

SYSTEMS ENGINEERING LABORATORIES PROGRAM LIBRARY

SOFTWARE DESCRIPTION

CATALOG NO. 323001B

DOCUMENTATION REV*

DATE June 15, 1970

PROGRAM TITLE: 810A Card Reader Diagnostic

PURPOSE: To verify the proper operation of the SYSTEMS 80-410A Card Reader in both the binary and BCD mode.

CONFIGURATION: SYSTEMS 810A Computer, ASR-33 teletype, and a SYSTEMS Card Reader (Model 80-410A).

SOFTWARE ENVIRONMENT: Stand-Alone

PROGRAM LANGUAGE: 810A Assembly Language

SIZE: 2000₈ - 2654₈

TIMING: Approx. 200 cpm

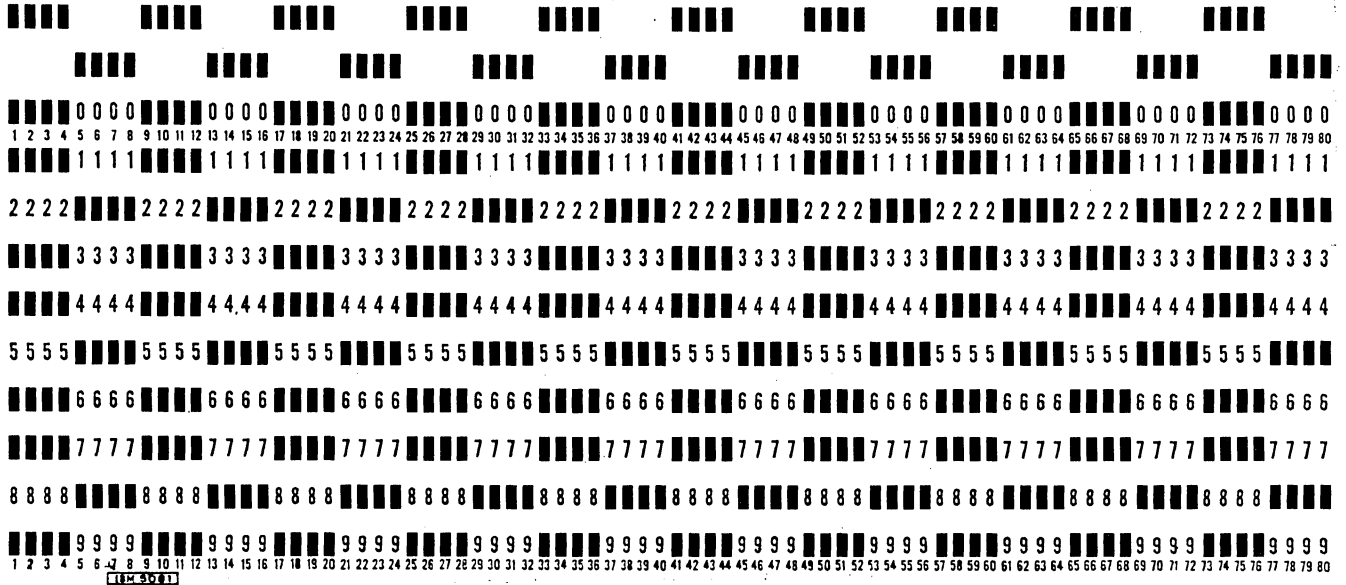
SYSTEMS 323001B

USE:

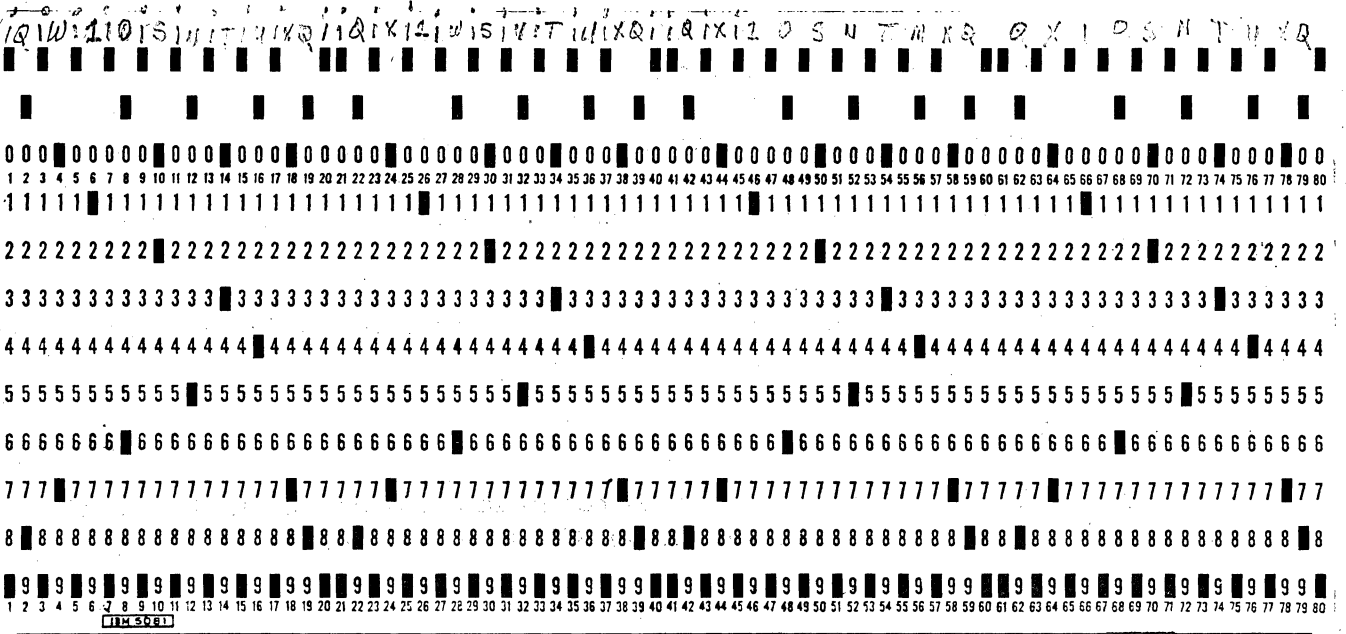
- a. Loading - Load the program into memory by using the Standard Relocatable Loader. The starting location of the program is octal 2000.
- b. Console Switches
 - Sense Switch 0 SET: Read card in binary mode
 RESET: Read cards in BCD mode.
 *Consult the 810A Reference Manual for Peripheral Unit Character Code
 - Sense Switch 1 SET: Delay the feeding time between cards by .4 sec.
 RESET: Read cards at normal speed.
 - Sense Switch 2 SET: All errors will be ignored
 RESET: A typeout of errors will occur on the console teletype.
 - Sense Switch 3 SET: Compare cards being input to the stored card table.
 RESET: Compare input cards to the first card in deck.
- c. Operating Procedures.
 1. Ready the card reader and console typewriter.
 2. Enter the starting location of the program into the program counter '02000g.
 3. Set the sense switches.
 4. Press start on the console. Press start on the card reader.

d. Binary and BCD Mode Test Cards

1. The card shown below is an image of the binary card needed to successfully perform the stored card binary mode test. Storage is in location 00534_g through 00653_g.



2. The card shown below is an image of the BCD card needed for this program when performing the stored card BCD test. Program storage is in locations 00414_g through 00533_g.



BCD	COLUMNS
IQIXIIO	1 - 8
ISINITIM	9 - 16
IXQIIQIX	17 - 24
IIIOISIN	25 - 32
ITIMIXQI	33 - 40
IQIXIIO	41 - 48
ISINITIM	49 - 56
IXQIIQIX	57 - 64
IIIOISIN	65 - 72
ITIMIXQI	73 - 80

e. First Card In Buffer (locations 00274₈ to 00413₈) - When sense switch three is reset and the program is initialized the first card that is read will be stored into memory. All subsequent card data input will be compared to the data in the first card in table.

To enter data into the first card buffer when it is known that a card reader has a malfunction the following procedure may be used.

1. Prepare several or more punched cards with the desired data.
2. Enter the data into the First Card in Table via the console. Location 00274₈ to 00413₈. Reset sense switch three.
3. Prepare the computer card reader and teletype for normal operation. The starting location for this method is 02004₈.

f. Teletype Output

1. Unequal data compare will result in a typeout on the teletype. Shown below is the output format, binary mode XXXX YYYY ZZ

where: XXXX . Master Data Stored in Memory
 YYYY Bad Data from Last Card Input
 ZZ Card Column in Error

2. BCD Mode: The format is the same as the binary mode typeout except that only two octal digits for the correct and incorrect data will be output along with the column number.

METHOD:

The program is designed to operate in the binary or BCD mode of operation. The punched cards read by the card reader may be compared to either the program, stored data or by storing the data on the first card input and comparing all subsequent cards to the first card in buffer.