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IBM System /370 Model 135

IBM System /370 Model 135 provides leading-edge capabilities for management information systems, teleprocessing, process control, data acquisition, and remote computing. Designed to offer current users of System /360 Models 25 and 30 heightened performance and growth potential, the Model 135 features all-monolithic circuitry, predictive maintenance to detect and correct many machine errors, and integrated adapters for low-cost communications and file capabilities.

- Upward compatibility with most System /360 architecture and programming.
- Instruction set includes all standard System /360 instructions plus the new System /370 instructions.
- Storage sizes of 96, 144, 192, and 240K bytes.
- A byte multiplexer channel with up to 64 subchannels to permit low-speed devices to operate concurrently.
- Two available selector channels allow attachment of high-speed I/O devices.
- Selector channels can operate in block multiplex mode and increase system throughput by permitting more data to enter and leave the system in a given time period.
- Block multiplexing as a no-charge option.
- An integrated file adapter allows direct attachment of up to five 2314-type disk storage modules.
- An integrated communications adapter attaches up to eight communication lines and can handle combinations of start/stop, and graphic and binary synchronous communication devices.
- DOS and OS/MFT programming systems support, including Recovery Management Support (RMS) to complement standard Model 135 hardware features for greater reliability, availability, and serviceability.
- Integrated emulators operate under DOS and OS/MFT control to permit users of IBM 1401, 1440, and 1460 programs to continue running these programs concurrently with System /370 programs.

- DOS emulation under OS to allow DOS users moving to OS to run most of their present programs under OS control.

- All other OS facilities available because dedicated emulation is not required.

- Extended precision floating point to provide precision up to 28 hexadecimal digits, the approximate equivalent of 34 decimal digits.

- New floating point instructions to provide addition, subtraction and multiplication operations for extended precision data, and the ability to round from long form to short form or from extended to long form.

- Time-of-day clock with one-microsecond resolution to allow measurement of real time, interval time, and elapsed time.

- Error checking and correction for automatic correction of all single-bit processor and control storage errors, and for detection of all double-bit and some multiple-bit errors.

- Microprograms to implement the instruction set and many features of Model 135.

- 24K bytes of reloadable control storage where the microprograms reside - distinct from processor storage - can be expanded to 36K and 48K to implement additional features.

- Console design permits use of either 15- or 85-character-per-second printer/keyboards.

IBM System /370 Model 145

IBM System /370 Model 145 provides greater speed and capability than IBM System /360 Models 30 or 40 without a parallel increase in price. A true growth system, it was developed to permit Model 30 and 40 users to move up to a larger system in an easy and economical manner. It is compatible with System /370 Models 155 and 165.

Model 145 offers fast internal speeds...more channels...faster channels...new all-monolithic storage...new instruction...new input/output devices...and an integrated file adapter.

- Internal speed approximately three to five times that of Model 40 and five to eleven times that of Model 30.
- Processor storage levels make expansion easier and more economical. Increments of processor storage are 112K, 160K, 208K, 256K, 384K, and 512K bytes.
- New instructions added to the existing System /360 instruction set take advantage of the 145's extended performance range and allow more efficient coding and use of storage.
- More channels - and faster channels - than Model 40.
- Channel retry information.
- CPU retry.
- Byte multiplexer channel is functionally identical with that of System /360. Operating in byte mode, up to 256 subchannels are available to permit low-speed devices to operate concurrently. In burst mode, the channel handles one high-speed device at a time. One byte multiplexer channel is standard.
- Selector channels support higher data rates than those of System /360 Model 40, and also allow attachment of higher speed I/O devices. Up to four selector channels are available.
- Block multiplexer channels are supersets of selector channels and increase system throughput by permitting more data to enter and leave the system in a given time period. A block multiplexer channel can be shared by multiple high-speed I/O devices

operating concurrently. Up to four selector channels can operate as block multiplexer channels.

- Integrated file adapter in conjunction with the 2319 Disk Storage Facility provides low-cost control and channel functions for IBM 2314-type drives.

- Emulators that operate under OS and DOS permit users of IBM 1401, 1440, 1460, 1410 or 7010 programs who are emulating on System /360 to move to Model 145.

- DOS emulation under OS allows DOS users moving to OS to run most of their present programs under OS control. Because dedicated emulation is not required, all other OS facilities are available.

- Extended precision floating point provides precision up to 28 hexadecimal digits, the approximate equivalent of 34 decimal digits. New floating point instructions provide addition, subtraction and multiplication operations for extended precision data, and the ability to round from long form to short form or from extended to long form.

- Time-of-day clock for measurement of real time, interval time and elapsed time.

- Error checking and correction automatically corrects single-bit errors and detects double-bit and most multiple-bit errors.

- Byte boundary alignment permitted for operands of non-privileged instructions.

- Microprograms are used to implement the instruction set and many features of Model 145. The 32K bytes of Reloadable Control Storage where the microprograms reside are in addition to processor storage.

- New console design permits use of either 15- or 85-character-per-second printer-keyboards.

- DOS and OS are the major operating systems. They have been extended to include Recovery Management Support (RMS), a feature designed to provide greater reliability, availability and serviceability.