

HP 9000 Series 800 Model 850S Computer System



HP Precision Architecture
systems give you top performance
for less money ...



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HP 9000 Series 800 Model 850S

Discover the highpoints of HP Precision Architecture.

The HP 9000, Model 850S puts you right on top of the most advanced computing—on top of a new world where simpler means better, faster, more reliable.

It's the world of Reduced Instruction Set Computer (RISC) architecture, where a simplified instruction set implemented directly in hardware delivers superior performance for less money. Hewlett-Packard (HP) has gone *beyond* RISC to create the powerful HP Precision Architecture family of HP-UX* super minicomputers for general purpose, engineering, scientific, industrial, and business applications.

With reduced complexity design, our systems have fewer components, which means higher reliability and lower cost of ownership over the lifetime of your system. And because they're designed to adhere to current and future industry standards for operating systems, networking, languages, graphics, and data bases, you can cut development costs while your investment keeps growing.

HP is the first major computer vendor to combine a 32-bit reduced complexity architecture and a real-time, UNIX** operating system* in a scalable family of compatible computers. Compatibility between the systems assures that the same applications software, subsystems, peripherals, and I/O cards may be used between the processors.

The HP Precision Architecture family delivers excellent computational performance at a low cost. Designed for multi-user environments, you can choose a system to manage your most ambitious application programs.

To protect your current computing investment, our upgrade programs allow you to purchase HP computers now, with the confidence of receiving generous trade-in credits if you require more processing power later.



A well-balanced design for superior performance.

The Model 850S is the fastest, most powerful member of the HP Precision Architecture family. Its reduced complexity, well-balanced design is optimized for performance. A high-performance CPU combined with an unique memory management subsystem and very high-speed I/O maximizes throughput to complete your work faster. A large 128K cache memory, 220 MB per second cache bus, three-stage instruction pipeline, floating point co-processor, and optimized software compilers contribute to the Model 850S' overall superior performance.

Its performance is over 60 percent faster than the Model 840S. A series of commonly used benchmarks places the Model 850S' uniprocessor performance in the top of the super minicomputer class.

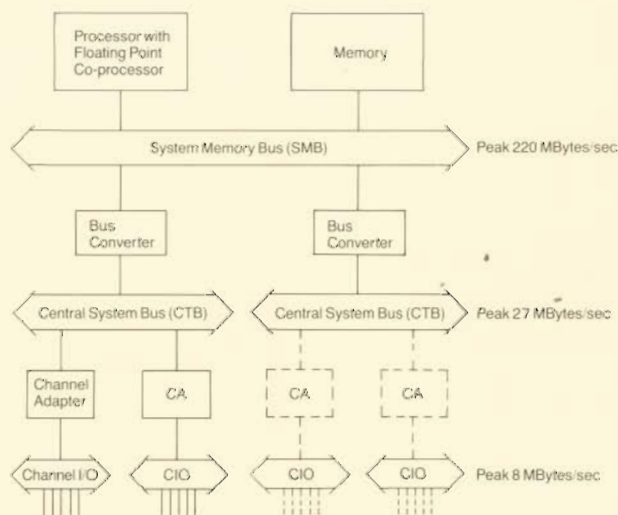
Expansion options for your future needs.

The Model 850S is also designed to be the most expandable system in our family. So while you start at the top, you can keep growing from there.

For example, your 850S system can be configured with a wide range of memory—from 16 MB to 128 MB. You can have four channel I/O connections for up to a total of 20 I/O cards or peripheral connections. To let you make connections to other vendors' systems, the Model 850S also provides industry-standard network services such as ARPA/Berkeley and IEEE 802.3.

And since the Model 850S utilizes HP's advanced NMOS III VLSI technology, all this power and expandability is also more compact (the entire processor and floating point coprocessor are on a *single* board). It's also more reliable and affordable than similar class machines implemented in technologies such as ECL.

Model 850 System Structure



The Model 850 is a reduced complexity design optimized for high performance.

— Initial Configuration
--- Optional



Versatility for your applications.

With its fast processing and floating point performance, the Model 850S is the ideal choice when greater performance is demanded for multi-user, compute-intensive, and real-time applications.

For example, in engineering applications, the Model 850S provides the power needed to perform such heavy computation as large scale system simulation or extensive data base manipulation.

In scientific environments, the Model 850S can serve an entire department of research scientists, performing such tasks as modeling, simulation, and statistical analysis.

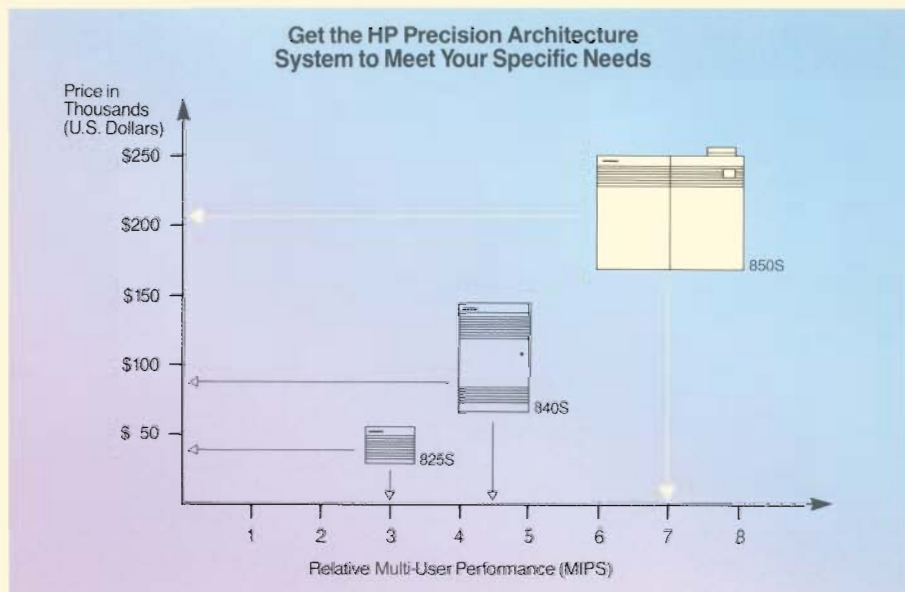
In business applications, the hierarchical I/O structure and fast processor performance makes the Model 850S ideally suited for a variety of tasks. The system may be used for data entry, office automation, and data base maintenance.

For communications, the 850S' high data throughput capabilities make it an excellent fit for applications such as network management and control, message switching, navigation, and satellite control.

Get more for less.

Because of its innovative, reduced complexity architecture, the entire HP Precision Architecture family offers you outstanding price/performance values. The Model 850S SPU package includes:

- CPU
- Floating Point Co-processor
- Battery Back-up Unit
- Power Supply
- SPU Cabinet
- 16 MB Error Correcting Memory
- HP-IB Interface
- 6 Channel Serial Multiplexer
- 2 Channels providing 10 I/O slots for connecting peripherals, networking, or instruments



- Access Port for Remote Diagnostics
- 32-user HP-UX License
- Documentation

HP is the leader in service and support.

As with all HP products, the Model 850S gives you access to the added value of HP service and support. Over the past six years, HP has been rated #1 in service and support categories, and #1 in overall customer satisfaction more consistently than any other computer vendor in surveys by Datapro Corporation. Our worldwide local support teams are comprised of experienced HP hardware, software, and sales engineers. One telephone call can produce assistance whenever and wherever it is needed—from 300 locations in 72 countries.

Offering the highest system throughput and floating point performance, the Model 850S is also designed for greater expandability in terminal/device connectivity, memory, and I/O bandwidth.



Specifications

Industry Standards	
Operating System	UNIX System V Interface Definition, Issue 2, Volume 1
Data Base	HP's ALLBASE is compatible with IBM's Structured Query Language (SQL)
Networking	ARPA/Berkeley, TCP/IP, IEEE 802.3
Graphics	Starbase Graphics Library (ANSI/ISO CGI), HP GKS (ANSI/ISO Graphical Kernel System)
Windowing	X-Window
Languages	FORTAN '77, C, Pascal, COBOL/HP-UX
Capacity	
Memory	16 MB ECC expandable to 128 MB
Available I/O Channels	4 channels provide 20 card slots
Terminals/Serial Ports	102 currently; higher multi-user capacity is planned for the future
Disc Memory	18.27 GB
Central Processor Unit	
Word Size	32-bit
Base Instruction Cycle Time	73 nanoseconds
Cache Size	128 KB
TLB Entry Size	4096
System Memory Bus Speeds	220/100 (peak/average) MB/second
Central System Bus Speeds	27/21 (peak/average) MB/second
Channel I/O Speeds	8/5 (peak/average) MB/second
Floating Point Co-processor	
Floating Point Instructions	40
Floating Point Format	ANSI/IEEE 754-1985 standard
Instruction Set	
Maximum Number of Base Instructions	140
Number of 32-bit General Purpose Registers	32
Main Memory	
Virtual Memory Address Space	48-bit addressing (281,000 GB)
Physical Address Space	29-bit addressing (512 MB)
Operating Environment	
Temperature	
Operating	5 to 40° C (41 to 104° F)
Non-operating	-40 to 70° C (-40 to 158° F)
Relative Humidity	20 to 80 percent at 40° C Non condensing
Altitude	
Operating	to 4.6 Km (15,000 ft)
Non-operating	to 15.3 Km (50,000 ft)
Maximum Heat Dissipation	15,000 BTU/hr
Electrical Specifications	
Line Voltage/Frequency	208 VAC (± 10%) 3 phase @ 60 Hz (± 2%) 380 VAC (± 10%) 3 phase @ 50 Hz (± 2%) 415 VAC (± 10%) 3 phase @ 50 Hz (± 2%)
Maximum Power Required	3500W
Battery Backup Time	15 minutes minimum
Physical Characteristics	
Weight	400 Kg (880 lbs)
Dimensions	Height 1000 mm (39.4 in) Width 1300 mm (51.2 in) Depth 710 mm (27.9 in)

*HP-UX complies with the proven, industry standard UNIX System V Interface Definition, Issue 2, Volume 1.

**UNIX is a registered trademark of AT&T in the U.S. and other countries.

Technical data subject to change.



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Start on top, stay on top.

For more information on how the HP 9000, Model 850S and our other HP-UX systems can give you top performance for less money, simply call your local Hewlett-Packard sales office listed in your telephone directory. Or call one of the HP sales offices listed below.

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