BASF 7/90 Series

PRODUCT DESCRIPTION

BASF's newest IBM-compatible offerings, the 7/90-2 and 7/90-4, are Hitachi-based processors designed to compete against IBM's Sierra Models 3090-200 and 3090-400. When viewed within BASF's own product line, the 7/90-2 offers 2.5 to 3 times more power than the BASF 7/88 of their preceding series. The 70/90-4 exceeds by 1.7 to 1.9 times the internal performance of the BASF 7/90-2.

In commercial applications, the design of the uniprocessor Model 7/90-2 enables it to achieve an internal performance rate 2.0 to 2.5 times higher than the BASF 7/88 Series; in scientific and technical applications, it can achieve a performance rate 3 times higher.

According to BASF, the dual-processor Model 7/90-4 transcends the performance of other mainframes available in today's market and is the fastest IBM-compatible, general-purpose dyadic processor in the world. The 7/90-4 satisfies the needs of very large users by supplying performance levels and upgrade capabilities that were previously unattainable.

The high-performance capabilities of the BASF 7/90-2 and 7/90-4 have been achieved through the following features: newly developed memory and logic chips, newly developed input/output processors, new packaging, two extremely fast 256KB buffer storages, fast 1MB working storage, high-speed arithmetic (HSA) functions, and an optional integrated array processor for scientific applications.

> The BASF 7/90 Series consists of the 7/90-2 uniprocessor and the 7/90-4 dyadic processor. The series offers compatibility with the top-of-the-line models of IBM's Sierra 3090-200 and 3090-400 models.
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> **SCHEDULED DELIVERY: Mid 1986.**

To accomplish its goals of providing high-performance systems, BASF relied on the latest semiconductor technology. The 7/90 Series is constructed from several types of semiconductors, among which are 2,000-gate ECL-VLSI, 40,000-gate CMOS VLSI, and 2,000- to 5,000-gate ECL LSI. Through the use of new circuits and state-of-the-art technology, the 7/90 processor has been built with reduced parts, connector positions, pin contacts, and internal wiring, all of which lower the amount of possible error sources.

Compact in design, the 7/90 processors require reduced floor space and have low power and cooling requirements. The 7/90-4 is air cooled. For hard copy output, the new BASF 6890 laser printer can be used with the 7/90 Series. This compact printer is based on advanced electronics and laser printing technologies and offers a complete in-house method of producing forms through electronic overlays. It can be attached to BASF central processors or their equivalents. Programming support is provided under any operating system that will run an IBM 3203 Model 5 line printer. □
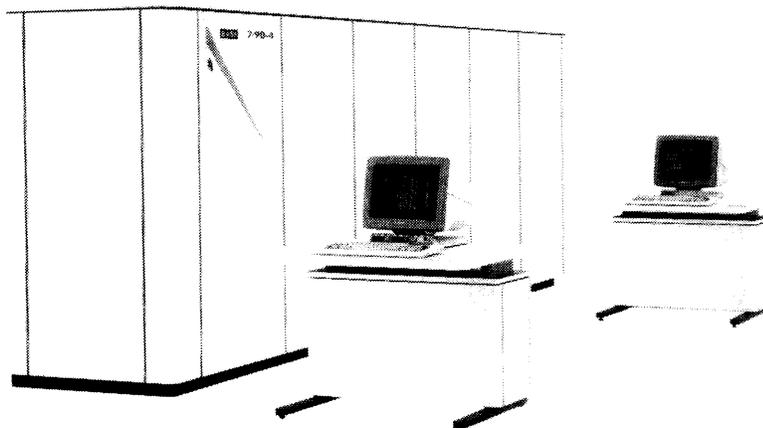
The BASF 7/90-4 is claimed by BASF to be the fastest IBM-compatible, general-purpose dyadic processor in the world.

BASF 7/90 Series

► BASIC SPECIFICATIONS

MODELS: 7/90-2, 7/90-4.

MAIN MEMORY: Memory capacity ranges from 32MB to 256MB, with expansion possible in 32MB increments. In both processors, the technology used is 256K NMOS DRAM with 16-way interleaving.

CHANNELS: The channel arrangements on both the 7/90-2 and 7/90-4 are identical with the exception of the number of channels per system. The 7/90-2 provides 16 to 48 channels; the 7/90-4 has 16. The following information about channels refers to both models.

• two input/output processors

• 0 to 6 byte multiplexer channels per IOP

• 100KB per second maximum data rate BYMPX

• 12 to 24 block multiplexer channels per IOP

• maximum data rate of 3MB per second

• total aggregate data rate of 144.0MB per second

• datastreaming facilities standard on all block multiplexer channels

STANDARD FEATURES: The following are standard features on both the 7/90 models: System/370 architecture; System/370 extended architecture; High-Speed Arithmetic; service processor; 2 seven-color console displays; 32MB main storage; first I/O processor (16 channels); and 2 console printer adapters. The standard features vary in the two models in that the 7/90-2 has one instruction processor, and the 7/90-4 has two; the 7/90-2 has 2 power distribution units including 400 V adapters, and the 7/90-4 has 3 power distribution units including 400 V adapters.

OPTIONAL FEATURES: Optional features on both models include integrated array processors, second I/O processor, additional channels in groups of 8 up to a maximum of 48 channels, and 2 integrated CTCAs.

WORKING STORAGE: BASF has introduced a new level of storage hierarchy in the 7/90 Series. The Working Storage, consisting of one megabyte, is logically situated between the high-speed buffer storage and main storage. Organized in three layers, the Working Storage reduces main storage access time, thereby optimizing the high internal performance of the processor, as well as channel data transfers. Working Storage is completely transparent to all software and peripherals.

BASF 6085/6485/6486 DISK SUBSYSTEM: The BASF 6485/6486 disk units are optimized for large databases. Cross-Call is a standard feature to improve the throughput of these systems in 370 and XA environments. BASF 648X disk drives can be connected to all central processors that use 3MB per second streaming channels running under VM, VSE, or MVS operating systems.

A prerequisite for their use is a BASF 6085-7 or 6085-23 disk control unit which are implemented in VLSI technology. These control units can be configured with 2-, 4-, and 8-channel switches. They have been equipped with their own service processors to monitor operations and supply the necessary facilities for online maintenance. The 6085-23 has a cache buffer of 8MB which can be expanded to a maximum capacity of 64MB and can be accessed by both storage directors.

One string of 648X disk drives consists of one BASF 6485 (5GB) or 6480 (2.5GB) head of string, and a maximum of three additional 6486 (5GB) or 6481 (2.5GB) disk dirves. The full strings yield a total capacity of 20.16GB (6485/6486) or 10.08GB (6480/6481).

Operating system support is offered for DOS/VSE, VM/SP, VM/XA, MVS/SP, and MVS/XA.

BASF 6070/6378 MAGNETIC TAPE SUBSYSTEM: A reel tape system, the BASF 6378 offers performance improvements through data compression. Compatible with the IBM 3420, the 6070/6378 has a data transmission rate nominally up to 3 megabytes per second, thus corresponding to the IBM 3480 system. Data protection on the BASF 6378 without compression is 6 minutes and 39 seconds; with compression it is 4 minutes and 24 seconds.

BASF 6890 PRINTING SUBSYSTEM: A laser system, the 6890 has a printout rate of 88 pages (DIN A4) per minute and can be connected to all current BASF and compatible CPUs. To achieve the connection, the same 3203-5 interface is used that is already operational for conventional impact printers. The printer is 1.4 meters high and requires a floor space of 178 cm by 84 cm.

A Winchester disk is a standard feature of the basic version to store form designs and graphic symbols electronically. If the user wishes, the orientation of the printed output can be turned by 90 degrees, depending on the format of the document being printed to achieve considerable increases in document output.

The 3203-5 interface, developed by BASF, was created in cooperation with OEM suppliers. The connection to the 3203-5 interface facilitates the user's migration to laser technology. In addition, software support is provided from the BASF Software Support Group. Training programs are also offered for the operating personnel.

BASF expects the service life of the drum, the most sensitive part of a laser system, to be at least 1.2 million pages. In early practical tests, lifetime cycles of 5 million pages were recorded. The system works with single-part continuous fanfold paper which is tractor-fed. Both the input and the output capacities are 3,000 sheets. The toner is fixed in an environmentally acceptable heat and pressure process. Several character sets are offered in the standard configuration, and others can be added as the user requires.

SOFTWARE COMPATIBILITY: The BASF 7/90 Series supports all current MVS and VM operating system versions in XA and 370 modes, such as VM/SP, VM/XA, VM/HPO, MVS/370, and MVS/XA. IBM program products and compatible products from other vendors can be implemented. ■