INTELLEC MICROCOMPUTER DEVELOPMENT SYSTEM

DIAGNOSTIC CONFIDENCE TEST

OPERATOR'S MANUAL

Intel and Intellec are trademarks of the Intel Corporation.

TABLE OF CONTENTS

APPENDICES

PREFACE

This manual describes the Intellec Microcomputer Development System
Diagnostic Confidence Test and explains how to operate the Intellec
system well enough to allow the operator to use the confidence program.

This manual assumes some familiarity with Intellec hardware and monitor
firmware but for further information refer to:

This manual assumes the Intellec system has been assembled according to
instructions detailed in:

Intel and Intellec are trademarks of the Intel Corporation

1.0 INTRODUCTION

The Intellec Microcomputer Development System Diagnostic Confidence Test is a simple verification test that exercises standard Intellec modules and input/output (I/O) devices returning a pass or fail indication to the operator. The confidence test will verify the functionality of:

- Intellec Central Processor Unit

- RAM memory (minimum of 16K or RAM located at 0-16K, plus any additional contigious or non-contigious blocks of RAM).

- Teletypewriter (TTY)

- CRT

- Diskette Drive (all 4 drives)

- Line Printer

- High Speed Paper Tape Reader (PTR)

- High Speed Paper Tape Punch (PTP)

The program will reside on diskette or on paper tape. The diskette version is in object format and execution is started automatically after completing the start up procedures for the diskette. The paper tape version is in a hex format and can be read in through the PTR or the paper tape reader on the TTY. Both the diskette and paper tape versions require parts of the monitor to be functional to load the program into the system.

The program is structured to avoid a hang up on any operator input. All operator inputs are subject to a software time out that will allow the program to continue executing if no inputs are supplied by the operator within the allotted time. This feature will allow the program to run to completion unsupervised, while testing as much of the system as possible. The program will accept the ALT MODE key from control consoles not having an ESC key.

Total execution time varies with the amount of operator intervention from a minimum execution time on the order of 5 minutes.

2.0 HARDWARE REQUIREMENTS

The confidence test hardware requirements include:

- Standard Intellec Microcomputer Development System: which includes the 8080 CPU module, a 16K RAM memory module, a front panel control module, the monitor module, the chassis, power supplies, printed circuit motherboard, and a front panel.

- Control Console Device: which can be a TTY or a CRT.

- Program Input Device: the program input device is used to transfer the program to RAM memory and is a diskette drive for the diskette versions or a PTR or TTY reader for the paper tape versions of the confidence test.

Beyond this minimum requirement, the program also checks for and exercises:

- Other blocks of RAM memory

- CRT

- TTY

- Diskette Drives #0-3

- Line Printer

- High Speed Paper Tape Reader

- High Speed Paper Tape Punch

3.0 DISKETTE OPERATION

Diskette Description:

The diskette unit front panel is shown in the photograph below. The power switch is on when the top half is depressed and the indicator light is on. The drives with door and latch each have an indicator light that is on when the drive is selected.

The Intellec front panel is described in the Operator's Manual. This chapter assumes you have had some exposure to the Intellec operating procedures as given in that manual.
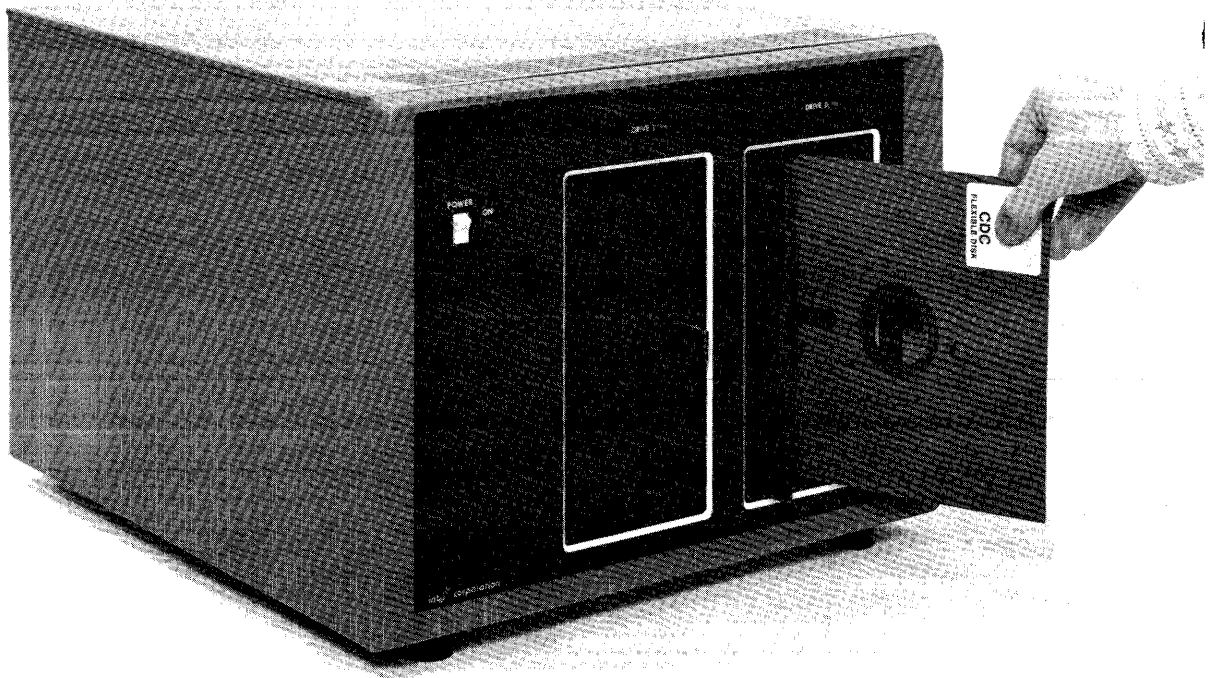
The Diskette

The diskette used with the diskette operating system is compatible
with the IBM 3740 diskette. The recording surface is sealed in an
8-inch square jacket, which has a lining that minimizes static
electricity. The diskette should be kept in its removeable storage
envelope when not in use and stored at temperatures between 50 and
125 degrees fahrenheit.

The following diagram of the diskette shows the spindle hole, the
read/write access slot, the index hole, and the optional write-protect
hole (which protects the diskette from being modified by any diskette
write command). Files can also be write-protected by software assigned
attributes. Take care not to touch the recording surface that is ex-
posed through the openings.

```
READ/WRITE ──┐
ACCESS HOLE


              0.125" ──▶│◀─

         ┬
    1.781"
         ┴
                                                    ── INDEX HOLE



                          ┌WRITE-PROTECT
                           HOLE              ── SPINDLE HOLE

              ──▶│ │◀──0.156"
```
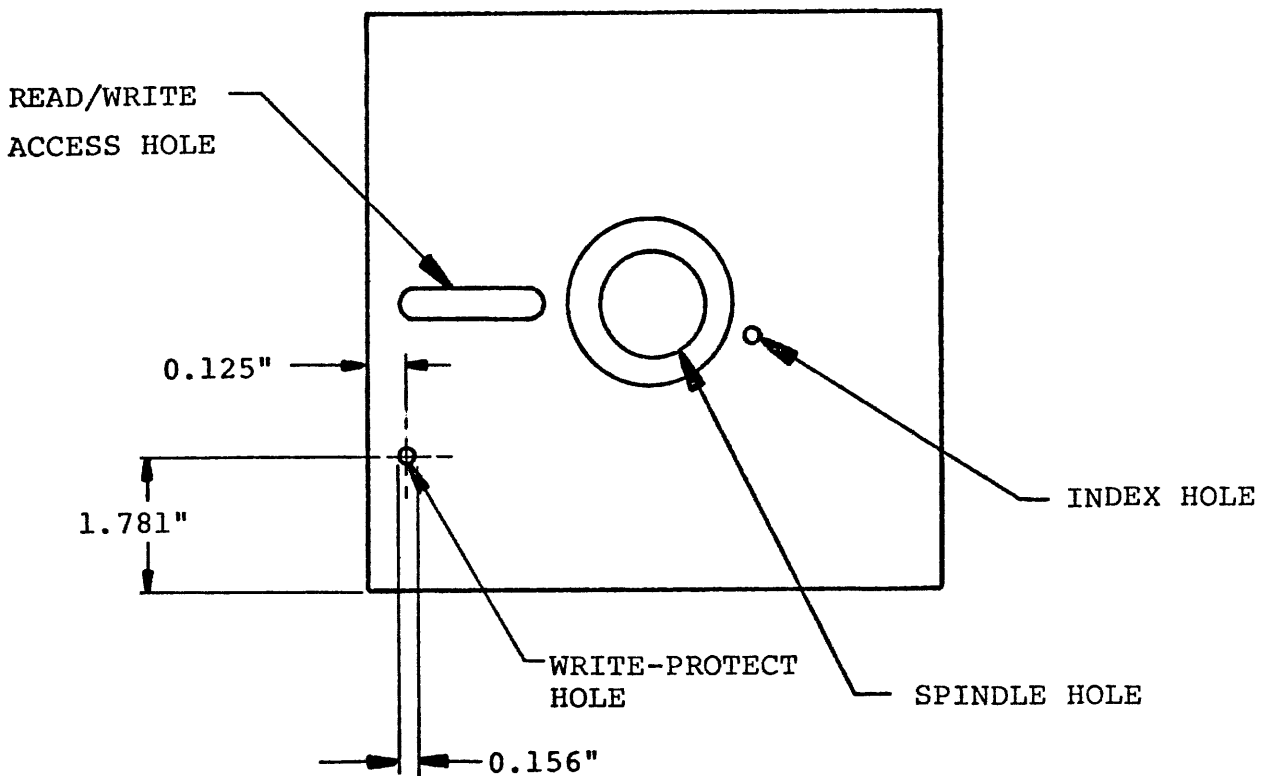
4.0 OPERATING FEATURES

Start Up Procedures:

The start up procedure consists of powering up the Intellec®system and loading the program.

1. Turn power on by inserting key into power switch and turning clockwise. The power indicator should light.

2. Turn on the control console power.

3. Turn on diskette or tape reader power.

4. Mount diagnostic diskette in drive #0 and close door or for paper tape versions, mount paper tape in reader.

5. Press the top half of the boot switch on the system front panel.

6. Press reset switch.

7. Type a space character on the device selected as the control console.

    The monitor polls the CRT and TTY to determine the control console device. The monitor then checks for a ready diskette drive #0 and if the drive is ready, the monitor attempts to bootstrap a diskette I/O driver into RAM. Otherwise, the monitor retains control and displays the monitor message.

8. Press lower half of boot switch on Intellec®MDS and diskette version will begin execution.

    The paper tape version operates under monitor control and requires operator intervention for loading and execution:

    A) Type R∅ followed by a return key to load the paper tape into RAM memory.

    B) Type G followed by a return key to begin execution of the program.

9. Once execution begins, the Processor test is executed in milliseconds and then the program goes into the Memory test. On completion of the Memory test, the program continues the CRT test.

10. In the CRT test, the operator is expected to visually verify the output to the CRT and enter keys for the CRT echo test when prompted to do so. On completion of the CRT test, the program continues with the TTY test.

11. The TTY test then requires the operator to turn on the TTY punch (optional) and to visually verify both the keyboard printer output and the punched tape (if no reader exists). The test then tells the operator to load the punched tape (optional) and strike a TTY key. After receiving a key or timing out, the test reads the tape from the TTY reader (if present) and compares against the punched pattern. The test will then enter an echo mode in which the operator verifies visually the echoed keys. On completion of the TTY test, the program continues with the Diskette test.

12. The Diskette test signs on and executes only if the test can find a diskette controller. It then prompts the operator to load scratch diskettes and strike the control console ESC key. The operator must strike the ESC key to run the diskette test. Once started, the test checks for and exercises all 4 drives. On completion of the Diskette test, the program continues with the Line Printer test.

13. The Line Printer test requires the operator to turn on the line printer and visually verify the output. On completion of the Line Printer test, the program continues with the High Speed Punch test.

14. The High Speed Punch test requires the operator to turn on the punch and unload the punched tape from the hopper and visually inspect the tape for errors or mount it in the High Speed reader for verification. On completion of the High Speed Punch test, the program continues with the High Speed Reader test.

15. The High Speed Reader test requires the mounting of the test pattern tape (from TTY or PTP) in the reader and then initiating the reader operation by striking a control console key or by allowing the test to time out.

16. The test ends by passing control to the monitor which displays the program counter.

5.0 PROGRAM CONTROL CONSOLE FORMAT

The executing program will display messages on the control console to update test completion status and to prompt the user for interaction. The test will run to 'END OF CONFIDENCE TEST' without operator intervention but interaction is required to visually verify correct I/O device operation and to supply input stimuli for some input devices.

The Control Console Interaction Displayed is:

INTELLEC MICROCOMPUTER DEVELOPMENT SYSTEM DIAGNOSTIC CONFIDENCE TEST
         V1.0 OCT. 5, 1976
     (Version and date may change.)

PROCESSOR TEST   ***PASS***/ (Contents of program counter at error
                             detection.)

MEMORY TEST EXECUTING

SYSTEM RAM AVAILABLE: 0000-eomb   any other RAM block boundaries
PASS/###FAIL###   (eomb = end of memory block; limits of all
                         blocks of RAM are displayed.)

CRT TEST   ###CRT NOT IN SYSTEM###
!"#$%&'()...ABC...Z
!"#$%&'()...ABC...Z
ECHO ANY CHARACTER UNTIL AN ESC KEY IS ENTERED
<<<echoed text string>>>
TIME OUT, NO INPUT FOR 10 SECONDS

TTY TEST   ###TTY NOT IN SYSTEM###

TURN ON TTY PUNCH, STRIKE ANY TTY KEY.

      (Punch test optional, keyboard time out of 10 seconds.)

TIME OUT, NO INPUT FOR 10 SECONDS.

!"#$%&'()...ABC...Z

!"#$%&'()...ABC...Z

TURN OFF TTY PUNCH

LOAD PUNCHED TAPE IN TTY READER, STRIKE ANY TTY KEY

      (The program is waiting for an input from the keyboard; once
      that input is received or a time out occurs, the program
      gets one more character which determines reader activity.
      If the character is a null, then the program assumes the
      reader is active. The program checks out the reader for an
      expected input pattern before echoing keyboard characters.)

###TTY DATA ERROR###

      (If reader data miscompares with expected data.)

ECHO ANY CHARACTER UNTIL AN ESC KEY IS ENTERED.

<<<echoed text string>>>

TIME OUT, NO INPUT FOR 10 SECONDS.

DISKETTE TEST   ###NO DISKETTE CONTROLLERS###

      (If a controller is detected, the remaining diskette will be
      executed.)

LOAD SCRATCH DISKETTES, STRIKE CONTROL CONSOLE ESC KEY.

TIME OUT, NO INPUT FOR 30 SECONDS

DISKETTE DRIVES NOT TESTED

NO DISKETTE DRIVE #0,1 CONTROLLER

TESTING DRIVE #0   { ###DISKETTE DRIVE NOT READY###
                         ###DISKETTE ERROR###
                         PASS

TESTING DRIVE #1   { ###DISKETTE DRIVE NOT READY###
                         ###DISKETTE ERROR###
                         PASS

NO DISKETTE DRIVE #2,3 CONTROLLER

TESTING DRIVE #2   { ###DISKETTE DRIVE NOT READY###
                         ###DISKETTE ERROR###
                         PASS

TESTING DRIVE #3   { ###DISKETTE DRIVE NOT READY###
                         ###DISKETTE ERROR###
                         PASS

LINE PRINTER TEST   ###LINE PRINTER NOT IN SYSTEM###

    (Test will wait 10 seconds before outputting the above
    error message.)

NOW PRINTING STANDARD ASCII CHARACTER SET.

HIGH SPEED PUNCH TEST   ###HIGH SPEED PUNCH NOT IN SYSTEM###

    (Test will wait 10 seconds before outputting the above
    error message.)

NOW PUNCHING STANDARD ASCII CHARACTER SET.

HIGH SPEED READER TEST   ###HIGH SPEED READER NOT IN SYSTEM###

    (Test will wait 30 seconds before outputting the above
    error message.)

LOAD HIGH SPEED READER, STRIKE ANY CONTROL CONSOLE KEY.

TIME OUT, NO INPUT FOR 30 SECONDS.

###HIGH SPEED READER ERROR###

END OF CONFIDENCE TEST

<<<list all messages that could mean a system error>>>

FOR TECHNICAL ASSISTANCE CALL INTEL CORP.

HOTLINE   408 246-7501   EXTENSION 2176

    (Contents of the program counter are displayed here when the
    program returns control to the monitor.)

6.0 EXECUTION

Processor Test

The processor test begins execution immediately after the program completes the sign on message.

        PROCESSOR TEST

is displayed on the control console and then all 8080 instructions are executed. The program verifies execution by checking results of the execution with a set of previously verified instructions. Initially, a small set of instructions are verified against each other as a group. On error detection, the processor test generates a restart to location 0 which returns control to the monitor where the program counter is displayed and program execution is discontinued. Otherwise, a pass message is displayed and execution continues to the next test.

Memory Test

The memory test first signs on with

        MEMORY TEST EXECUTING

and then finds and displays the boundaries of all blocks of RAM in the system:

        SYSTEM RAM AVAILABLE: 0000-eomb

Each block is subjected to an address test to verify address decoding followed by a data pattern test which checks all memory cells. The error message tells only that an error was detected and the program continues to the next test.

        MEMORY TEST   ###FAIL###

To interrupt the memory test and continue on to the next test, strike any control console key during the test execution.

CRT Test

After signing on, the CRT test will display the error message and continue to the next test if the CRT is not in the system.

###CRT NOT IN SYSTEM###

Otherwise, the program outputs 2 lines consisting of the standard ASCII character set to the CRT and prompts the operator to input characters to be echoed with the message:

ECHO ANY CHARACTER UNTIL AN ESC KEY IS ENTERED

Exit from this test is accomplished by striking the escape key or by waiting for the 10 second time out. There are no other error messages and the operator is charged with the verification of the correct echo responses.

TTY Test

The TTY test tries to exercise both the keyboard and the reader/punch I/O. If the reader and/or punch are not turned on the program will not test them. The test will display:

###TTY NOT IN SYSTEM###

and then skips to the next test if the TTY indicates a persistent framing error. The program follows the TTY sign on message with instructions to:

TURN ON TTY PUNCH, STRIKE ANY TTY KEY

to allow the operator 10 seconds to turn on the punch, if desired. Two lines of the standard ASCII character set are simultaneously typed and punched (if the punch is on). The operator is instructed to:

TURN OFF TTY PUNCH

and also to:

LOAD PUNCHED TAPE IN TTY READER, STRIKE ANY TTY KEY

This will allow the operator time to set up the reader for the test if it is to be tested. By striking a TTY key, the program can be continued and the test checks for input from the reader to see if the input must be compared with predetermined pattern. If an error occurs during the tape reader comparison, the program will respond with:

###TTY DATA ERROR###

If the input is not from the reader, the test skips to the echo part of the TTY test. The echo part will continue until an escape key is entered or a 10 second time out is encountered.

Diskette Test

The diskette test signs on and checks for a diskette controller. If no controller is present, it displays a message indicating no controllers are displayed and the program exits the diskette test.

DISKETTE TEST   ###NO DISKETTE CONTROLLERS###

A programmed wait is inserted and a message instructs the operator to save any diskette with valuable information:

LOAD SCRATCH DISKETTE, STRIKE CONTROL CONSOLE ESC KEY

At this point, the operator is expected to load a scratch diskette into all drives to be tested (to test drive #0, the operator must replace the confidence diskette with a scratch diskette).

If no keyboard input is received, the test will time out and continue to the next test. The program will prompt the operator that the diskettes were not tested.

TIME OUT, NO INPUT FOR 30 SECONDS
DISKETTE DRIVES NOT TESTED

This is done to avoid modifying diskettes that have valuable information.

The diskette test then sequentially checks for each of the 4 possible
diskette drives and exercises them in order. For each drive, the
ready status is checked and a not ready message is output for each
not ready drive:

TESTING DRIVE #NUM   ###DISKETTE DRIVE NOT READY###

No further testing is done on a not ready unit. The actual exercising
of the diskette takes the form of random seeks, reads, and writes with
pass/fail information displayed on each drive:

###DISKETTE ERROR###

or

PASS

Line Printer Test

The line printer test checks for a line printer in the system by out-
putting a character to the line printer port and checking for a response
within 10 seconds (to skip the line printer test strike any console key
during this 10 second wait). If no response is received from the line
printer, the test displays:

###LINE PRINTER NOT IN SYSTEM###

and proceeds to next test. If the printer responds within the time out
period, the test outputs 30 lines of text consisting of the standard
ASCII character set and prompts the operator with the following message
on the display console:

NOW PRINTING STANDARD ASCII CHARACTER SET

Success of this test has to be visually observed by the operator.

High Speed Paper Tape Punch Test

The high speed punch test first checks for a punch in the system and
displays the ready status of the punch (if it is not ready or non-
existent.) If the punch is not ready, the test will wait 10 seconds to
allow time to turn the punch on before outputting the error message.

###HIGH SPEED PUNCH NOT IN SYSTEM###

To skip the wait state and punch test, strike any console key. Otherwise, when the punch is ready, the test will output a punched tape composed of the standard ASCII characters. The text string is punched enough times to allow the tape to be used on the high speed paper tape reader to check the reader/punch pair. The operator is charged with the responsibility of verifying visually or with the high speed reader the correctness of the punched tape.

High Speed Paper Tape Reader Test

First the reader test verifies the ready status of the high speed reader and if not ready after 30 seconds displays:

###HIGH SPEED READER NOT IN SYSTEM###

The test allows 30 seconds to set up the reader for the test by prompting the operator:

LOAD HIGH SPEED READER, STRIKE ANY CONTROL CONSOLE KEY

If no key is detected for 30 seconds the time out message is displayed and the reader is checked for activity. The program will read a test tape if the reader is in the ready state and check the input against an expected pattern and on a miscompare display:

###HIGH SPEED READER ERROR###

The reader can also use the tape punched by the TTY punch if no high speed punch is available.

End of Confidence Test

When all the tests have been executed, the program will prompt the operator with:

END OF CONFIDENCE TEST

Along with this message the program will suppy a summary of errors and trouble hotline. The error summary will be a list of all the

messages that might indicate some type of system failure and are generally those messages that are of the form:

###MESSAGE###

The program will then pass control back to the monitor and the operator can use all monitor commands. To re-execute the confidence test, type in G followed by a return key and the entire test will be executed again.

APPENDIX A

DIAGNOSTIC CONFIDENCE TEST ERROR MESSAGES

Errors detected by confidence program are identified by the program as
they are detected and are summarized after the 'END OF CONFIDENCE TEST'
sign off. The error messages contain only minimal error information
and have meanings described below.

PROCESSOR TEST #XXXX

This error indicates that some un-
pected result was detected during
the execution of the processor test
at the instruction before program
location XXXX.

MEMORY TEST ###FAIL###

This error indicates that a memory
location contents was not success-
fully read back and compared with
what was written.

TIME OUT, NO INPUT FOR
10/30 SECONDS

This condition indicates the program
was waiting for some keyboard input
from the operator, and this response
did not occur within 10/30 seconds.

###TTY NOT IN SYSTEM###

This message indicates that the pro-
gram either did not get any response
from the TTY within the software
time out limit or after resetting
the controller initially, a framing
error was immediately detected.

###TTY DATA ERROR###

This error occurs when the program
is reading a punched tape and en-
counters a character that is not ex-
pected.

###NO DISKETTE CONTROLLERS###

This message is displayed when the
diskette test samples the 'controller
present' bit of the diskette status
word on both diskette ports with
negative results.

DISKETTE DRIVES NOT TESTED

When no response to the 'LOAD SCRATCH
DISKETTES, STRIKE CONTROL CONSOLE ESC
KEY' message is received, the diskette
test is discontinued and this message
is displayed.

NO DISKETTE DRIVE #0,1 CONTROLLER NO DISKETTE DRIVE #2,3 CONTROLLER		These messages are displayed when the 'controller present' status bit of the respective drives is sampled with negative results.

DISKETTE DRIVE #0 ⎫
DISKETTE DRIVE #1 ⎪ ###DISKETTE
DISKETTE DRIVE #2 ⎬ DRIVE NOT
DISKETTE DRIVE #3 ⎭ READY###

These messages are displayed if the respective 'drive ready' bit indicates that the drive is not ready.

DISKETTE DRIVE #0 ⎫
DISKETTE DRIVE #1 ⎪ ###DISKETTE
DISKETTE DRIVE #2 ⎬ ERROR###
DISKETTE DRIVE #3 ⎭

This error message is the general error message displayed when any error is detected while executing the diskette confidence test. (The diskette confidence test makes three retry attempts before indicating an error.)

###LINE PRINTER NOT ⎫
   IN SYSTEM### ⎪
###HIGH SPEED PUNCH NOT ⎬
   IN SYSTEM### ⎪
###HIGH SPEED READER NOT ⎪
   IN SYSTEM### ⎭

This message is displayed if the particular device does not respond with a device ready condition within the software time but while trying to input/output a character.

HARDWARE TROUBLESHOOTING AID

INTELLEC MICROCOMPUTER DEVELOPMENT SYSTEM

Symptom	Checks
1) Will not boot up into Monitor (no Monitor message) with either CRT or TTY as console device.	1A) Check fuses on back panel.
	1B) Check power supply voltages at following points on motherboard:

<pre>
                        + 5 volts - J5 pin 3
                        +12 volts - J5 pin 7
                        +12 volts - J5 pin 79
                        -10 volts - J5 pin 77
</pre>

1C) Check switch S1 on 1000351-01 board - should be to the right if operating with an 8316 ROM Monitor, to the left if operating with a PROM Monitor board.

1D) Check 1000279-01 board - module. Select jumper set to position 7-8. If more than one 1000279-01 board in system, check that jumpers are not to same position.

2) Boots up into Monitor with TTY as console but not with CRT.	2A) Check Baud rate jumper selection on 1000351-01 board agrees with Baud rate selection on CRT.
	2B) A16-8251 - try replacing 8251 on 1000351-01 board.
3) Boots up into Monitor with CRT as console but not with TTY.	3A) A17-8251 - try replacing 8251 on 1000351-01 board.

UPP

Symptom	Checks

1) Power LED off and fan not turning.

   1A) Check fuse back panel.

2) Will not transfer or compare with any personality board.

   2A) Check power supply/voltages at following points:

       + 5 volts - red wire/power supply
       -10 volts - blue wire/power supply
       +40 volts - gray wire/power supply
                  - if bad, check +40 volt fuse below wire on PC board of power supply.

3) 1702A personality board will not program PROM but will transfer data from PROM to Intellec memory.

   3A) Check +80 volts at green wire/power supply - if bad, check +80 volt fuse below wire on PC board of power supply.

   3B) Check voltage regulation circuit of 1702A personality board - primarily A8-NE550 and SCR1-MCR106-4.

   3C) Check program pulse level at CR8 of 1702A personality board for proper level while in program mode. Should be a 48 volt pulse. If not, try adjusting R21 on personality board for proper level.

4) 2708, 3601, or 3604 personality board will not transfer or program data.

   4A) Check +40 volts at gray wire/power supply - if bad, check +40 voltage below wire on PC board of power supply.

   4B) Check VCC voltage at J1-9 on 3601 board, at C15(+) on 3604 board, at CR1 on 2708 board. If bad, try replacing voltage regulator chip (723) on personality board.

   4C) Check switch S1 on 2708 personality board. Should be set to normal, read, low and desired PROM to be used.

CRT

Symptom	Checks
1) Random characters displayed on screen.	1A) Check 1404 shift registers A107 through A110 and A122 through A125.
2) Blank screen.	2A) Check power supply voltages at J4 of logic board.
3) Screen light-up – no brightness control from keyboard, power on LED off.	3A) Check to see that keyboard cable is plugged into Monitor connector on bottom of Monitor.
4) Characters flashing on and off, without control from keyboard.	4A) Check -12 volt power supply at J4 of logic board.
5) Operates OK in local but not on line.	5A) Check Baud rate switch and X150/X110 switches are set to correct positions to agree with Baud rate of Intellec.
	5B) Check half duplex/full duplex switch is set to full duplex.

PAPER TAPE READER

Symptom	Checks
1) Reader lamp doesn't come on.	1A) Check to see if +5 volt input to lamp is present. If +5 volts is OK, try replacing lamp. If +5 volts is not present, look to power supply for problem.
2) Doesn't recognize all bits from sense assembly.	2A) Check alignment of lamp with holes in sense assembly.
	2B) Check bit inputs to logic board from sense assembly. If one or more bits are bad, try replacing sense assembly.
3) Step motor doesn't work; resistor R5 on power supply board gets hot and smokes. 32 volts at P6 pin 3 of logic board loaded down.	3A) Remove cable P5 from step motor to logic board. If 32 volts at P6 pin 3 is good, try replacing step motor.

DOS

Symptom	Checks

1) Head won't load and/or will not load ISIS.

1A) Check door microswitch adjustment.

1B) Power supply voltage at DC connector P6 of Drive 0.

+ 5 volts - P6 pin 2 (red wire)
- 5 volts - P6 pin 7 (blue wire)
+24 volts - P6 pin 4 (green wire)

1C) Check to see that drive belt has not slipped off motor spindle onto shaft.

1D) Check ISIS diskette by trying a known good diskette.

1E) Check head position to insure that it is not stuck at outer stop. Try turning power off, then manually moving head away from outer stop. Then try to load ISIS again.

1F) Try interchanging unit select switch settings on each drive. Set original Drive 0 to Drive 1. Set original Drive 1 to Drive 0. If you can now load ISIS, original Drive 0 is bad.

1G) Check to see that only one resistor terminating pack is installed. Only one drive should have resistor pack.

2) Intermittent Error-30 message.

2A) Check door microswitch adjustment.

2B) Check drive belt to see that it is on motor spindle not partially off, causing rotation of diskette to be slower.

3) Will not read or write certain files correctly.

3A) Check head load pad on carriage assembly to see that it is not gone or worn down. If this is a problem, replace pad.

ICE 80

Symptom	Checks
1) Error message: Error 66 Fatal error.	1A) Check clock mode selection jumpers, on processor board, are set to proper positions. For internal mode, jumpers set to A-B and D-F. For external mode, jumpers set to A-C and F-E.
	1B) On Rev. E or higher processor boards, check clock coupling jumpers are set to proper position. For clock rates above 1.2 Mhz set to high. For clock rates below 1.2 Mhz set to low.
	1C) Check clocks at pins 15 and 22 of 8080A-1 CPU on processor board. If not correct and operating in internal mode, try replacing A6-8224 on processor board. If not correct and operating in external mode, look to the buffer assembly or user system for the problem.
2) Error message: Error 67 Stat. 11, type 04 or 08	2A) If using a Rev. E processor board, check A44 pin 1 for a jumper wire on the back of the board to ground side of C41.
3) Failures occur after warm-up.	3A) Try replacing A31 and A32-3604's on the trace board.
4) One of the gray cables to buffer assembly burnt.	4A) User plugged cable in wrong on processor board. Replace cable and check buffer assembly for other damage.
5) A7-8226 on the buffer assembly bad.	5A) User plugged 40 pin user connector in user system upside down. Replace A7.

INTELLEC®8

Symptom	Checks

Symptom

1) Will not program or transfer data to 1702A.

2) Stays in halt mode.

3) No TTY communications.

Checks

1A) Check +80 volt power supply. Try replacing 80 volt fuse if bad.

1B) Check PROM programming board.

2A) Check clocks on the CPU board.

2B) Check -10 volt power supply at the power supply terminal marked -10 volts.

3A) Check Baud rate clocks to USART.

3B) Try replacing USART.

3C) Check -12 volt power supply at the power supply terminal marked -12 volts.

intel®   SOFTWARE PROBLEM REPORT

SUBMITTED BY:

Name _____

Company _____

Address _____

_____

Phone _____ Date _____

FOR INTERNAL USE ONLY

No.   Fix Date

Date   Vers/System

Notes

CHECK ONE ITEM IN EACH CATEGORY

Product	Product Type		Machine Line	System
☐ Software	☐ Monitor	☐ Simulator	☐ 4004/4040	☐ Intellec
☐ Manual	☐ Assembler	☐ Editor	☐ 8008	☐ Timeshare Co.
	☐ Compiler	☐ Utility	☐ 8080	_____
		☐ _____	☐ 3000	☐ In-House Computer
			☐ _____	

Exact Product/Manual Name _____

Version Number (If not known, give date of receipt) _____

PROBLEM:

REPLY:

PROBLEM DOCUMENTATION ATTACHED IS: ☐ Output Listing   ☐ Paper Tape Program Source

☐ Program Listing   ☐ _____

WE'D LIKE YOUR COMMENTS . . .

This document is one of a series describing Intel software products. Your comments on the back of this form will help us produce better software and manuals. Each reply will be carefully reviewed by the responsible person. All comments and suggestions become the property of Intel Corporation.

Intel Corporation
3065 Bowers Avenue
Santa Clara, CA 95051

Attention: MCS Systems Marketing