NEG      R2
011376 011376 010177 004642      MOV      R1, @DHLPR          ;SET LINE SPEED AND
                                ;CHARACTER LENGTH
011382 011382 012777 016226 004636      MOV      #TBUF, @DHBA      ;ADDRESS OF TRANSMITTER
                                ;DATA BUFFER
011388 011388 016777 004730 004632      MOV      BYTCNT, @DHBC     ;400 (OCTAL) BYTES
                                ;WILL BE TRANSMITTED
011394 011394 012777 000010 004626      MOV      #10, @DHBAR       ;START TRANSMITTER
011396 011396 105777 004610 23:      TSTB    @DHSCR            ;WAIT FOR DATA TO BE RECEIVED
011398 011398 100375 23:      BPL     23:
011400 011400 017703 004604      MOV      @DHNRC, R3        ;GET RECEIVED DATA
011402 011402 020367 004700      CMP      R3, RDATA        ;COMPER EXPECTED AND RECEIVED DATA
011404 011404 001407 33:      SEQ     33:
011406 011406 005077 004602      CLR     @DHBAR            ;STOP TRANSMITTER
011408 011408 104002 23:      HLT     23:              ;DATA ERROR
011410 011410 104410 SCOPE1      ;CHECK FOR LOOP AT CURRENT SPEED
011412 011412 012777 000010 004570      MOV      #10, @DHBAR       ;RESTART TRANSMITTER
011414 011414 105267 004654 33:      INCB   RDATA             ;UPDATA EXPECTED DATA
011416 011416 005303 23:      DEC    R2
011418 011418 001355 23:      BNE    23:
011420 011420 105067 004544      CLRB   RDATA             ;INITIALIZE EXPECTED
                                ;RECEIVED DATA
                                ;UPDATA CHARACTER LENGTH
011422 011422 005201          INC     R1
011424 011424 005304          INC     R4
011426 011426 005367 004636      ASL    BYTCNT
011428 011428 005300          DEC    R0
011430 011430 001325 13:      BNE    13:
011432 011432 104400 43:      SCOPE  43:
                                ;SINGLE LINE DATA TEST
                                ;TRANSMIT A BLOCK OF 400 (OCTAL) CHARACTERS ON LINE 4
                                ;LINE SPEED IS 9600 BAUD
                                ;CHARACTER LENGTH WILL START AT 5 BITS AND BE INCREMENTED
                                ;TO 9 BITS
                                ;A BLOCK OF 400 CHARACTERS WILL BE TRANSMITTED
                                ;AT EACH CHARACTER LENGTH
011434 011434 012767 000340 166374 745:      MOV     #340, PS          ;DISABLE ALL INTERRUPTS
011436 011436 012767 000001 004556      MOV     #1, ICOUNT        ;SET UP FOR 1 ITERATIONS
011438 011438 012767 011612 004544      MOV     #4$, ESCAPE       ;SET UP TO ESCAPE TO NEXT TEST
011440 011440 012767 011464 004540      MOV     #1$, FREEZ1       ;SET UP TO LOOP WITH DATA
011442 011442 012777 004000 004466      MOV     #BIT11, @DHSCR    ;MASTER CLEAR INTERFACE
011444 011444 005004          CLR    R4                ;FIRST CHARACTER LENGTH CODE (5 BITS)
011446 011446 012705 000004          MOV     #4, R5            ;LINE 4 WILL BE TESTED
011448 011448 012767 102000 004554      MOV     #4*400+100000, RDATA
                                ;SET EXPECTED LINE NUMBER
                                ;AND VALID DATA FLAG
                                ;EXPECTED DATA
                                ;4 CHARACTER LENGTHS
                                ;WILL BE TESTED
                                ;FIRST CHARACTER LENGTH =5 BITS..
                                ;LINE SPEED =9600 BAUD
                                ;40 CHARACTERS AT 5 BITS
                                ;SELECT LINE 4
011450 011450 012767 177740 004540      MOV     #-40, BYTCNT
011452 011452 010577 004430 13:      MOV     R5, @DHSCR
011454 011454 016702 004530      MOV     BYTCNT, R2
011456 011456 005402          NEG    R2

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011475 010177 004422      MOV      R1,JDHLPR      ;SET LINE SPEED AND
011502 012777 016226 004416      MOV      #TSUF,JDHBA    ;CHARACTER LENGTH
011510 016777 004510 004412      MOV      BYTCNT,JDHBC   ;ADDRESS OF TRANSMITTER
011516 012777 000020 004406      MOV      #20,JDHBAR     ;DATA BUFFER
011524 105777 004370      2$:    TSTB     JDHSCR      ;400 (OCTAL) BYTES
011530 100375      SPL      2$             ;WILL BE TRANSMITTED
011532 017703 004364      MOV      JDHNR0,R3      ;START TRANSMITTER
011536 020367 004460      CMP      R3,RDATA      ;WAIT FOR DATA TO BE RECEIVED
011542 001407      BEQ      3$             ;GET RECEIVED DATA
011544 005077 004362      CLR      JDHBAR         ;COMPER EXPECTED AND RECEIVED DATA
011550 104002      HLT      2              ;STOP TRANSMITTER
011552 104410      SCOPE1  2              ;DATA ERROR
011554 012777 000020 004350      MOV      #20,JDHBAR     ;CHECK FOR LOOP AT CURRENT SPEED
011562 105267 004434      3$:    INCB     RDATA      ;RESTART TRANSMITTER
011566 005302      DEC      R2             ;UPDATA EXPECTED DATA
011570 001355      BNE      2$             ;INITIALIZE EXPECTED
011572 105067 004424      CLR3     RDATA          ;RECEIVED DATA
011576 005201      INC      R1             ;UPDATA CHARACTER LENGTH
011600 005204      INC      R4
011602 006367 004416      ASL      BYTCNT
011606 005300      DEC      R0
011610 001325      BNE      1$
011612 104400      4$:    SCOPE          ;SINGLE LINE DATA TEST
                                ;TRANSMIT A BLOCK OF 400 (OCTAL) CHARACTERS ON LINE 5
                                ;LINE SPEED IS 9600 BAUD
                                ;CHARACTER LENGTH WILL START AT 5 BITS AND BE INCREMENTED
                                ;TO 8 BITS
                                ;A BLOCK OF 400 CHARACTERS WILL BE TRANSMITTED
                                ;AT EACH CHARACTER LENGTH
011614 012767 000340 166154  T46:  MOV      #340,PS        ;DISABLE ALL INTERRUPTS
011622 012767 000001 004336      MOV      #1,ICOUNT      ;SET UP FOR 1 ITERATIONS
011630 012767 012032 004324      MOV      #4$,ESCAPE     ;SET UP TO ESCAPE TO NEXT TEST
011636 012767 011704 004320      MOV      #1$,FREEZ1     ;SET UP TO LOOP WITH DATA
011644 012777 004000 004246      MOV      #BIT11,JDHSCR  ;MASTER CLEAR INTERFACE
011652 005004      CLR      R4             ;FIRST CHARACTER LENGTH CODE (5 BITS)
011654 012705 000005      MOV      #5,R5          ;LINE 5 WILL BE TESTED
011660 012767 102400 004334      MOV      #5*400+100000,RDATA
                                ;SET EXPECTED LINE NUMBER
                                ;AND VALID DATA FLAG
                                ;EXPECTED DATA
                                ;4CHARACTER LENGTHS
                                ;WILL BE TESTED
011666 012700 000004      MOV      #4,R0          ;FIRST CHARACTER LENGTH =5 BITS,.
011672 012701 033500      MOV      #33500,R1      ;LINE SPEED =9600 BAUD
011676 012767 177740 004320      MOV      #-40,BYTCNT    ;40 CHARACTERS AT 5 BITS
011704 010577 004210      1$:    MOV      R5,JDHSCR   ;SELECT LINE 5
011710 016702 004310      MOV      BYTCNT,R2
011714 005402      NEG      R2
011716 010177 004202      MOV      R1,JDHLPR     ;SET LINE SPEED AND

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011722 012777 016226 004176      MOV      #TBUF,JDHBA      : CHARACTER LENGTH
011730 016777 004270 004172      MOV      BYTCNT,JDHBC    : ADDRESS OF TRANSMITTER
011736 012777 000040 004166      MOV      #40,JDHBAR      : DATA BUFFER
011744 105777 004150      2$:     TSTB      JDHSCR      : 400 (OCTAL) BYTES
011750 100375 004144      BPL      2$              : WILL BE TRANSMITTED
011752 017703 004144      MOV      JDHNRC,R3       : START TRANSMITTER
011756 020367 004240      CMP      R3,RDATA       : WAIT FOR DATA TO BE RECEIVED
011762 001407 004142      BEQ      3$              : GET RECEIVED DATA
011764 005077 004142      CLR      JDHBAR         : COMPER EXPECTED AND RECEIVED DATA
011770 104002 004142      HLT      2              : STOP TRANSMITTER
011772 104410 004130      SCOPE1  2              : DATA ERROR
011774 012777 000040 004130      MOV      #40,JDHBAR     : CHECK FOR LOOP AT CURRENT SPEED
012002 105267 004214      3$:     INCB      RDATA     : RESTART TRANSMITTER
012006 005302 004214      DEC      R2              : UPDATA EXPECTED DATA
012010 001355 004204      BNE      2$              : INITIALIZE EXPECTED
012012 105067 004204      CLRB    RDATA           : RECEIVED DATA
012016 005201 004204      INC      R1              : UPDATA CHARACTER LENGTH
012020 005204 004176      INC      R4              : SINGLE LINE DATA TEST
012022 006367 004176      ASL      BYTCNT         : TRANSMIT A BLOCK OF 400 (OCTAL) CHARACTERS ON LINE 6
012026 005300 004176      DEC      R0              : LINE SPEED IS 9600 BAUD
012030 001323 004176      BNE      1$              : CHARACTER LENGTH WILL START AT 5 BITS AND BE INCREMENTED
012032 104400 004176      SCOPE  1$              : TO 8 BITS
                                : A BLOCK OF 400 CHARACTERS WILL BE TRANSMITTED
                                : AT EACH CHARACTER LENGTH
012034 012767 000340 165734  T47:  MOV      #340,PS        : DISABLE ALL INTERRUPTS
012042 012767 000001 004116      MOV      #1,ICOUNT      : SET UP FOR 1 ITERATIONS
012050 012767 012252 004104      MOV      #4$,ESCAPE     : SET UP TO ESCAPE TO NEXT TEST
012056 012767 012124 004100      MOV      #1$,FREEZ1     : SET UP TO LOOP WITH DATA
012064 012777 004000 004026      MOV      #BIT11,JDHSCR  : MASTER CLEAR INTERFACE
012072 005004 004000 004026      CLR      R4              : FIRST CHARACTER LENGTH CODE (5 BITS)
012074 012705 000036 004114      MOV      #6,R5           : LINE 6 WILL BE TESTED
012100 012767 103000 004114      MOV      #6*400+100000,RDATA
                                : SET EXPECTED LINE NUMBER
                                : AND VALID DATA FLAG
                                : EXPECTED DATA
                                : 4 CHARACTER LENGTHS
                                : WILL BE TESTED
                                : FIRST CHARACTER LENGTH =5 BITS..
                                : LINE SPEED =9600 BAUD
                                : 40 CHARACTERS AT 5 BITS
012106 012700 000004 004100      MOV      #4,R0           : SELECT LINE 6
012112 012701 033500 004100      MOV      #33500,R1
012116 012767 177740 004100      MOV      #-40,BYTCNT
012124 010577 003770 004100      MOV      R5,JDHSCR
012130 016702 004070 004100      MOV      BYTCNT,R2
012134 005402 004070 004100      NEG      R2
012136 010177 003762 004100      MOV      R1,JDHLPR
                                : SET LINE SPEED AND
                                : CHARACTER LENGTH

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00000000 012370 016777 003630 003532      MOV      BYTCNT,3DHBC      ;DATA BUFFER
00000001 012376 012777 000200 003526      MOV      #200,3DHBAR      ;400 (OCTAL) BYTES
00000002 012404 105777 003510      2$: TSTB  3DHSCR          ;WILL BE TRANSMITTED
00000003 012410 100375 003504      BPL      2$              ;START TRANSMITTER
00000004 012412 017703 003504      MOV      3DHNRC,R3       ;GET RECEIVED DATA
00000005 012416 020367 003600      CMP      R3,RDATA        ;COMPER EXPECTED AND RECEIVED DATA
00000006 012422 001407 003502      BEQ      3$              ;STOP TRANSMITTER
00000007 012430 104002 003502      CLR      3DHBAR          ;DATA ERROR
00000008 012432 104410 000200 003470      HLT      2              ;CHECK FOR LOOP AT CURRENT SPEED
00000009 012434 012777 000200 003470      SCOPE1  MOV      #200,3DHBAR  ;RESTART TRANSMITTER
00000010 012442 105267 003554      3$: INCB  RDATA          ;UPDATA EXPECTED DATA
00000011 012446 005302 003544      DEC      R2
00000012 012450 001355 003544      BNE      2$
00000013 012452 105067 003544      CLRB   RDATA            ;INITIALIZE EXPECTED
00000014 012456 005201 003536      INC      R1              ;RECEIVED DATA
00000015 012460 005204 003536      INC      R4              ;UPDATA CHARACTER LENGTH
00000016 012462 006367 003536      ASL     BYTCNT
00000017 012466 005300 003536      DEC      R0
00000018 012470 001325 003536      BNE     1$
00000019 012472 104400 003536      4$: SCOPE
;SINGLE LINE DATA TEST
;TRANSMIT A BLOCK OF 400 (OCTAL) CHARACTERS ON LINE 10
;LINE SPEED IS 9600 BAUD
;CHARACTER LENGTH WILL START AT 5 BITS AND BE INCREMENTED
;TO 9 BITS
;A BLOCK OF 400 CHARACTERS WILL BE TRANSMITTED
;AT EACH CHARACTER LENGTH
00000020 012474 012767 000340 165274 T51: MOV      #340,PS          ;DISABLE ALL INTERRUPTS
00000021 012502 012767 000001 003456      MOV      #1,ICOUNT       ;SET UP FOR 1 ITERATIONS
00000022 012510 012767 012712 003444      MOV      #4$,ESCAPE      ;SET UP TO ESCAPE TO NEXT TEST
00000023 012516 012767 012564 003440      MOV      #1$,FREEZ1      ;SET UP TO LOOP WITH DATA
00000024 012524 012777 004000 003366      MOV      #BIT11,3DHSCR   ;MASTER CLEAR INTERFACE
00000025 012532 005004 004000 003366      CLR      R4              ;FIRST CHARACTER LENGTH CODE (5 BITS)
00000026 012534 012705 000010 003454      MOV      #10,R5          ;LINE 10 WILL BE TESTED
00000027 012540 012767 104000 003454      MOV      #10*400+100000,RDATA
;SET EXPECTED LINE NUMBER
;AND VALID DATA FLAG
;EXPECTED DATA
;4 CHARACTER LENGTHS
;WILL BE TESTED
;FIRST CHARACTER LENGTH =5 BITS,,
;LINE SPEED =9600 BAUD.
;40 CHARACTERS AT 5 BITS
;SELECT LINE 10
00000028 012546 012700 000004 003454      MOV      #4,R0
00000029 012552 012701 033500 003454      MOV      #33500,R1
00000030 012556 012767 177740 003440      MOV      #-40,BYTCNT
00000031 012564 010577 003330 003440      1$: MOV      R5,3DHSCR
00000032 012570 016702 003430 003440      MOV      BYTCNT,R2
00000033 012574 005402 003322 003440      NEG      R2
00000034 012576 010177 003322 003440      MOV      R1,3DHLPR
;SET LINE SPEED AND
;CHARACTER LENGTH
;ADDRESS OF TRANSMITTER.
;DATA BUFFER
00000035 012602 012777 016226 003316      MOV      #TBUF,3DHBA

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00000000 0117703 001744 MOV @DHNRC,R3 :GET RECEIVED DATA
00000000 002040 CMP R3,RDATA :COMPER EXPECTED AND RECEIVED DATA
00000000 001742 BFEQ R3 :STOP TRANSMITTER
00000000 004000 HLT :DATA ERROR
00000000 004000 SCOPE1 :CHECK FOR LOOP AT CURRENT SPEED
00000000 002000 001730 38: MOV #20000,@DHBAR :RESTART TRANSMITTER
00000000 002014 INCB RDATA :UPDATA EXPECTED DATA
00000000 001000 DEC R2
00000000 002004 BNE R2 :INITIALIZE EXPECTED
00000000 001000 CLR R3 :RECEIVED DATA
00000000 001000 INC R1 :UPDATA CHARACTER LENGTH
00000000 001776 48: INC R4
00000000 001000 BSL BYTONT
00000000 001000 DEC R0
00000000 101000 BNE R0
00000000 101000 SCOPE

: SINGLE LINE DATA TEST
: TRANSMIT A BLOCK OF 400 (OCTAL) CHARACTERS ON LINE 16
: LINE SPEED IS 9600 BAUD
: CHARACTER LENGTH WILL START AT 5 BITS AND BE INCREMENTED
: TO 9 BITS
: A BLOCK OF 400 CHARACTERS WILL BE TRANSMITTED
: AT EACH CHARACTER LENGTH

00000000 000040 163524 757: MOV #340,R5 :DISABLE ALL INTERRUPTS
00000000 000001 MOV #1,COUNT :SET UP FOR 1 ITERATIONS
00000000 001716 MOV #4,R4 :SET UP TO ESCAPE TO NEXT TEST
00000000 001700 MOV #19,ESCAPE :SET UP TO LOOP WITH DATA
00000000 001696 MOV #0111,@DHSR :MASTER CLEAR INTERFACE
00000000 000016 CLR R4 :FIRST CHARACTER LENGTH CODE (5 BITS)
00000000 007000 001714 MOV #16,R5 :LINE 16 WILL BE TESTED
00000000 007000 MOV #16+400+100000,RDATA

: SET EXPECTED LINE NUMBER
: AND VALID DATA FLAG
: EXPECTED DATA
: 40 CHARACTER LENGTHS
: WILL BE TESTED
: FIRST CHARACTER LENGTH = 5 BITS..
: LINE SPEED = 9600 BAUD
: 40 CHARACTERS AT 5 BITS
: SELECT LINE 16

014306 012700 000004 MOV #4,R0
014312 012701 033500 MOV #33500,R1
014316 012767 177740 001700 18: MOV #40,BYTONT
014316 010977 001570 MOV R5,@DHSR
014316 016702 001670 MOV BYTONT,R2
014336 005402 NEG R2
014336 010177 001562 MOV R1,@DHLPR

: SET LINE SPEED AND
: CHARACTER LENGTH
: ADDRESS OF TRANSMITTER
: DATA BUFFER
014342 012777 016226 001556 MOV #TBUF,@DHBAR
014350 016777 001650 001552 MOV BYTONT,@DHB0
014356 012777 040000 001546 28: MOV #40000,@DHBAR
014356 105777 001530 TSTB @DHSR :WAIT FOR DATA TO BE RECEIVED
014356 100376 BPL R3
014370 017703 001624 MOV @DHNRC,R3 :GET RECEIVED DATA

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0170                                     : TRAP DISPATCH SERVICE
0171                                     : ARGUMENT OF TRAP IS EXTRACTED
0172                                     : AND USED AS OFFSET TO OBTAIN POINTER
0173                                     : TO SELECTED SUBROUTINE
0174
0175 015266 011646 TRPSRV: MOV      (SP),-(SP)           ; GET PC OF RETURN
0176 015270 162716 000002 SUB      #2,(SP)           ; =PC OF TRAP
0177 015274 017616 000000 MOV      @ (SP),(SP)      ; GET TRP
0178 015300 006316 TRPOK: ASL      (SP)           ; MULTIPLY TRAP ARG BY 2
0179 015302 042716 177001 BIC      #177001,(SP)     ; CLEAR UNWANTED BITS
0180 015306 062716 017234 ADD      #TRPTAB,(SP)    ; POINTER TO SUBROUTINE ADDRESS
0181 015312 017616 000000 MOV      @ (SP),(SP)      ; SUBROUTINE ADDRESS
0182 015316 000136 JMP      @ (SP)+         ; GO TO SUBROUTINE

                                     ; SAVE PC OF TEST THAT FAILED AND R0-R5
0183
0184 015320 016667 000004 000662 SVOSP: MOV      4(SP),SAVPC
0185
0186                                     ; SAVE R0-R5
0187
0188 015326 010567 000652 SVOS:  MOV      R5,SAVR5
0189 015332 010467 000644 MOV      R4,SAVR4
0190 015336 010367 000636 MOV      R3,SAVR3
0191 015342 010267 000630 MOV      R2,SAVR2
0192 015346 010167 000622 MOV      R1,SAVR1
0193 015352 010067 000614 MOV      R0,SAVR0
0194 015356 000002 RTI
0195                                     ; RESTORE R0-R5
0196
0197 015360 016700 000606 RSOS:  MOV      SAVR0,R0
0198 015364 016701 000604 MOV      SAVR1,R1
0199 015370 016702 000602 MOV      SAVR2,R2
0200 015374 016703 000600 MOV      SAVR3,R3
0201 015400 016704 000576 MOV      SAVR4,R4
0202 015404 016705 000574 MOV      SAVR5,R5
0203 015410 000002 RTI
  
```


;TELETYPE OUTPUT ROUTINE

015412	017605	000000		TYPER:	MOV	3(SP),R5
015416	062716	000002			ADD	#2,(SP)
015420	105777	000455		1\$:	TSTB	3TPCSR
015424	100375				BPL	1\$
015428	105715				TSTB	(R5)
015432	001001				BNE	2\$
015436	000002				RTI	
015440	112577	000454		2\$:	MOVB	(R5)+,3TFDBR
015444	000767				BR	1\$

;ASCII STRING INPUT ROUTINE

015444	017667	000000	000006	INSTRG:	MOV	3(SP),MSG
015448	062716	000002			ADD	#2,(SP)
015452	104401			INSTR1:	TYPE	
015456	000000			MSG:	0	
015460	012704	017256			MOV	#INBUF,R4
015464	012703	000007			MOV	#7,R3
015468	105777	000412		1\$:	TSTB	3TKCSR
015472	100375				BPL	1\$
015476	117714	000406			MOVB	3TKDBR,(R4)
015480	142714	000200			BICB	#200,(R4)
015484	122427	000015			CMFB	(R4)+,#15
015488	001413				SEQ	INSTR2
015492	117777	000370	000372		MOVB	3TKDBR,3TFDBR
015496	105777	000364		2\$:	TSTB	3TPCSR
015500	100375				BPL	2\$
015504	005303				DEC	R3
015508	001356				BNE	1\$
015512	104401			INSTRE:	TYPE	
015516	017111				MOVM	
015520	000745				BR	INSTR1
015524	000002			INSTRE:	RTI	

;CONVERT ASCII STRING TO OCTAL

015546	011605	
015550	012967	000146
015554	012967	000144
015558	012967	000142
015562	112967	000140
015566	112967	000135
015570	010516	
015574	005005	
015578	012704	017256
015582	122714	000015
015586	001420	
015590	121427	000060
015594	002415	
015598	121427	000067
015602	003012	
015606	142714	000060
015610	152405	
015614	122714	000015
015618	001406	
015622	006305	
015626	006305	
015630	006305	
015634	000760	
015638	104404	
015642	000750	
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017242	015444
017244	015536
017246	015546
017250	015320
017252	015350
017254	015046
017256	000000
017270	000000
017302	000000
017314	017330
017316	017314
017320	017371
017322	017522
017324	017442
017326	017554
017330	040504
017336	051122
017344	054105
017352	020120
017360	020040
017366	042516
017371	104
017376	051105
017404	042412
017412	020040
017420	020040
017426	042520
017434	046040
017442	040504
017450	051122
017456	054105
017464	020040
017472	020040
017500	043516
017506	044514
017514	000003
017516	006
017520	016220
017522	006
017524	016202
017526	002
017530	016200
017532	000004
017534	006
017536	016222

INSTRG
INSTRE
PARAMS
SV05P
RS05
SCOP1R

:BUFFERS FOR INPUT-OUTPUT

INBUF: 0
TEMP: 0
MDATA: 0

:TABLE OF POINTERS TO ERROR MESSAGES AND DATA

ERRTAB:

EM1
DT1
EM2
DT2
EM3
DT3

EM1:	.ASCIZ	/DATA ERROR/<15><12>/EXP	REC	LINE/
EM2:	.ASCIZ	/DATA ERROR/<15><12>/EXP	REC	SPEED LINE/
EM3:	.ASCIZ	/DATA ERROR/<15><12>/EXP	REC	LENGTH LINE/
.EVEN				
DT1:	3			
.BYTE	6,2			
TDATA				
.BYTE	6,2			
SAVR4				
.BYTE	2,0			
SAVR3				
DT2:	4			
.BYTE	6,2			
RDATA				

03770	017540	006	002	.BYTE	6 2
03771	017542	016200			S AVR3
03772	017544	002	005	.BYTE	2 5
03773	017546	016176			S AVR2
03774	017550	002	000	.BYTE	2 0
03775	017552	016204			S AVR5
03776	017554	000004			4
03777	017556	006	002	.BYTE	6 2
03778	017560	016222			R DATA
03779	017562	006	002	.BYTE	6 2
03780	017564	016200			S AVR3
03781	017566	006	006	.BYTE	6 6
03782	017568	016202			S AVR4
03783	017570	006	000	.BYTE	6 0
03784	017572	016204			S AVR5
03785	017574	006			
03786	017576	000000			END000: 0
03787	017578	000000			.END
03788	017580	000001			

