
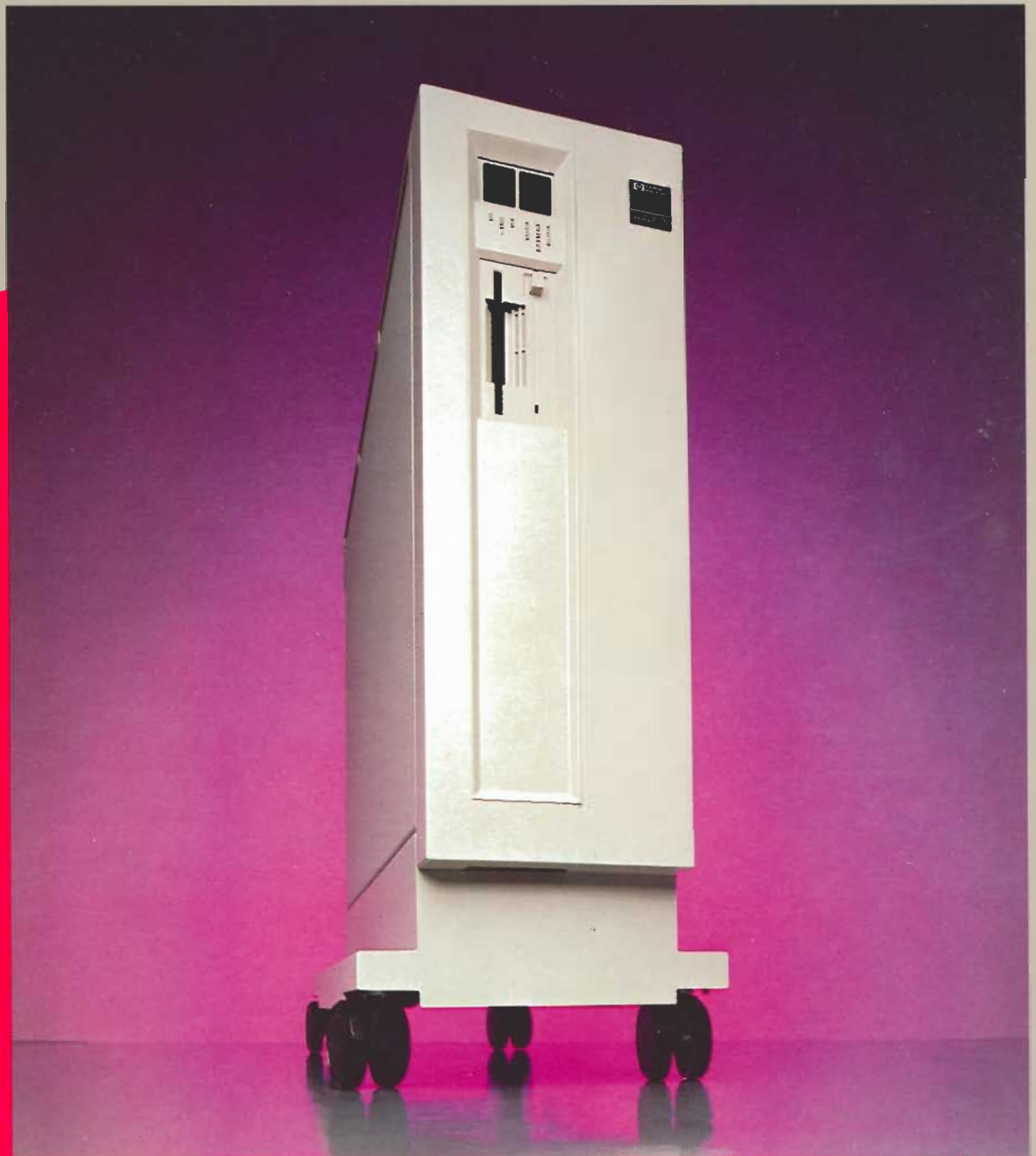


Micro/1000 Computer Systems

 HEWLETT
PACKARD

The new breed of A-Series systems
that delivers giant performance
in compact, low-cost packages



HP Micro/1000 Computer Systems

**Price/Performance champions
unleash big system power, speed and flexibility**

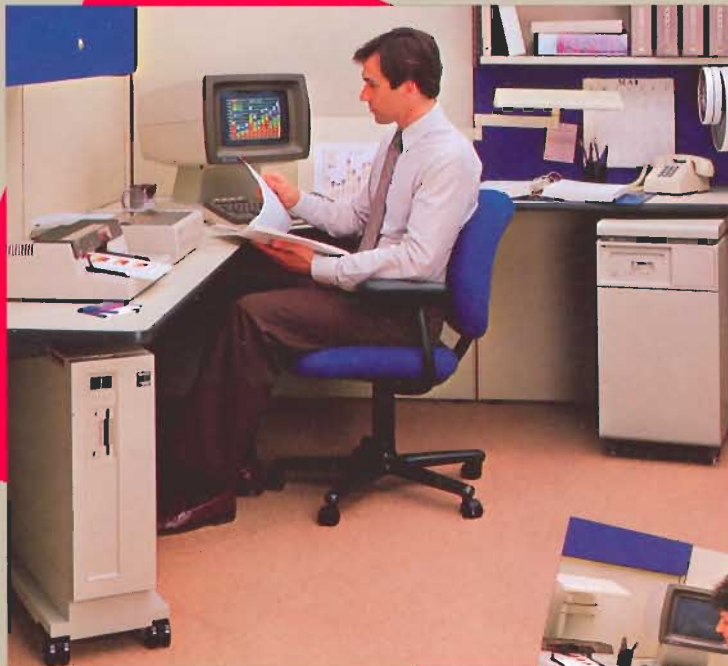
Challenging speed, power and performance standards once achieved only by much larger, more expensive mainframes, the Micro/1000 family of compact real-time computer systems takes command of virtually any task put before it.

The Micro/1000 family brings together major new capabilities, now inherent to the HP 1000 A-Series computers, with innovative architectural design to deliver a powerful range of performance in three uncompromising, compact systems: the Micro 26, the Micro 27 and the Micro 29.

Providing a newly-designed 16-slot card cage, Micro/1000 houses your choice of an A-Series central processor, extensive memory capacity, control store, I/O cards, and measurement and control cards, with dedicated slots for plug-in battery back-up and 25 kHz sine wave cards. With all these powerful features, ample space is still available for an optional 14.5 megabyte mini-Winchester fixed disc and a 270 kilobyte microfloppy. Also available for Micro/1000 systems is MAC/1000, an easy-to-use family of components for real-time, low-point count measurement and control applications.

Compact, modular package boasts built-in flexibility

Built tough to withstand adverse environmental conditions, each Micro/1000 system is packed in a rugged, compact encasement. And now, an accessory stand with wheels allows your system to be conveniently placed next to or under your desk without cannibalizing limited work space. The package can also rack in a 19-inch EIA cabinet or sit on a benchtop.

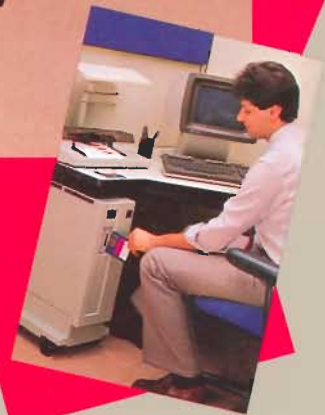


A-Series Microsystems provide big system performance in a compact package.

Its innovative, modular design permits convenient access to components for easy replacements, additions and repairs. Designed-in modularity also provides an easy growth path allowing for the addition of I/O cards and peripherals to help you tailor the precise performance level you require, at unbeatable prices.

Identical hardware and software open up new dimensions in performance

Maintaining the identical hardware and software of the A-Series family provides the Micro/1000 family total compatibility with all currently supported HP instruments, terminals, printers, graphic plotters, discs and communication links. This contributes to its high performance, functionality and flexibility. Con-



Vertical floor-mount Micro/1000 provides easy access to integrated peripherals.

sequently, a Micro/1000 system can be configured with an A600+, an A700, or an A900 to meet your power requirements now and in the future, while protecting your initial software investment.

RTE-A, HP's new, full-function operating system, is the commanding force behind the Micro 26, 27 and 29 operations. Providing true multi-user program development in a friendly environment, this real-time multi-programming operating system allows you to efficiently build large, sophisticated applications.

RTE-A supports virtual memory for data arrays up to 128 megabytes and extended memory areas for main memory resident data arrays up to 1.99 megabytes when sufficient physical memory is available.

Further expansion of the operating system's capabilities is provided by Virtual Code Plus (VC+), an enhancement package which supports separation of program code and data, plus allows users to write, compile, load and execute large programs without special conversions.

Bringing together the new capabilities inherent to RTE-A with VC+ provides you with one of the industry's most powerful real-time systems — software crucial to the development of today's complex, real-time applications.

Micro 26

Executing a fast one million instructions per second, this mighty microsystem has been designed with all the capabilities of a mid-range minisystem, yet at the price of a micro. The Micro 26 is a true multi-user system capable of supporting 8 to 10 users, concurrently. Based on the HP 1000 A600+ microcomputer, which supports up to 8 megabytes of memory, the Micro 26 provides greatly multiplied capabilities via its 16-slot card cage. As a result, you can select additional power and functionality for the performance level your application requires. Applications include computer numeric control, energy management, process control and automated tests.

Micro 27

Incorporated in the Micro 27 is the exceptionally fast, microprogrammable A700 minicomputer, which supports up to 4 megabytes of parity memory. One of the most powerful members of the HP 1000 family, the A700 adds to the capabilities of the A600+ by offering a variety of options to make it easily customized. These include a single board Computation Acceleration Processor with powerful scientific and vector instruction sets, a microprogramming package and up to 8 megabytes of error-correcting memory. With capabilities crucial to performance-critical applications, Micro 27 is ideal for data acquisition, process control and supervision of a cluster of dedicated processors.

Micro 29

The driving force behind the Micro 29 is the powerful A900 supermini. Its pipeline implementation combines with 4 kilobytes of cache memory, standard floating point processor, plus scientific and vector instruction sets to provide lightning-fast calculations at speeds up to 3 MIPS. Further performance enhancements are provided by up to 6 megabytes of error-correcting memory. A true multi-user system, the Micro 29 supports up to 32 users simultaneously.

Diverse capabilities of this powerful Micro 29 range from computation instrumentation and operations management to tasks requiring high-speed graphical analysis and display capabilities.



RTE-A, HP's full-function real-time operating system supports true multi-user program development for sophisticated applications.

Micro/1000 Specifications

Over the years, our goal has always been to produce consistently high-quality products. Consequently, the designing and manufacturing of every HP component adheres strictly to exacting, uncompromising standards of quality. The efforts of our people and resources are also targeted toward this singular goal. Our worldwide service assures levels of optimal performance from your HP product, now and in the future.

	Micro 26	Micro 27	Micro 29
Speed of fastest instruction	1,000,000 inst/sec	1,000,000 inst/sec	3,000,000 inst/sec
Floating point execution speed	64,000 oper/sec (average)	204,000 oper/sec (average)	500,000 oper/sec (average)
Memory capacity	512 kb - 8 Mb	512 kb - 8 Mb	768 kb - 6 Mb
Error Correcting Code	Opt. to 8 Mb	Opt. to 8 Mb	Std.
Cache memory	No	No	4 kb
I/O bandwidth	4.3 Mb/sec	4.0 Mb/sec	3.7 Mb/sec (input) 2.5 Mb/sec (output)
DMA	Per channel	Per channel	Per channel
User micro-programmable	No	Yes	Yes
Control store capacity	N/A	16K 32-bit inst. words	6K 48-bit inst. words
Scientific instruction set (SIS)	No	Opt.	Std.
Vector instruction set (VIS)	No	Opt.	Std.
Integrated 14.5 Mb Winchester and 270 kb micro floppy	Opt.	Opt.	Opt.
Available as:			
*micro system	Yes	Yes	Yes
*box computer	Yes	Yes	Yes

*Can be mounted on stand with wheels, or racked in a 19" EIA cabinet, or placed on a benchtop.

Wide Range of Peripherals

Integrated 14.5 Mb Winchester and 270 kb microfloppy optional
 Terminals: character/block mode, alpha/graphics
 Fixed discs: 28, 65 and 132 Mb with integral tape backup
 23.8, 55.5, and 404 Mb without tape backup
 Removable media discs: 404 Mb
 Printers: thermal, dot-matrix impact, laser, and daisywheel
 Graphics Devices: plotters, digitizers, tablets, color graphics displays, printers



Advanced I/O Capabilities

Serial, parallel, HP-IB (IEEE-488), 8-channel serial multiplexer, programmable serial interface (PSI), PROM modules, 8-channel A/D (expandable to 40 channels), 4-channel DAC, digital I/O, communications, color video monitor, and breadboard interfaces

Very High Reliability and Maintainability

RTE-A Specifications

Capabilities

Disc or memory based
 True multi-user, multi-programming
 Maximum virtual data (VMA): 128 Mb
 Maximum in-memory data (EMA): 1.99 Mb
 Sharable EMA between programs
 Fixed or dynamic memory allocation
 Typical system generation time: 15 min
 Power fail auto restart
 Hierarchical file system
 Priority-based scheduling with time-slicing

VC+ Capabilities

File protection
 Logon/Logoff
 Sharable code
 Outspooling
 Maximum virtual code: 7.75 Mb

Real-Time Program Scheduling

By time, event, another program, or an operator.

Programmer Productivity Tools

Friendly command interpreter
 Backup utilities
 Interactive screen editor
 Symbolic Debugger w/profiler
 Relocating/absolute loaders

Programming Languages

FORTRAN77
 Pascal/1000
 Macro/1000 macroassembler
 BASIC/1000C

Feature Software Products

Image/1000-II data base management system with Query access
 DSN/Distributed Systems, DSN/MRJE networking through point-to-point multidrop, or X.25 connections
 Graphics/1000-II device-independent graphics software and advanced 3D and interactive graphics software
 Quality management software
 Programmable controller communications software