TEXT LISTING

068-000446-02

PROGRAM

MICRO-NOVA ASYNCHRONOUS INTERFACE DIAGNOSTIC

TEXT TAPE

097-000446-02

ABSTRACT

THIS DIAGNOSTIC IS DESIGNED TO TEST THE MICRONOVA ASYNCHRONOUS INTERFACE BOARD INCLUDING THE OPTIONAL CONSOLE DEBUG FEATURE IF INSTALLED.

NOTICE

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 0001  .MAIN    AOS ASSEMBLER REV 02.05        10:20:38 09/18/79
01
02              ;*********************************************************************
03              ;
04              ; NAME: MNASYN.TX                              PART NUMBER: 097-000446
05              ;
06              ;
07              ; DESCRIPTION: MICRO-NOVA ASYNCHRONOUS INTERFACE DIAGNOSTIC
08              ;
09              ;
10              ; REVISION HISTORY:
11              ;
12              ;       REV.            DATE
13              ;
14              ;       00              11/15/76
15              ;       01              03/09/77
16              ;       02              09/18/79
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39              ;*********************************************************************
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!0002  .MAIN
01
02                1.      ABSTRACT
03
04                        THIS DIAGNOSTIC IS DESIGNED TO TEST THE MICRO NOVA
05                        ASYNCHRONOUS INTERFACE BOARD INCLUDING THE OPTIONAL
06                        CONSOLE DEBUG FEATURE IF INSTALLED.
07
08                2.      MACHINE REQUIREMENTS
09
10                2.1     A MICRO NOVA PROCESSOR
11                2.2     2K OF READ/WRITE MEMORY
12                2.3     A MICRO NOVA ASYNCHRONOUS INTERFACE BOARD
13                2.4     LOOPBACK PATCH PLUG DESCRIBED BELOW
14
15                3.      OPERATING PROCEDURE
16
17                3.1     HARDWARE CONNECTIONS
18
19                        DISCONNECT THE TERMINAL PLUG FROM THE BOARD TO BE
20                        TESTED AND INSTALL THE SPECIAL PATCH PLUG.  IF A
21                        PATCH PLUG IS NOT AVAILABLE, THE CONNECTIONS REQUIRED
22                        ARE:
23
24                        TRANSMIT DATA TO RECEIVE DATA                    A21-A1
25                        DATA TERMINAL READY TO CLEAR TO SEND             A10-A2
26                        DATA TERMINAL READY TO DATA SET READY            A10-A6
27                        REQUEST TO SEND TO CARRIER DETECT                A12-A4
28                        REQUEST TO SEND TO RING INDICATOR                A12-A8
29
30                        THE UNIT UNDER TEST MUST HAVE W27 REMOVED AND MUST BE
31                        PATCHED FOR 8-BIT CHARACTER LENGTH (W18&W19 REMOVED).
32                        ANY BAUD RATE MAY BE USED, AND TRANSMISSION MAY BE
33                        EITHER RS232 OR 20MA CURRENT LOOP.  THE BOARD DOES
34                        NOT PROVIDE ANY MEANS OF CHECKING PARITY OR STOP BITS.
35
36                3.2     LOADING
37
38                        PROGRAM MAY BE LOADED VIA THE BINARY LOADER OR THE DTOS
39                        OR DFOS SYSTEMS AND WILL START AT LOCATION 200.  IF IT'S
40                        DESIRED, "SWREG" OPTIONS MAY BE CHANGED AT THIS TIME
41                        THROUGH THE HAND-HELD CONSOLE OR THE CONSOLE
42                        DEBUG OPTION.
```

4. ERROR DESCRIPTION

THIS PROGRAM IS DESIGNED TO PROVIDE A SNAPSHOT OF ALL REGISTER CONTENTS IF AN ERROR IS DETECTED. THESE ARE SAVED IN A MEMORY STACK AND, DEPENDING ON THE "SWREG" OPTIONS, REPORTED TO THE USER VIA SOME LISTING OUTPUT DEVICE. A RUNNING COUNT OF ERRORS IS ALSO SAVED BY THE PROGRAM, AND FACILITIES ARE PROVIDED FOR LOOPING OR HALTING ON ERROR DETECTION. IF THE PROGRAM HAS HALTED ON ERROR, THE PC AND CARRY AND THE CONTENTS OF ALL REGISTERS AT THE TIME OF THE ERROR HAVE BEEN SAVED ON THE SYSTEM STACK. THE LOCATION POINTED TO BY THE STACK POINTER CONTAINS THE PC & CARRY, SP-1 IS AC3, SP-2 IS AC2, SP-3 IS AC1, AND SP-4 IS AC0. ADDITIONAL INFORMATION IS AVAILABLE IN SEVERAL PAGE 0 LOCATIONS AS FOLLOWS:

LOCATION (OCTAL)	VARIABLE	INTERPRETATION
00201	HEL?P	CURRENT SUBTEST START
00203	PAS?S	TEST PASS COUNTER
00207	INTV?	SUBTEST LOGOUT INTVL
00210	ERC?T	TOTAL ERROR COUNT
00211	ITR?R	SUBTEST ERROR SWITCH
00212	TSN?M	CURRENT SUBTEST NUMBER
00213	ERN?M	LATEST ERROR NUMBER

DETAILED ERROR MESSAGES PRINT OUT THE REGISTER CONTENTS AT THE TIME OF THE FAILURE, AS WELL AS IDENTIFYING THE SUBTEST AND ERROR NUMBER CAUSING THE PROBLEM. THE MESSAGE FORMAT IS:

```
ERROR NUMBER XXX ENCOUNTERED SUBTEST XX
CRY     AC0     AC1     AC2     AC3     PC
X       XXXXXX  XXXXXX  XXXXXX  XXXXXX  XXXXXX
```

THESE REGISTER CONTENTS SHOULD BE COMPARED TO THOSE DESIRED BY THE FAILING SUBTEST TO ISOLATE THE ERROR. IN ADDITION THE DEVICE BAUD RATE IS CALCULATED AND THE CONSOLE DEBUG ROMS AND RAMS ARE VERIFIED IF INSTALLED.

5. SWITCH SETTINGS

LOCATION "SWREG" IS USED TO SELECT THE PROGRAM OPTIONS (NOT SYSTEM CONFIGURATION). WHILE RUNNING UNDER DTOS THIS LOCATION WILL BE LOADED BY THE MONITOR, HOWEVER UNDER STAND-ALONE AND PROGRAM LOAD MODES THIS LOCATION MAY BE SET BY THE USER USING EITHER THE HAND-HELD CONSOLE OR A TELETYPE WITH THE CONSOLE DEBUG FEATURE.

```
!0004  .MAIN
01
02              5.1     SWITCH OPTIONS
03
04                      DIFFERENT BITS AND THEIR INTERPRETATION AT LOCATION
05                      "SWREG" ARE AS FOLLOWS:
06
07                         BIT  OCTAL    BINARY          INTERPRETATION
08
09                          1                0          LOOP ON ERROR
10                              40000        1          SKIP LOOPING ON ERROR
11                          2                0          PRINT TO CONSOLE
12                              20000        1          ABORT CONSOLE PRINTOUT
13                          3                0          DO NOT PRINT % FAILURE
14                              10000        1          PRINT % FAILURE RATE
15                          4                0          ALLOW END OF PASS PRINT
16                              04000        1          SUPPRESS PASS PRINTOUT
17                          5                0          DON'T USE LINE PRINTER
18                              02000        1          USE LINE PRINTER
19                          6                0          DON'T HALT ON ERROR
20                              01000        1          HALT ON ERROR
21                          7                0          DON'T PRINT SUBTEST COMPLETION
22                              00400        1          PRINT SUBTEST COMPLETION EACH INTVL
23                                                      AND ERROR SUMMARY REPORT WHEN FIRST
24                                                      SWITCHED ON.
25                          8                0          PRINT DETAILED ERROR ONLY ONCE
26                              00200        1          ALWAYS PRINT DETAILED ERROR MESSAGE
27                         9-11                        RESERVED FOR FUTURE DTOS USE
28                         12                          RESERVED FOR FUTURE USER OPTIONS
29                         13               0          USE STANDARD CONSOLE ADDRESS
30                              00004        1          USE ADDRESS FROM "CONAD"
31                         14               0          USE STANDARD UUT ADDRESS
32                              00002        1          USE ADDRESS FROM "UUTAD"
33                         15               0          REPORT CALCULATED BAUD RATE
34                              00001        1          SUPPRESS BAUD RATE REPORT
35
36
37                      .EOT
```

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0005  .MAIN
**00000 TOTAL ERRORS, 00000 FIRST PASS ERRORS
```