

## Hewlett-Packard HP 3000 Series

### Product Enhancement

Hewlett-Packard has introduced two new entry-level systems into the HP 3000 family, the HP Micro 3000 and the HP Micro 3000XE, as well as a new mid-range system, the Series 52. The Micro 3000 and the Micro 3000XE replace the HP 3000 Series 37, 37XE, and 42 systems, the former low-end systems of the family. The Series 52 is a mid-range system positioned just below the current HP 3000 Series 58 systems.

#### HP Micro 3000 and Micro 3000XE

The HP Micro 3000 and Micro 3000XE systems, designed for the office environment, are the first of the HP 3000 family to contain HP's NMOS III VLSI chip. This technology has only previously been used by Hewlett-Packard on its advanced HP 9000 engineering workstation. The NMOS III VLSI chip has the equivalent of 225,000 transistors, and, according to HP, achieves the highest level of functional integration of any proprietary HP microcircuits. The technology of this single chip replaces the equivalent of 80 devices found on the previous HP 3000 Series 37 CPU board.

The 16-bit VLSI microchip incorporates 16KB of ROM, 480 bytes of static RAM, and a 64-bit microinstruction control path. Included on board are an arithmetic unit, registers, a two-phase clock generator, two programmable logic arrays (central processing unit and input/output), and a full TTL-compatible synchronous interface.

The Micro 3000 places onto a single board the equivalent of four Series 37 boards—the CPU, a VLSI version of the HP-IB peripheral interface controller, and two 2MB memory cards. The Micro 3000XE CPU board adds to those features a 128KB memory cache (identical in size and organization to the high-end HP 3000 Series 70 cache).

The HP Micro 3000 supports up to 16 users, and the Micro 3000XE supports up to 56 users; in addition, up to 30 personal computers can be tied into either system using any of HP's local area networks (LAN). From 2MB to 4MB of memory are offered on the Micro 3000, and from 2MB to 8MB are offered on the Micro 3000XE. However, the NMOS chip, operating with an 18MHz internal clock and a 9MHz microinstruction execution rate, is capable of addressing up to 32MB of system memory. In addition, with faster processor and expanded main memory, both systems can use HP's disk-caching software, improving system performance in I/O-intensive commercial applications. Both systems support HP's 81MB, 130MB, 307MB, and 571MB disk drives. The maximum disk capacity for the Micro 3000 is 2.2GB and for the Micro 3000XE is 4.5GB.

The systems are bundled with all required hardware and software, including the disk drive, tape backup system, console and cables, and systems software.

A four-user HP Micro 3000 system, including 2MB of main memory, HP's Multiprogramming Executive (MPE) operating system and utilities, HP TurboImage data base management system, 81MB disk drive, four HP 2392A terminals, and a cartridge tape backup, is priced at \$25,730.

The HP Micro 3000 can be field-upgraded to the HP Micro 3000XE. According to HP, this can be done in about two hours by swapping a single CPU board. This upgrade is priced at \$8,500.

The 3000XE, configured the same as the Micro 3000 above except with support for 12 users and a 130MB disk drive, costs \$57,500.

The systems are available through HP's direct sales force, as well as through HP's Value-Added Channels.

#### HP 3000 Series 52

The Series 52 incorporates many of the same features as the larger Series 58, including the same processor and support for 4MB of main memory, expandable to 8MB in 2MB increments. The system also provides the same 32KB memory cache on the processor, which, according to HP, optimizes memory access time and improves overall system performance.

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The system can support as many as 92 terminals or personal computers. It also supports all the peripherals and data communications and applications software presently supported on the previously marketed Series 42, allowing for complete upgradability and portability. This software includes the HP DeskManager, Version B office software, as well as HP-to-IBM communications systems.

In addition, the Series 52 supports up to eight disk drives of 28MB, 55MB, 65MB, 132MB, or 404MB for a maximum capacity of 3.2GB. It also supports up to four tape drives and four system line printers or eight serial printers.

Three synchronous lines for system-to-system or multipoint communications are available as well.

The Series 52 is software-compatible with the other members of the HP 3000 series and includes HP's MPE operating system and HP's TurboImage data base management system.

A configuration consisting of the Series 52 processor with 4MB of main memory, two I/O channels, and fundamental operating software (HP MPE V/E, TurboImage/V data base management system, plus additional system utilities) is priced at \$45,000. Delivery of the new system is six to eight weeks after receipt of order.

#### Analysis

The entry-level Micro 3000 CPU performs at a 50 to 60 percent improvement over the Series 37 CPU, with total system level performance similarly improved by up to 35 percent, yet is priced 21 percent lower. The HP Micro 3000XE, offering performance comparable to that of the HP 3000 Series 42, costs about 30 percent less. Hewlett-Packard also claims it expects users of the HP Micro 3000XE will save up to 70 percent on monthly hardware support costs as compared to the Series 42.

The introduction of the low-end HP Micro 3000 office systems offering lower cost as well as increased performance will strengthen HP's position in the office market. These systems were very much needed to help HP in combating one of its most intense competitors, the IBM System/36, and come in the wake of IBM's announcement of the System/36 Model 5360 D, also introduced with increased performance and memory.

The HP 3000 Series 52 system is designed to be used as a major node in a distributed data processing network or in a standalone business environment for manufacturing, retail, wholesale, financial, and legal applications. The system provides another stepping stone for upgradability in the HP 3000 family; it provides an upgrade path to the high-end Series 70, as well as to the Series 930, HP's Precision Architecture (RISC) system.

The Series 52 system provides a 30 percent performance improvement over the Series 42, as well as four times more main memory. □