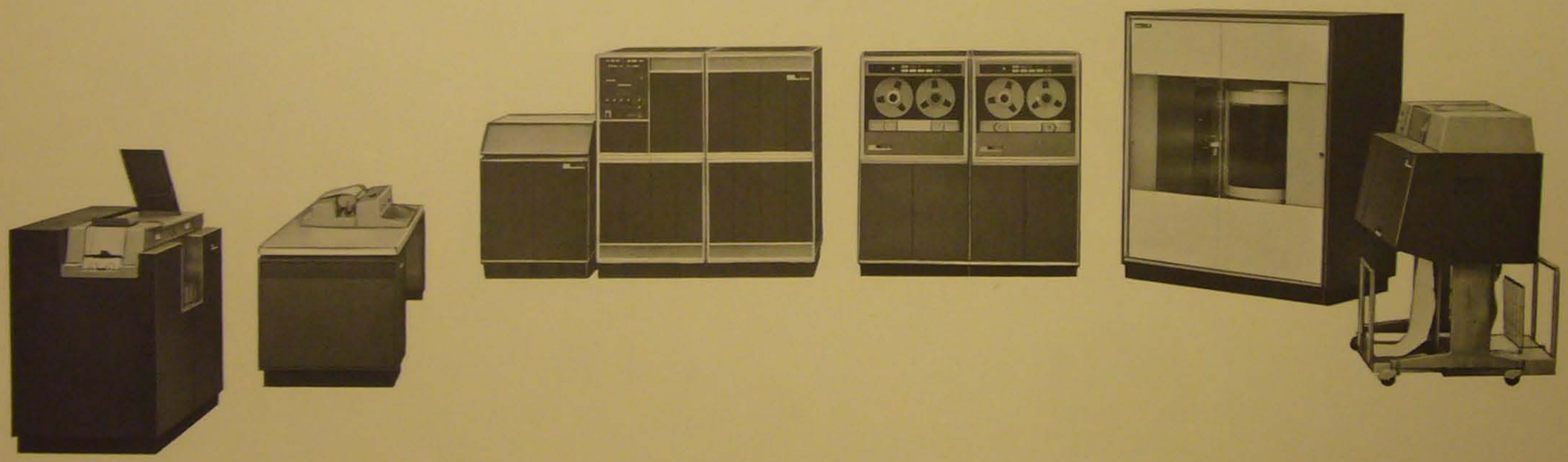
New Speeds in Random Access Accounting with the

IBM *RAMAC 1401*

Perfectly combined for more flexible data processing . . .
a new, higher speed RAMAC and the popular, low-cost IBM 1401

1 IBM 1402 Card Read Punch
2 IBM 1407 Inquiry
3 IBM 1401 Processing Unit with 1406 Storage
4 IBM 7330 Tape Units
5 IBM 1405 Magnetic Disk Storage Unit
6 IBM 1403 Printer



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IBM *RAMAC® 1401 SYSTEM*

Batches of data can now be processed by a 1401 system without first being arranged in sequential order! The new 1405 Magnetic Disk Storage unit has made possible a RAMAC 1401 system which brings to random access accounting new concepts of speed and flexibility.

Not only are records written or read twice as fast as in previous systems, but from two to four times as many characters are stored in the same amount of space. Here, too, for the first time, is a RAMAC system able to read cards at a rate of 800 per minute; to punch output cards at a rate of 250 per minute; and to print documents and reports at up to 600 lines per minute.

The 1405 Magnetic Disk Storage has a capacity of either 10,000,000 or 20,000,000 characters. Up to 100,000 records, of 200 characters each, can be stored magnetically, and any given record is accessible in approximately one-half second for updating or for inquiry as to current status.

As with other RAMAC systems, an inquiry typewriter unit is available for typing out any record held in disk storage or core memory. It also serves as an auxiliary output for printing exceptions or other "signals to management" during processing. As an accuracy aid, a programmed instruction checks what has just been written against the source data in the machine.

With a single instruction, the 1405 Magnetic Disk Storage unit can automatically read or write consecutively all five 200-character records on a magnetic disk track. This permits an increase in processing speed, in many instances, and a saving in seek time. In addition, the 1,000-character capacity of a disk track may be treated as a single record.

The RAMAC 1401 is available as a card system or as a magnetic tape system. For the latter, the new low-cost, low-speed IBM 7330 Magnetic Tape Units are ideal. Reading low-density tape at 7,200 characters per second and high-density tape at 20,000 characters per second, these units are well balanced with the processing requirements of the RAMAC 1401 system.

This system serves admirably as the central processing system for data fed in from scattered points by IBM TELE-PROCESSING* equipment over telephone or telegraph wires. In such applications as centralized inventory, reports can be entered in the order in which they are received for the immediate updating of records.

*Trademark

IBM RAMAC 1401 SYSTEM

Input

Magnetic Tape

- Choice of tape unit speeds and cost.

  IBM 7330 reads:
  low density tape at 7,200 characters per second
  high density tape at 20,000 characters per second

  IBM 729 II reads:
  low density tape at 15,000 characters per second
  high density tape at 41,667 characters per second

  IBM 729 IV reads:
  low density tape at 22,500 characters per second
  high density tape at 67,500 characters per second
- Up to 6 of any one type unit can be attached.
- Horizontal and vertical parity checking assures accurate reading.
- Inter-system communication with other IBM tape systems is provided through interchangeability of magnetic tapes.

Punched Cards

- Up to 800 cards can be read per minute.
- Read station has 3000-card capacity File Feed.
- Multiple 1000-card capacity, non-stop-unloading radial stackers permit segregation of cards under program control. (Up to 3 are available to separate input cards.)
- Card reading is checked for accuracy.

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

Processing

Processing Unit

- Choice of 1400, 2000, 4000, 8000, 12000 or 16000 positions of fast alphameric storage.
- Solid-state, high-speed arithmetical and logical circuits.
- Advanced logic; simple programming in fewer steps.
- Accepts data and instructions of variable word length, permitting optimum use of storage.
- Number and size of totals is limited only by number of available storage positions.
- All data flow is parity checked.
- Powerful print editing ability.
- Fast internal processing speeds—
  Add two 8-position fields: 0.299 milliseconds
  Compare two 6-position fields: 0.23 milliseconds
  Multiply a 6-position field by a 4-position field:
  15 milliseconds on a standard model;
  1.995 milliseconds, average,
  using Direct Multiply-Divide option.
- Indexing and other optional advanced programming features are available.

Disk Storage

- Model 1 has 25 disks, stores 10 million characters. Model 2 has 50 disks, stores 20 million characters.
- High-density recording.
- High read/write speeds.
- Seven-digit indelible address precedes each 200-character record space to assure accuracy.
- Optional second access arm makes available more records to processing in a given amount of time.
- Solid-state circuits.
- Inquiry unit provides quick access to stored data.

Output

Magnetic Tape

- Tape units can write low- or high-density tapes at the following rates:

  IBM 7330—7200 & 20,000 characters per sec.

  IBM 729 II—15,000 & 41,667 char. per sec.

  IBM 729 IV—22,500 & 62,500 char. per sec.
- Two-gap head of tape units permits immediate parity check of data as it is written on tape.

Printed Reports

- Chain printer prints up to 600 lines per minute.
- Ultra-high-speed skipping:
  8 lines or less—33 inches per second;
  9 lines or more—75 inches per second.
- 132 alphameric printing positions per line.
- 48 characters per print position.
- Printing and carriage under stored program control.
- Printer operation is electronically checked.

Punched Cards

- Punches up to 250 cards per minute.
- Punching is checked for accuracy.
- 1000-card capacity, non-stop-unloading radial stackers permit continuous operation.
  (Up to 3 are available to separate output cards.)
- An optional feature permits the punch feed to serve also as an input station, allowing punching of results into input cards.

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