

IBM 305

Data Processing System

Operating Features

Transactions processed individually as they occur (in-line processing) resulting in up to date records for close control over business data

Control panel flexibility combined with stored program instructions for internal processing of information

Output controlled independently of input

Automatic data transfers from 1 to 100 characters

Large capacity magnetic disk storage

Alphameric character representation throughout

Direct interrogation of memory

Components

IBM 380 Console (Input, Output, and Monitoring Unit)

Reads 125 cards per minute maximum

Card reading may occur simultaneously with other programmed operations

Permits direct manual inquiry of system through the keyboard

Typewriter used for answers to inquiries or as supplementary printer; types 10 characters per second, 100 characters per line

Instructions and data may be altered through the keyboard

Functions on the 305 process control panel may be selected by the use of alteration switches on the console

IBM 305 Processing Unit (Arithmetical and Logical Unit)

A magnetic drum to store program instructions (a maximum of 200), information being processed, and input-output areas for simultaneous operation

A magnetic core storage unit of 100 character capacity used for all transfers of information

Stored program instructions may transfer control to the process panel to test logical selectors and perform other functions. The process panel may also transfer control to the stored program

10 independent 10-position accumulators
9 digit multiplicand, 11 digit multiplier, 20 digit product

IBM 350 Disk Storage (Storage Unit)

Capacity of 5 million alphameric characters stored on 50 disks

Each disk contains 100 tracks consisting of 10 sectors (5 on the top and 5 on the bottom of the disk)

Each sector has a 100 character capacity

IBM 370 Printer (Output Unit)

Prints from a maximum of 80 characters per line at the rate of 30 lines per minute to 20 characters per line at the rate of 80 lines per minute

Prints 10 characters per inch

Printing may be done simultaneously with other programmed operations

Control panel wiring determines report format

Tape-controlled carriage controls feeding, spacing, and skipping of continuous forms

Multiple line printing

IBM 323 Card Punch (Output Unit)

Punches 100 cards per minute maximum

Punching may be done simultaneously with other programmed operations

Format control provided by control panel wiring

Processing Times

Input, output, seek, and processing times may be programmed to overlap each other in total or in part, depending upon the application being processed

Seek Access Time

Maximum time for the arm to move from record to record on a disk is 300 milliseconds

Maximum time for the arm to move from disk to disk is 800 milliseconds

One disk revolution—50 milliseconds

Processing Unit

Transfer between drum tracks—30 milliseconds

Transfer from disk to drum track—average 55 milliseconds

Transfer from drum track to disk—average 105 milliseconds

Multiplication—30 milliseconds for first multiplier digit plus 10 milliseconds for each additional multiplier digit

One drum revolution—10 milliseconds

Process Control Panel

Minimum of 20 milliseconds per control panel reference

Checking Features

The system will halt when these errors are detected enabling the operator to make a correction from the console and proceed

Console Checks

Read Check

Indicates a failure to read a card correctly

Feed Check

Indicates a feed failure

Parity Check

Indicates a failure of a character entering or leaving the magnetic core unit to have an odd bit count

File Check

Indicates a failure to write a record in disk storage correctly

Clock

Indicates that the timing control circuits are operating incorrectly

Printer Output Check

Indicates that the print unit is incorrectly set up for the character to be printed or that a parity error has occurred

Punch Checks

Indicate a double-punch or blank-column error, a feed failure, or a parity error

IBM

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