
25

System/360 Model 25
Field Engineering Announcement

The IBM Model 25 Data Processing System is designed as a "growth" system for smaller computer users. It allows greater data processing growth for users of 1401-1440 - 1460 and System/360 Model 20 who wish to expand their computing capabilities.

The Model 25 has program compatibility features which enable it to use 1400 programs as well as the System/360 instruction set.

System Features

16K Microprogram Storage—punched card microprograms can be loaded from a card reader into a reserved area of a conventional core array memory. When using programs written in System/360 language, the customer first loads in the System/360 microprogram deck. This microprogram deck does not need to be reloaded as long as System/360 programs are used. To shift to 1400 compatibility modes, the customer simply loads in the compatibility microprogram deck.

Customer Storage—The Model 25 has available 16, 24, 32 or 48K bytes of customer storage, with a memory cycle time of 900 nanoseconds.

Console Typewriter—The Model 25 requires for minimum system configuration a keyboard printer. This can be used for alter and display operations, and under program control as a message printer for operator instructions and program comments.

Reader-Punch—The IBM 2540 is connected to the central processor through a "Native" attachment built into the CPU. The Native Attachment contains the circuitry which performs the function of an I/O control unit. The 2540 will read 1,000 cards per minute and punch 300 cards per minute.

High-Speed Printer—The IBM 1403 printer (Model II or VII) provides 120 or 132 print positions at a printing speed of 600 lines per minute. It is connected to the 1403 Native Attachment.

Disk Files—Up to four 2311 disk storage drives can be "natively" attached to the Model 25.

Byte Mode Channel—Operating at a 27KB data rate, the Byte Mode Channel is program compatible to an I/O device on the 360/30 Multiplex Channel.

Burst Mode Channel—Program compatibility to a device on the 360/30 Selector Channel is achieved by the Model 25 Burst Mode Channel, which operates at a 30 KB data rate. Additional I/O devices can be attached to the Model 25 through the Byte or Burst Mode Channel features. These features permit the attachment of Tapes (2415 PE or NRZI: 2401 Model 1 NRZI), additional printers and other I/O units operating within the prescribed maximum data rate.

Technology

IBM Solid Logic Technology (SLT) is used in the Model 25. All circuits operate in the nanosecond range.

Monolithic Logic Technology (MLT) is used for the Local Storage Stack. MLT miniaturization allows the Local Storage circuits, consisting of 64 eight-position registers, to be mounted on a single SLT-type card.

Mid-Pack power supplies similar to the supplies used in other System/360 machines provide the voltages used in the Model 25.

The M2-I Core Storage Unit is the basic operating memory of the Model 25. Each read cycle features 18-bit (two byte) readout with automatic regeneration.

Service Highlights

Microdiagnostics—Extensive microdiagnostics, which provide high-resolution fault locating ability, have been created for the Model 25. These microdiagnostics are able to closely identify the type of failure that occurred and to narrow its cause down in many cases to a single failing card. 16K of microdiagnostic storage is available, along with built-in scope loops, timing conditions and a microdiagnostic monitor.

Ce Trap—Entry into a short diagnostic microprogram routine can be forced when conditions previously selected by the CE occur. This will allow the CE to diagnose intermittent problems without interrupting the customer's operation. In addition, the CE trap can be used to set up tight scope loops for solid problems.

Two features of the CE trap are "Branch Trace" and "Stop On Address Contents". Branch Trace allows the CE to trace the path from which a macroprogram routine was entered. The CE can use the trap to stop the system when a selected core location becomes set to a certain bit content. These features are expected to make the CE Trap an effective tool for diagnosing macroprogram problems.

Sync Panel—A multi-purpose CE panel is provided which has available sync points for I/O operations and CPU conditions. It has circuitry which allows the CE to build his own sync conditions. The sync panel can also be wired as a "baby-sitter" to determine if an infrequent error condition has occurred.

Alter-Display—The console typewriter can be used by the CE to display and to change the contents of main and auxiliary storage.

Diagnostic Control Switch—This console switch provides the CE with hardware diagnostic functions. Among these are Scan Storage, Single Address Stop, Worst Case Pattern and Load Storage.

IBM

International Business Machines Corporation
Field Engineering Division
112 East Post Road, White Plains, N.Y. 10601

Design Center Graphics

Printed in USA

229-2130-0