Customer Engineering Service Aids

Pluggable SMS printed circuit cards
Solid State NAND Logic
Potentiometer adjustment of each lamp intensity
CE Aid Panel with:
Oscilloscope sync test points
Counter Display Lights

IBM
International Business Machines Corporation
Data Processing Division
112 East Post Road, White Plains, New York

Printed in U.S.A. 231-0010

IBM

1230 Optical Mark Scoring Reader

Customer Engineering Announcement

IBM 1230 Optical Mark Scoring Reader

The IBM 1230 Optical Mark Scoring Reader is used to score paper documents and print out the results on the document being scored. It senses positional marks made by an ordinary pencil on 8½″ x 11″ paper documents. Except for loading the documents and removing them from the stacker, all operations are automatic and require no operator intervention. The IBM 1230 adapts itself readily for use by educational or business organizations for scoring of academic tests, questionaires, or surveys.

Reading is accomplished by an optical read head consisting of 21 solar cells and lamps. Twenty of the photocells are used for the 20 response positions of each row; one is used to read timing marks in the right-hand border.

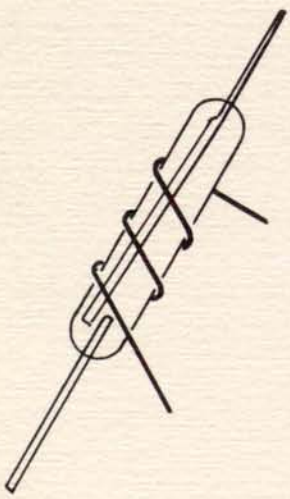
Two master sheets are fed into storage for any given run. One master sheet contains the correctly marked answers against which all the answer sheets will be compared. The other master sheet is used to store special programming necessary to identify or cause; (1) end of part (2) counter read out, (3) storage read out, (4) response punch data (when equipped with additional unit IBM 534 Card Punch).

Information from both master answer sheets is stored in an electro-mechanical device called a sonic delay line. The sonic delay line consists of an input transducer converting electrical impulses to torsional vibrations in a concentrically coiled wire. These torsional vibrations are reconverted by an output transducer into electrical pulses. These pulses are stored throughout the length of the coiled wire as bits. The sonic delay line has a capacity of 1,800 bits. One-half of an answer sheet line plus six control bits (program instruction) represent a word (16 bits).

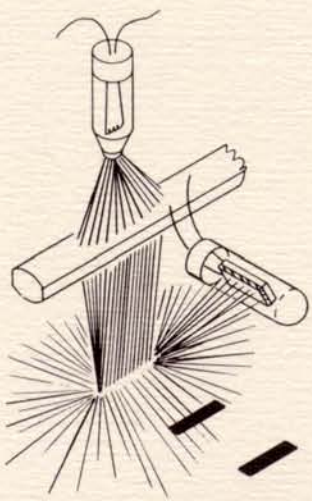
A wire matrix printer is used to record the scores in the right-hand margin of the answer sheet. Either of two printing lines may be selected by the operator. Printing takes place while the document is in motion.

The answer sheet is arranged in 50 horizontal rows with 20 response positions on each row. Up to 1,000 possible answers can be monitored. Answer sheets with poor or multiple marks may be directed to a reject stacker.

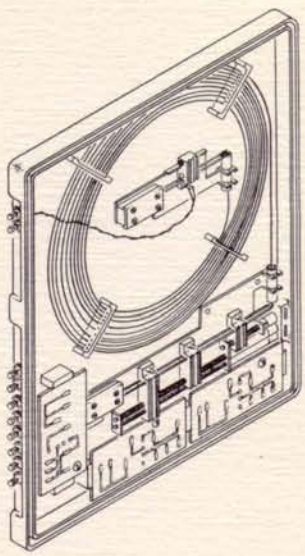
Featuring:



Reed Relays



Optical Reading



Sonic Delay Line

Machines Features:

Pneumatically controlled hopper
Optical reading by light diffusion
Printing with a wire matrix printer
Standard and reject stackers
Binary counting of right, wrong, or omitted answers
Processing at 1,200 documents per hour
Mini-Watt Power Supplies for Logic

Special Features:

Additional rights, wrongs, omit counter
Formula counter (with Mutiple Response)
Storage Unit
IBM 534 Card Punch