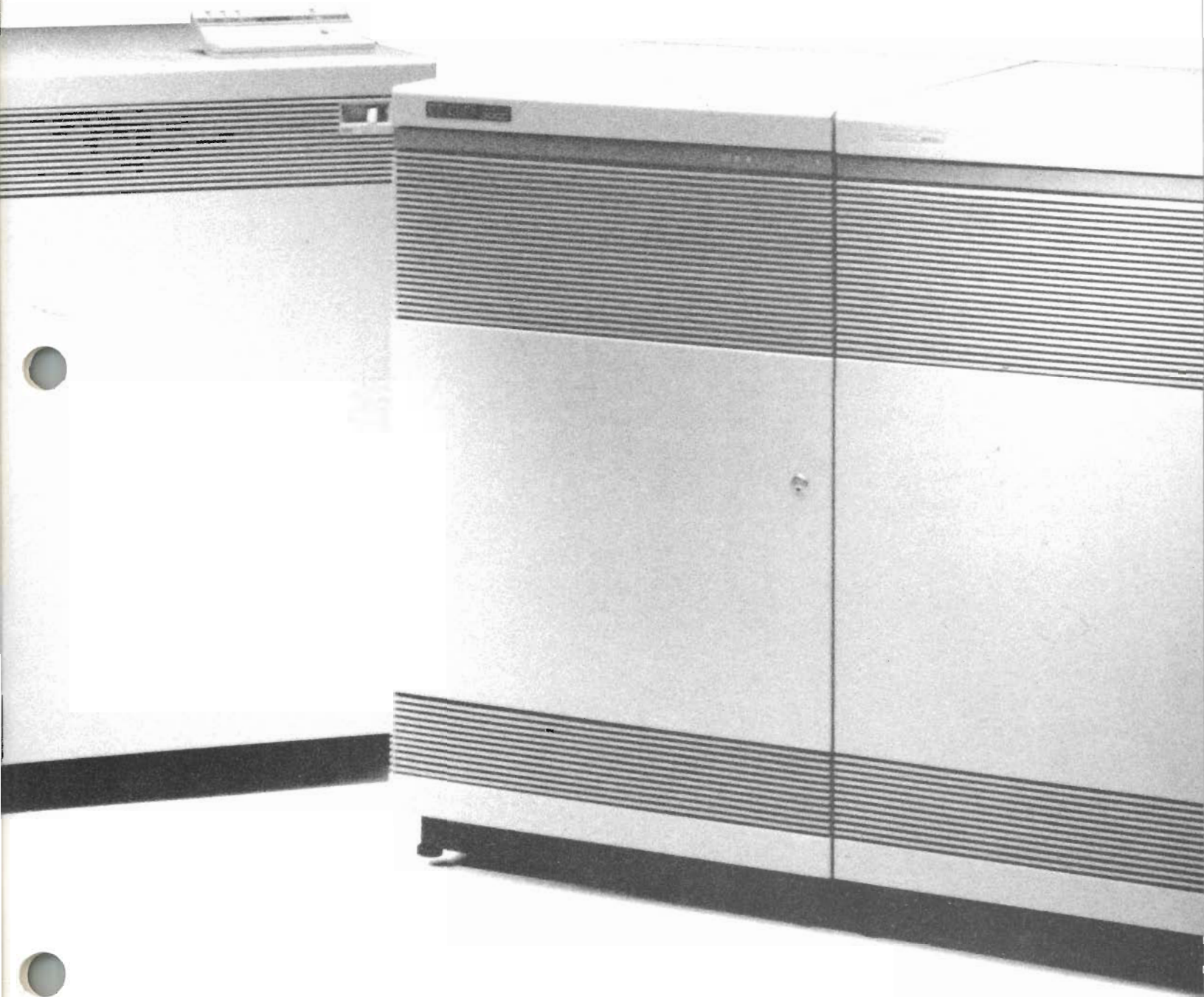


# HEWLETT-PACKARD

## **Series 950**

**HP 3000**

Sales Guide



Internal Use Only

**HP Computer Museum**  
**[www.hpmuseum.net](http://www.hpmuseum.net)**

**For research and education purposes only.**

# Series 950 Sales Guide

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# HP 3000 Series 950

## Key points

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<b>Pricing &amp; Product Structure</b>	Series 950 Preconfigured System product number 32490A, priced at \$260K. Includes 32 MB main memory, Floating Point Coprocessor, 2 Channel I/O Busses, MPE XL FOS, TurboImage/XL, Allbase SQL, Allbase HPIImage (supplied at a later date) and System Dictionary/XL.
<b>Key Contributions</b>	<ul style="list-style-type: none"><li>* Provides attractive upgrade for Series 70</li><li>* Delivers leadership price/performance for high-end systems</li><li>* Matches DEC VAX in high-end performance</li><li>* Delivers leadership technology</li></ul>
<b>Ordering Information</b>	CPL date June 1, 1987. Series 930 orders can be switched to the Series 950 with position in backlog maintained.
<b>Availability</b>	Shipments beginning 4Q Calendar 1987
<b>Product Line Positioning</b>	High-end HP 3000 system, primary upgrade path for installed Series 70 systems. Co-exists in HP 3000 product line with Series 70 and Series 930.
<b>Competitive Positioning</b>	Higher performance than the IBM 9370-90 at a comparable price. Comparable performance at half the price of DEC VAX 8550, and DEC VAX 8700.
<b>Configurability</b>	Memory support up to 128MB. Up to four Channel I/O Busses supported. Supports same peripherals and same device maximums as Series 930.
<b>Key Programs</b>	Series 70 to Series 950 upgrade program provides 80% effective return credit on purchase price of Series 70 towards purchase of Series 950. Series 950 customers eligible for previously announced programs such as HP 3000 datacomm server, special return program, and recently increased upgrade credits for Series 6X/70 add-ons. Series 930 Backlog Program allows for customers in the backlog as of May 18, 1987 to take delivery of a Series 950 for a net price of \$225K.



# Product Overview

- \* **Introducing The Series 950 . . . . . 4**
- \* **Designed For Performance . . . . . 5**
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# Introducing The Series 950

High technology provides high performance & price/performance leadership!

Coupling advanced VLSI technology with HP Precision Architecture has resulted in the highest performing HP 3000 system ever: the 7 MIPS Series 950! The Series 950 is in the performance class of the IBM 4381 systems, and offers comparable performance to the highest performing DEC systems for commercial environments, the VAX 8550 & 8700!

## Leadership price/performance and lower ownership cost!

The Series 950 carries a 50% price advantage over comparably performing competitive systems, and is thus an industry leader in high-end price performance! And the much lower purchase price, coupled with the low support costs of the Series 950, gives the Series 950 a 3-year cost of ownership that is up to 40% lower than the competition!

## The primary Series 70 upgrade path

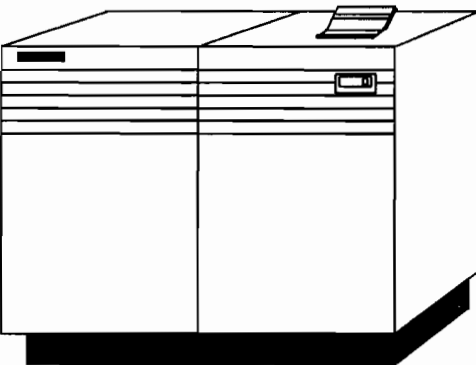
The Series 950 is the primary upgrade path for installed Series 70 systems. Consistent with our product line strategy of protecting customer investments, an extremely attractive 80% return credit will be provided for Series 70 customers towards the purchase of a Series 950.

## Leadership technology makes it all happen

The Series 950 utilizes state-of-the art VLSI technology, and coupled with the advanced HP Precision Architecture, illustrates the technology leadership position of the Series 950. It is this technology leadership which allows for the high performance, great price/performance, and high processor reliability of the Series 950!



## SERIES 950 AT A GLANCE



The diagram shows a large, rectangular computer system with a front panel featuring several horizontal slots and a small display or control area on the right side. The system is shown from a three-quarter perspective, highlighting its depth and the front panel details.

**HIGH PERFORMANCE**

- \* 7 MIPS PROCESSOR
- \* SERIES 70 UPGRADE ACROSS ALL ENVIRONMENTS
- \* COMPARABLE PERFORMANCE AS BIGGEST VAXES!

**LEADERSHIP PRICE/ PERFORMANCE**

- \* HALF THE COST OF DEC VAX 8550
- \* LESS THAN HALF THE COST OF DEC VAX 8700
- \* MUCH LOWER COST THAN IBM 4381's

**EXPANDABILITY**

- \* UP TO 128 Mb MEMORY
- \* UP TO 4 HIGH SPEED CIBS
- \* 3-LEVEL BUS HIERARCHY TO SUPPORT LARGE CONFIGURATIONS

**HARDWARE RELIABILITY**

- \* VLSI=FEWER PARTS TO FAIL
- \* LOW SUPPORT COST FOR SPU
- \* DECREASED SUPPORT COSTS FOR PERIPHERALS (EX: 7937H)

**ADVANCED TECHNOLOGY**

- \* SINGLE CHIP VLSI CPU
- \* SINGLE BOARD PROCESSOR
- \* PRECISION ARCHITECTURE: STATE OF THE ART!

**PRECONFIGURED SYSTEM PRICE \$260K**  
**SHIPMENTS BEGINNING 4Q 1987**

# Designed For Performance

## Fast CPU, and the I/O to match

The inherent performance advantage of HP Precision Architecture, combined with fast, high density VLSI technology results in a high-performance 7 MIPS CPU on a single chip! No other vendor in the computer industry offers a 7 MIPS, single-chip CPU implementation for multi-user commercial environments!

### Ultra-high speed bus connects to memory

To increase system performance by minimizing the number of accesses to I/O devices, the Series 950 supports a huge 128MB main memory. Performance is further boosted by the 64-bit wide, 100MB/Second System Memory Bus (SMB), which ensures that data can be transferred from memory into the CPU as quickly as possible.

### Floating point coprocessor standard

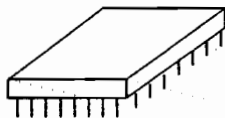
High performance floating point coprocessor hardware is standard on the Series 950, ensuring high performance in applications which utilize floating point, such as statistical or numerical analysis applications.

### I/O bandwidth to support large configurations

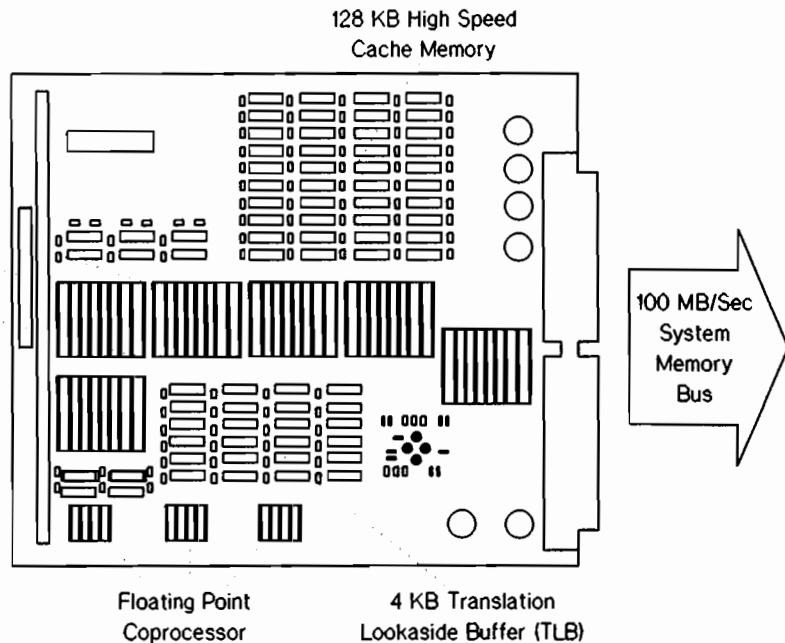
The Series 950 supports a three-tiered bus structure, with the second tier consisting of two Central Busses (CTB's) dedicated solely for I/O, each of which can support up to 20MB/Second. Thus the Series 950 not only provides high performance for the initially supported I/O configurations, but also has the power and flexibility to support even larger configurations in the future!

## SERIES 950: INDUSTRY LEADING TECHNOLOGY

### CPU On A Chip



- 7 MIPS
- 144,000 Transistors
- Functionality of 8 Boards in Series 70



### Single Processor Board

# Reliability

## High technology also delivers high processor reliability!

### VLSI = high reliability

VLSI is used for most key functions on the Series 950, including not only the processor but also memory control functions and I/O bus adapters. This results in a very small number of parts to be required for the SPU, and as hardware reliability is directly dependent upon the number of parts used, the hardware reliability of the Series 950 is very high!

### Less than half as many parts as the Series 70!

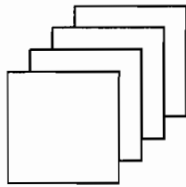
The single-chip Series 950 CPU provides equivalent functionality as eight of the CPU boards in the Series 70, and the functionality of the entire eleven board Series 70 CPU is provided

on the single-board Series 950 processor! In all, the Series 950 has less than half as many parts as the Series 70, yet delivers significantly higher performance! In comparison to competitive systems, the reduced part count of the Series 950 directly results in an SPU which fails less often, and thus the support prices of the Series 950 are up to 70% less expensive than competitive IBM and DEC systems!

### Coupled with more reliable 7937H discs

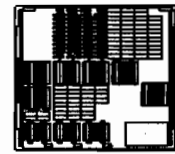
Further contributions to system reliability are provided by more reliable high-end peripherals, particularly the new 7937H disc drives. The 7937H not only offers a very attractive price/MB, it also provides the best reliability ever for HP discs!

## THE VLSI ADVANTAGE

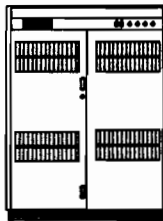


**VAX 8550**  
8 CPU BOARDS

**VLSI + HPPA**  
⇒ *FEWER PARTS*

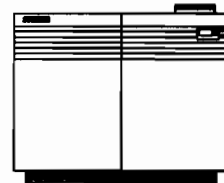


**SERIES 950**  
1 CPU BOARD



**VAX 8550**  
SMMC = \$1675

**FEWER PARTS**  
⇒ *HIGH RELIABILITY &  
LOWER SUPPORT  
COSTS*



**SERIES 950**  
SMMC = \$566

# Price/Performance Leadership

## Series 930 and Series 950 are price/performance leaders!

### Price adjustments in response to competitive moves

Since the introduction of the Series 930 and announcement of the Series 950 in February 1986, there have been very significant competitive moves at the high end by both IBM and DEC. IBM in particular has significantly boosted price/performance with the IBM 9370 systems, while DEC has replaced the VAX 8600 and VAX 8650 processors with the 8530 and 8550 systems. Our response to these moves by the competition is reduced prices for the Series 930 and Series 950, which allow us to maintain our significant price/performance advantage over IBM and DEC! With HP Precision Architecture providing for high performance systems which are relatively low cost to manufacture.

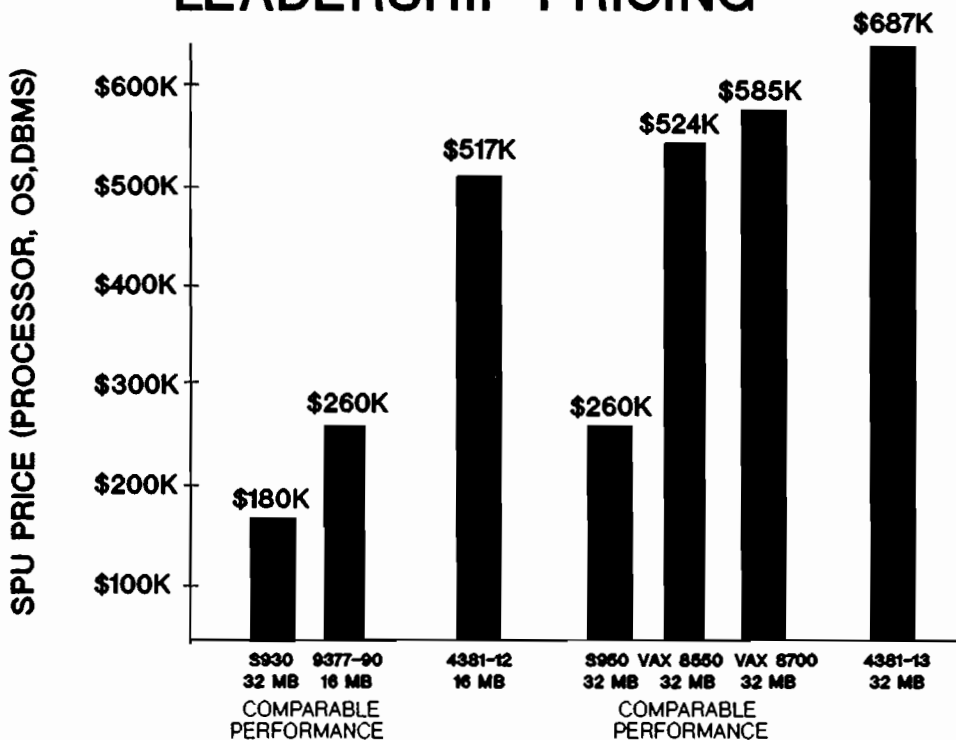
### 30%-50% price/performance advantage vs. DEC

The Series 930 offers comparable or higher performance than the VAX 8530, yet is priced over 30% less! The Series 950 offers comparable performance as the VAX 8550 and VAX 8700 systems, but is priced at less than half of either! Even with the large discounts that DEC may offer for big deals, HP still maintains a big price/performance advantage!

### 40% advantage vs. IBM 9377-90!

Compared to IBM systems, the Series 930 offers higher performance than the 9375-60 at a comparable price, and delivers comparable performance as the IBM 9377-90 (with DOS/VSE) at a 30% lower price! The Series 950 offers higher performance than the 9377-90 at a comparable price, and has a huge price advantage versus the IBM 4381!

## LEADERSHIP PRICING



# Series 950 Configurability

## Better support for large configurations

### More memory than competitive systems!

Use of new 1MBit RAM technology allows up to 128MB main memory to be supported on the Series 950! This degree of memory configurability is matched only by the very largest VAX processor, the VAX 8700! I/O hardware capacity has also been significantly increased, with up to 4 CIBs supported, for a total aggregate I/O bandwidth of up to 20MB/Second: over twice the I/O hardware capacity of the Series 70!

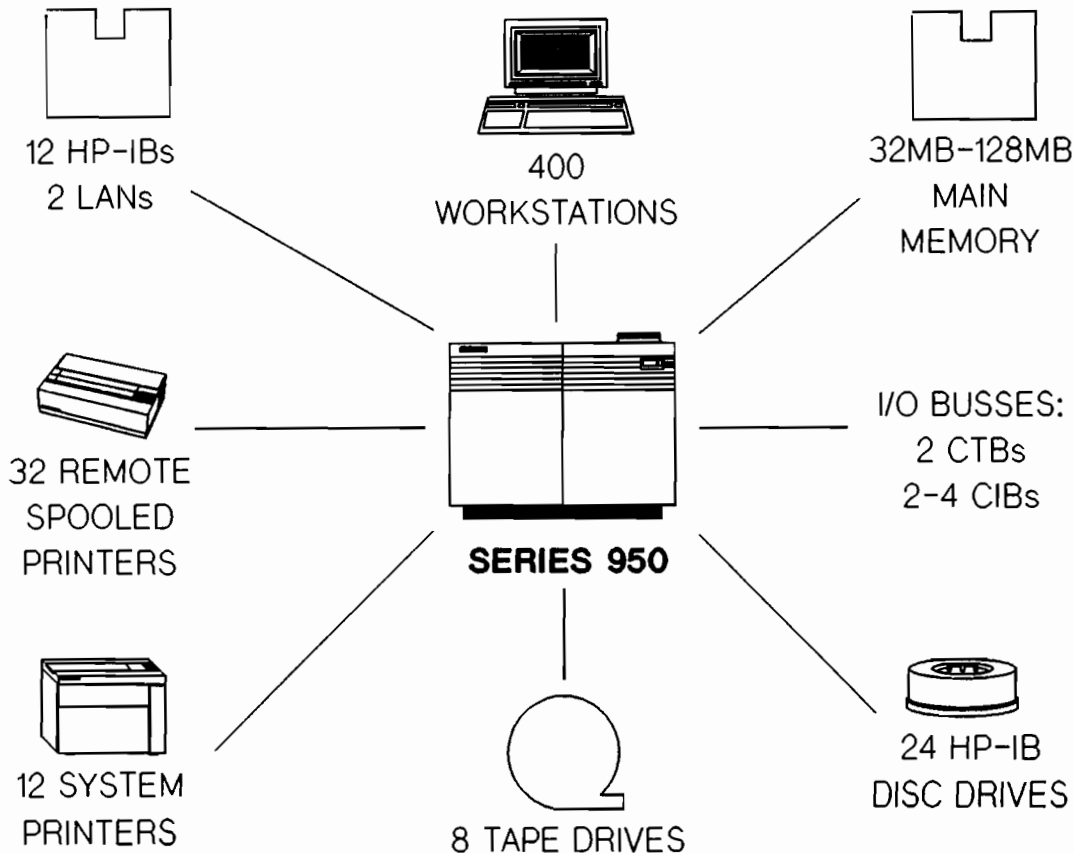
### Maximum peripheral configurations typically same as Series 70/930

As with the Series 930, discs, tapes, and printers are connected via HP-IB interfaces, and workstations are interfaced to the system via Distributed Terminal Controllers situated over an 802.3 LAN. The maximum number of discs,

tapes, and workstations supported on the Series 950 is the same as the Series 70 and Series 930 (see the Series 930 configuration guide for details), but note that the increased power of the Series 950 allows larger I/O configurations to be more effectively supported.

### Plan to increase Series 950 configurability over time

In the future, it is our intent to increase the number of discs supported on the Series 950, and this will most likely be done when a faster link to disc is available for the 900 Series systems. This faster link is currently expected to be provided in 1988. Support for additional workstations is also being evaluated, and if you find that support for greater than 400 workstations is an issue for a particular deal, please inform your HP Sales Representative.



# Positioning The Series 950

## What to stress when selling upgrades and new systems

### Selling Series 70-950 upgrades

The Series 950 provides a good upgrade for the Series 70 across all application environments. Make sure that customers understand the ease of migration to the 900 Series systems: over 50 VABs and end-user customers in FastStart have confirmed that we have been very successful in making the transition to our next generation architecture a very smooth one for our customers. Environmentally, the Series 950 fits within the footprint of the 2-bay Series 70, and carries comparable power and cooling requirements.

### Selling into new applications

When selling the Series 950 into new application environments, stress the high performance relative to the competition: the Series 950 is in the performance class of large competitive

systems such as the IBM 4381 and the DEC VAX 8550 and 8700. And for those customers who are "MIPS sensitive", point out that the 7 MIPS of raw CPU horsepower delivered by the Series 950 is comparable to the MIPS ratings of the largest DEC processors available for commercial processing environments!

### And don't forget all the traditional HP 3000 strengths!

For both new system sales and upgrades, continue to stress traditional HP 3000 product strengths which are maintained with the 900 Series systems. Ease-of-use, lower ownership cost, outstanding support, protection of customer investments, and HP quality & reliability continue to make HP 3000 systems the right choice for meeting your customers data processing needs!

## SERIES 950 POSITIONING KEY POINTS FOR UPGRADES VS. NEW SYSTEM SALES



SERIES 950

### NEW SYSTEM SALES

- 7 MIPS PROCESSOR
- IN SAME PERFORMANCE CLASS AS IBM 4381, DEC VAX 8550 AND 8700
- GREAT PRICE/PERFORMANCE & LOWER OWNERSHIP COST
- TRADITIONAL STRENGTHS (EASE OF USE, ETC.)



SERIES 70

HIGHER  
PERFORMANCE



SERIES 950

### SERIES 70 UPGRADES

- GOOD PERFORMANCE UPGRADE ACROSS ALL ENVIRONMENTS
- COMPATIBILITY MODE PERFORMANCE COMPARABLE TO SERIES 70
- EASY MIGRATION
- SMALLER FOOTPRINT AND COMPARABLE ENVIRONMENTAL REQUIREMENTS

# Competition

- \* Competitive Positioning . . . . . 11
- \* Lower Cost Of Ownership . . . . . 12
- \* Beating The Competition . . . . . 13





# Competitive Positioning



## Series 950 positions against the biggest VAX systems available today!

The performance delivered by the Series 950 at first release puts it in the class of large competitive systems such as the IBM 4381 and the DEC VAX 8550/8700 systems, which are the most powerful DEC systems available for commercial environments. Note that the VAX 8550 and 8700 have comparable performance, with the primary difference being the increased configurability of the 8700.

### Series 930 positions vs. VAX 8530, IBM 9377-90 & 4381-12

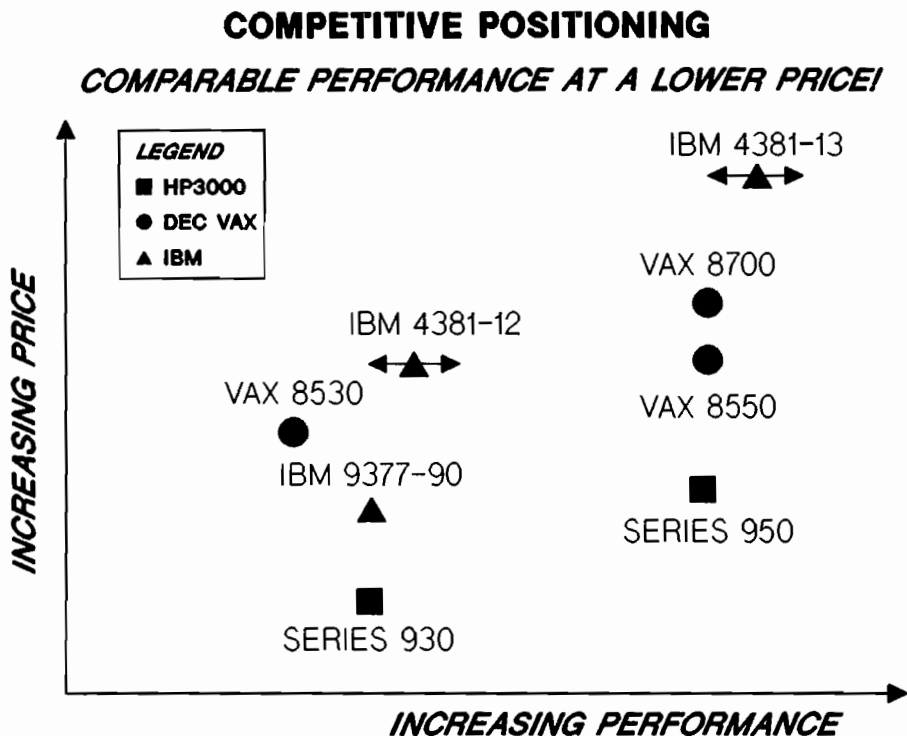
When competing against IBM, the IBM 9377-90 will typically be bid against the Series 930, although the 4381-11 or 4381-12 may be bid in some cases as key functionality is still missing from the new 9370 products. The Series 930 is in the performance class of both the 4381 and the 9377-90, but carries a much lower price. Against DEC, the Series 930 will typically compete against the VAX 8530, which is much more expensive even though it offers comparable or even lower performance!

### Other high-end DEC products not relevant

DEC markets other high-end products, but they are not generally relevant for the 900 Series. The VAX 8800 is a 2-way asymmetric multiprocessing system, but the second processor cannot be effectively utilized in commercial processing environments, and thus the VAX 8800 is targeted only towards the technical market. The 8974 and the 8978 are not single processors but rather are VAXClusters of multiple VAX 8700 processors marketed as a bundle. Neither of these products will typically provide incremental performance in I/O intensive database application environments.

### 900 Series MIPS ratings comparable to DEC MIPS

The MIPS ratings of the 900 Series systems can be used as rough approximations of relative system performance with DEC VAX systems. However, MIPS ratings of IBM systems are stated very conservatively, and cannot be used as a measure of relative system performance between HP and IBM.



# Lower Cost Of Ownership

## A key competitive advantage vs. DEC

Ownership cost is a key advantage versus the DEC VAX products, with the cost savings of the 900 Series systems on the order of \$400K, or 40%-50%! In comparison to the new IBM 9370, the Series 930 delivers a 30% lower 3-year cost of ownership, and the advantage versus the 4381 products is much larger! Further, keep in mind that this analysis actually understates the savings relative to IBM, as their increased operational requirements imply more (and more highly trained) system operators and system administrators.

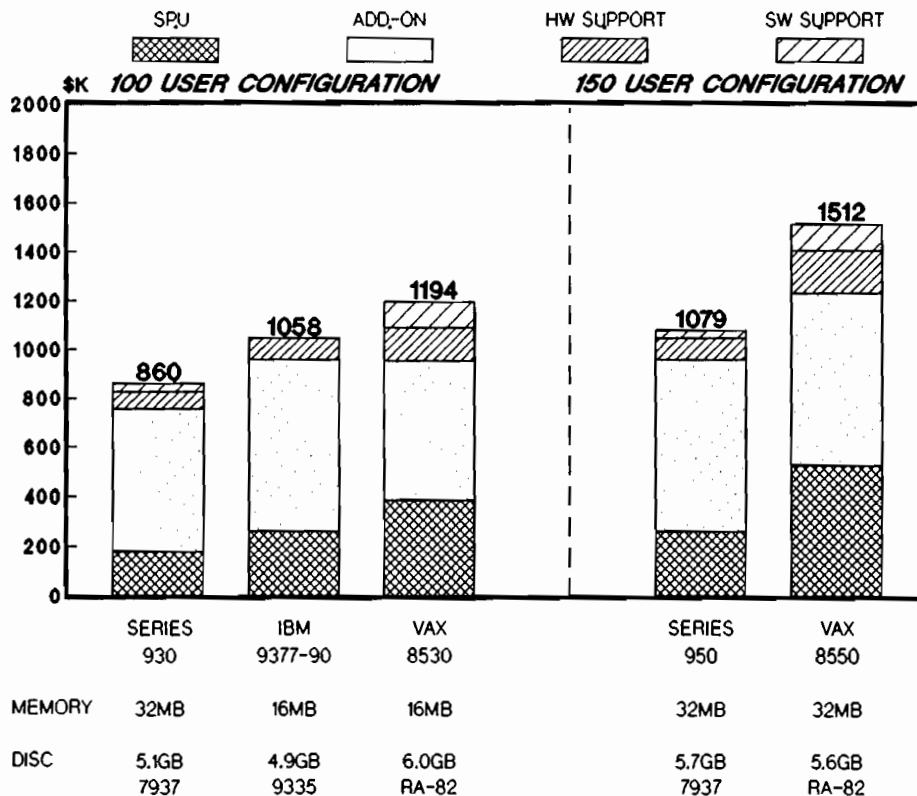
## Lower SPU and support costs make the difference

For both DEC and IBM relative to 900 Series systems, system add-ons (discs, terminals, etc.) tend to be comparably priced. However, the much lower processor purchase price and the significantly lower support costs give the 900 Series systems a clear advantage!

## Shown are 3-year cost of ownership comparisons

The diagram reflects 3-year ownership cost for the Series 930, Series 950, and comparable competitive systems. The Series 930 design center is a 100 user configuration, and the Series 950 design center being 150 users. This information is current as of competitive prices generally available 4/1/87.

## OWNERSHIP COST COMPARISON



# Beating The Competition

## Summary of key competitive advantages

### 9370's: Good "boxes", but incompatibilities with other 370's

The IBM 9370 systems significantly increase IBM's competitiveness in midrange price/performance and cost-of-ownership. Although touted as part of a very broad, compatible 370-based family, there are clearly significant holes. IBM recommends different operating environments for different commercial functions (VM for office, VSE for data processing), and further, the networking, office software, and peripherals use on the 9370 are incompatible with the higher performance 4381 and 3090 systems.

### Huge price/performance and ease-of-use advantages vs. 4381

Relative to IBM 4381 products, the 900 Series systems enjoy a huge 50% advantage in price/performance. With the Series 930 and

Series 950, high performance is coupled with ease-of-use, always a major weakness with the 4381 products.

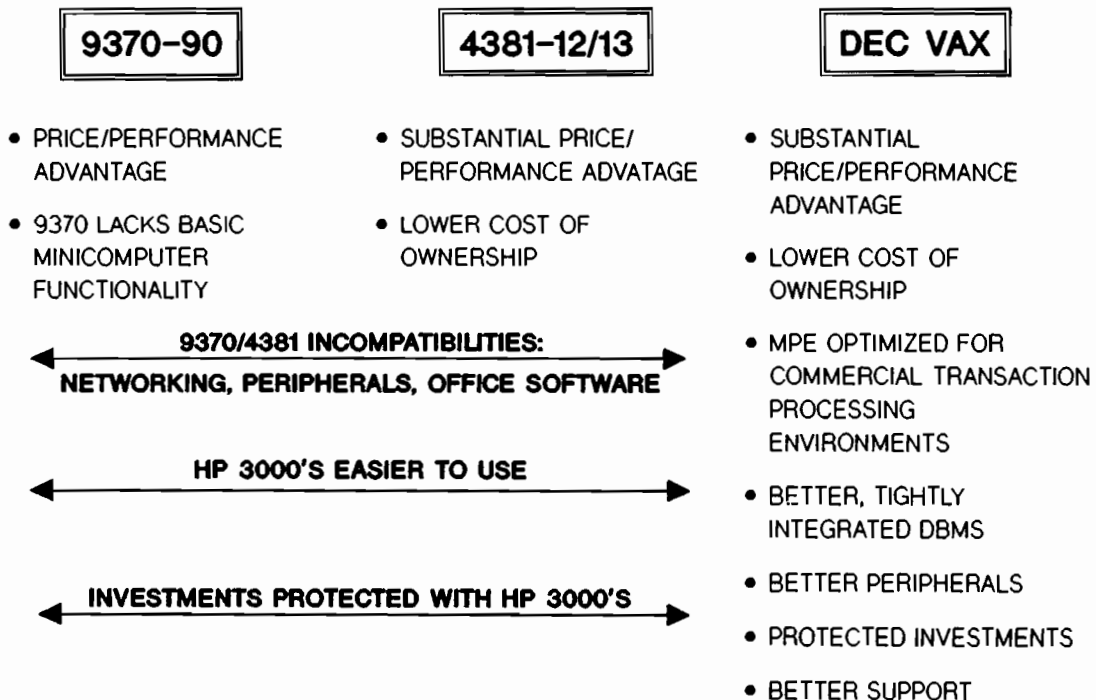
### Sell traditional strengths plus price/performance vs. DEC

Against DEC, the traditional HP strengths in the areas of transaction processing performance, better database solutions, better support, and experience with commercial systems still apply. With the 900 Series systems, these are coupled with big advantages in price/performance and cost-of-ownership!

### More details Appendix A

The four pages in Appendix A provide more detail on competitive advantages versus IBM and DEC, and also give potential competitive objections and corresponding HP responses.

## 900 SERIES KEY COMPETITIVE ADVANTAGES





## Product Structure & Ordering Information

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* 900 Series Add-On Memory . . . . .	17
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* Handling Orders in The Backlog: Option I . . . . .	19
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# Series 950 Product Structure

## Series 950 product structure is similar to the Series 930

As with the Series 930, the Series 950 is available both as a preconfigured system (product number 32490A), including SPU, MPE XL, FOS, Database, etc., or as standalone hardware only (product number 32491A). Both the Series 930 and Series 950 come standard with 32MB main memory, two Channel I/O Busses (CIBs), and two HP-IB channels.

### Many add-ons the same...

Most add-on products are the same for the Series 930 and the Series 950, including HP-IB channels (analogous to GICs on MPE V systems); the system console (only 2392A supported as console on both Series 930 & Series 950); LAN channels; and DTC's. Both systems require one Distributed Terminal Controller (DTC) modem port dedicated solely for remote support.

### ...Except for memory, CIBs, and floating point hardware

Add-on memory products are different for the Series 930 and Series 950 (as discussed on page 17), and the two systems also utilize different CIB adapter products. The floating point coprocessor is an add-on for the Series 930 (and should be sold to any customers who utilize floating point), while the Series 950 utilizes a VLSI-based floating point coprocessor which is included on the processor board and is provided **standard** with the Series 950.

### Add-on memory discounted if purchased with the SPU

On both the Series 930 and Series 950, add-on memory is available at an attractive discount when ordered with the SPU via the option 50x products. **Multiple option 50x products can be ordered with either system**, up to the maximum amount of memory supported.

## 900 SERIES PRODUCT STRUCTURE



SERIES 930



SERIES 950

### PRECONFIGURED SYSTEM

#32480A  
(w/ 32MB)

#32490A  
(w/ 32MB)

### ADD-ON MEMORY

Opt. 501: Add 8MB  
Opt. 503: Add 32MB

Opt. 500:  
Add 16MB

### ADD-ON CIB's

#19744D

#A1101A

### FLOATING POINT COPROCESSOR

Add-On #19742A

Standard

### OTHER

← COMMON LAN, HP-IB CHANNEL, DTC, &  
2392A Console →

# Upgrade Credits To 900 Series Systems

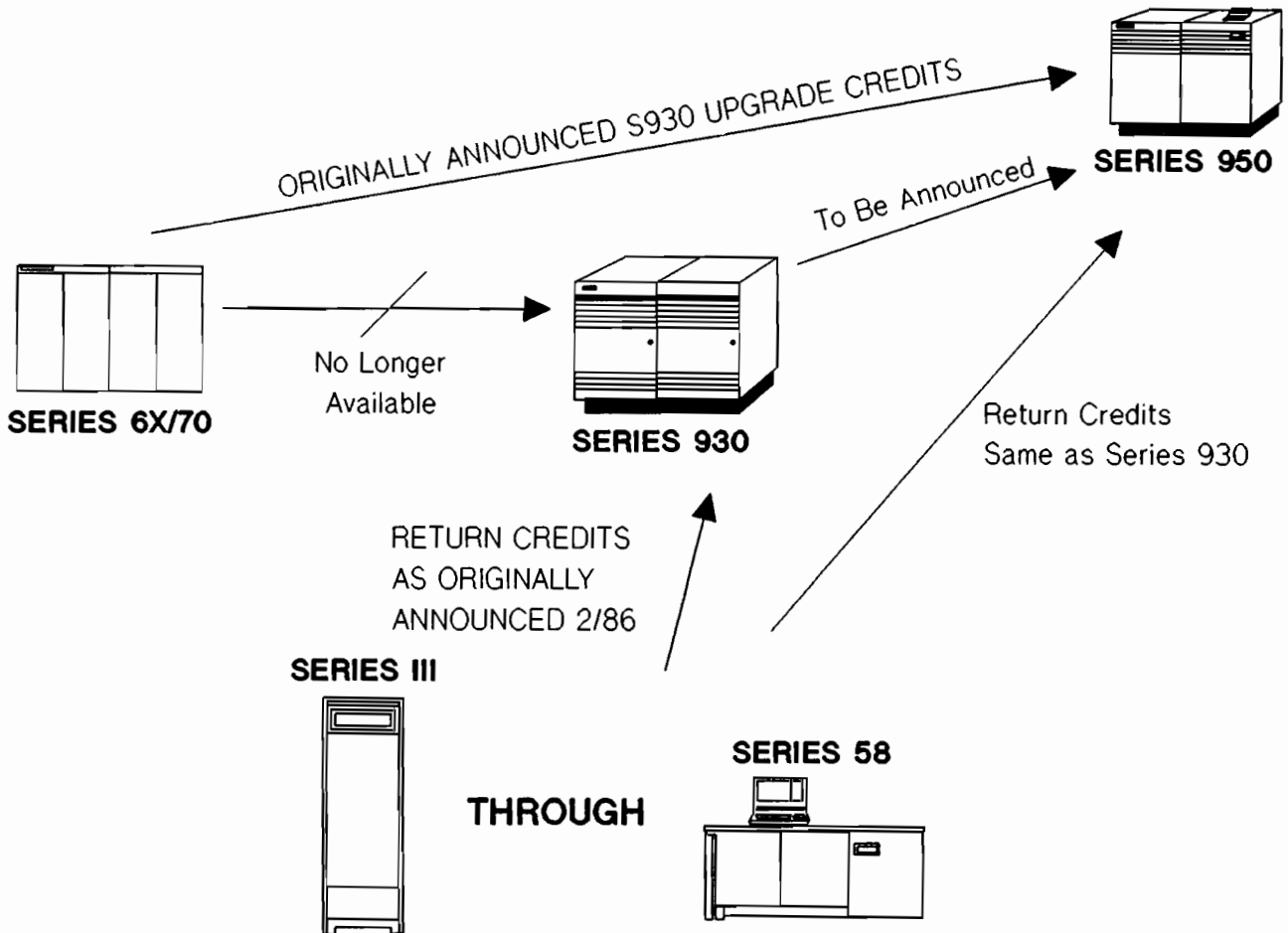
## 80% return credit for Series 70 to Series 950 upgrades

The 80% return credit program originally announced for Series 70 upgrades to Series 930 systems is now available for the Series 950. This level of protection for customer investments in system hardware is unprecedented in the industry, and is a prime example of providing lasting value with HP 3000 systems! Return credits for Series III through Series 70 systems to the Series 950 are the same as the return credits originally announced February 1986 for upgrades to the Series 930.

## Series 6X/70 to Series 930 upgrade credits no longer available

With the new lower price of the Series 930, and with the Series 950 positioned as the primary upgrade path for the Series 70, Series 6X/70 upgrade credits towards the Series 930 are no longer available. Upgrade credits from all systems other than the Series 6X/70 systems towards purchase of a Series 930 are still priced the same as originally announced. The return credit for Series 930 to Series 950 systems will be announced in the future.

## 900 SERIES UPGRADES





# 900 Series Add-On Memory

## New 1MBit RAM technology allows larger memory configurations!

Using new 1MBit RAM technology has allowed for the Series 930 to now support 32MB standard up to a maximum of 96MB, while the Series 950 supports up to 128MB!

### Series 930 memory now 8MB boards or 12MB/20MB pairs

Originally Series 930 add-on memory was an 8MB product which consisted of two boards: a 3MB card which included all control functions, and a 5MB array card. The new RAM technology now allows for 8MB to be supported on a single board, and as well a new 32MB product is available which consists of a 12MB controller card and a 20MB array card. One 12MB/20MB pair, for a total of 32MB, is standard on the Series 930. As shown below, with six slots available in the Series 930 memory backplane, there is a limited number of potential combinations of 8MB and 32MB add-on products.

### Series 950 supports 16MB arrays

The Series 950 memory subsystem consists of a single-board memory controller, which supports up to eight 16MB arrays. As shown below, all memory sizes which are a multiple of 16MB are supported on the Series 950, from 32MB to 128MB.

### Sell add-on memory to customers who want maximum performance

The large standard memory configurations on the 900 Series products help ensure that a large degree of power and expandability are provided with the standard systems. Add-on memory is expected to provide some incremental system performance, but this has not yet been fully characterized.

## SUPPORTED MEMORY CONFIGURATIONS

*#8MB Add-On Products*

		0	1	2	3	4	
SERIES 930	#32MB Add-Ons	0	<b>32MB</b>	<b>40MB</b>	<b>48MB</b>	<b>56MB</b>	<b>64MB</b>
	1	<b>64MB</b>	<b>72MB</b>	<b>80MB</b>			
	2	<b>96MB</b>					

*#16MB Add-On Products*

		0	1	2	3	4	5	6
SERIES 950		<b>32MB</b>	<b>48MB</b>	<b>64MB</b>	<b>80MB</b>	<b>96MB</b>	<b>112MB</b>	<b>128MB</b>

*ABOVE TABLES SHOW ALL POTENTIAL MEMORY CONFIGURATIONS;  
SLOT LIMITATIONS ELIMINATE OTHER POTENTIAL COMBINATIONS*

# Series 930 Product Structure Changes Summary

## How new memory & CIB products are structured - See Appendix II For Details

### Option 500 add-on memory obsoleted on Series 930

The option 500 product, which provided an 8MB add-on memory product consisting of the 3MB/5MB board pair, has been obsoleted. A new single-board 8MB add-on product, option 501, is now available for the Series 930 and is priced the same as the old option 500. The new 32MB add-on memory product is available as option 503, and is priced at a very attractive \$1.5K/MB (\$48K for 32MB).

### Change any orders which include add-on S930 memory...

The new memory products discussed above, coupled with the new 32MB memory configuration provided standard on the Series 930, have implications for existing orders. **Previous add-on memory products (opt. 500 or #19748A) should be deleted** from orders currently in the backlog. For customers who still want add-on memory, beyond the 32MB memory

now provided standard on the Series 930, delete the previous add-on memory product and add one or more of the new option 501 or option 503 products.

### ...And change any orders which include an add-on CIB

A new CIB adapter product is available for the Series 930, and replaces the previous #19744A CIB Adapter. Any backlog orders which included the add-on CIB adapter need to be modified by deleting the #19744A and adding the new #19744D CIB adapter product.

### Ensure modem port available for remote support

One modem port on a Distributed Terminal Controller (DTC) must be dedicated for remote support. Any orders in the backlog which do not include a DTC modem port that can be dedicated for remote support will need to be modified to ensure that this is available.

## Series 930 Product Structure Changes

Previous Product		New Product	
#32480A	Series 930 Preconfigured System with 16MB memory	#32480A	Series 930 Preconfigured System with 32MB memory
opt. 500	Add-on 8MB memory with SPU purchase	opt. 501	Add-on 8MB memory with SPU
		opt. 503	Add-on 32MB memory with SPU
#19744A	Add-on CIB Adapter	#19744D	Add-on CIB Adapter
#19748A	Add-on 8 MB memory after SPU purchase	#19732A	Add-on 8MB memory
		#19733A	Add-on 32MB memory

# Handling Orders In Backlog: Option I

## If S6X/70 upgrade on order, then take S950 at special \$225K price

Customers in the backlog as of May 18, 1987 can take delivery of a Series 950 while still paying only the \$225K originally budgeted for the Series 930. This is done via a special M05 discount which should be referenced as "Series 930 Backlog Rollover" under special instructions. It is strongly recommended that Series 6X/70 customers who need a 900 Series upgrade system take advantage of this opportunity, since the Series 950 is the more appropriate upgrade system. Customers who do so can maintain their position in the backlog as long as the existing Series 930 order number is used to change the Series 930 order to a Series 950.

### Ordering example

Below is shown an example of how to change an existing Series 930 order to a Series 950. For this ordering example, it is assumed that the Series

930 on order includes an additional 8MB of memory, a third Channel I/O Bus (CIB) adapter, the floating point coprocessor, and 3 add-on HP-IBs (for a total of five). It is also assumed, for the purpose of example, that the customer wishes to change the order to a Series 950 with 32MB memory, three CIB's, the floating point coprocessor, 3 add-on HP-IBs, and the same peripherals.

### What to do:

1. **Don't cancel the order.** This ensures that position in the backlog is maintained. Use the same order number to change your order to a Series 950.
2. Delete previous products and add new products on the same order as shown below.

## CHANGING BACKLOG ORDER SERIES 930 TO SERIES 950

SERIES 930 ORDER WAS:				SERIES 950 ORDER:		
32480A	S930 (16MB)	\$225K	→	<i>* Delete #32480A, Add #32490A *</i>		
				32490A	S950 (32MB) M05 DISCOUNT	\$260K -\$ 35K
OPT.500	ADD 8MB MEMORY	\$ 16K	→	<i>* DELETE UNLESS WANT &gt;32MB * (32MB STANDARD)</i>		
19744A	ADD THIRD CIB	\$ 15K	→	<i>* DELETE #19744A, ADD #A1101A *</i>		
				A1101A	ADD-ON CIB	\$ 15K
19742A	FLOATING POINT COPROCESSOR	\$ 10K	→	<i>* DELETE (STD. On S950) *</i>		
VARIOUS	LANS, DTCs, PERIPHERALS 2392 CONSOLE, 3 HP-IB's	--	→	SAME PRODUCTS      --		

**ENSURE ONE MODEM PORT AVAILABLE FOR REMOTE SUPPORT**

# Handling Orders In The Backlog - Option II

## Keeping a Series 930 on order

### New system sales and upgrades from systems other than Series 6X/70

Customers who have Series 930 orders in the backlog as of May 18, 1987 which are for either new system sales, or upgrades from systems **other than Series 64/68/70 systems**, can either take delivery of the Series 950 for the special \$225K price, or can take delivery of the Series 930 (with 32MB) for the new price of \$180K.

### Will still honor Series 6X/70-930 upgrades currently booked

The Series 950 is clearly the preferred upgrade path for Series 6X/70 customers. However, for Series 6X/70 customers in the backlog as of 5/18/87 who nonetheless want a Series 930 upgrade system, HP will honor the originally stated commitment of an 80% Series 70-930

upgrade credit and the original Series 930 purchase price of \$225K (for a 32MB system). Any such customers who desire to do so can keep their Series 6X/70 to Series 930 upgrade system on order. Such customers will not be offered both the 80% return credit and the new reduced Series 930 price; however, if special situations exist, contact the Sales Response Center.

### What to do

1. **Don't cancel the order.** This ensures that position in the backlog is maintained. Use the same order number that the Series 930 is currently on.
2. Delete previous products and add new products on the same order as shown below.

## KEEPING SERIES 930 ON ORDER

SERIES 930 ORDER WAS:			CHANGES FOR S930 ORDER		
32480A	SERIES 930 (16MB)	\$225K	→	32480A	SERIES 930 (32MB) \$180K
OPT.500	ADD 8MB MEMORY	\$ 16K	→	<b>* DELETE UNLESS WANT &gt;32MB * (32MB STANDARD)</b>	
19744A	ADD THIRD CIB	\$ 15K	→	<b>* DELETE #19744A, ADD #19744D *</b>	
				19744D	ADD-ON CIB \$ 15K
19742A	FLOATING POINT COPROCESSOR	\$ 10K	→		SAME \$ 10K
27113A	HP-IB CHANNELS (3 @ \$1.9K)	\$ 5.7K	→		SAME \$ 5.7K
VARIOUS	LANS, DTCs, PERIPHERALS 2392 CONSOLE	--	→		SAME PRODUCTS --

**ENSURE ONE MODEM PORT AVAILABLE FOR REMOTE SUPPORT**

# Terms & Conditions

All applicable to both Series 930 & Series 950, unless otherwise noted

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1. Both the Series 930 and Series 950 are on the AI "B" discount schedules for both dollar and functional units. Both the Series 930 and Series 950 qualify for four functional units for new systems, and two functional units for upgrades.
2. Demo/development discounts are available for the Series 930, but not for the Series 950.
3. Educational, OEM, and VEU discounts are applicable for both the Series 930 and Series 950.
4. The Series 950 will be placed on the GSA schedule at a later date.
5. The Series 930 and Series 950 use the same processor class option for software pricing.
6. Only Series 930 orders in the backlog as of May 18, 1987 are eligible for the special price of \$225K for the Series 950. This discount will be applied with an M05 discount of \$35K, and "Series 930 Backlog Program" should be referenced under special instructions on the order. Customers wishing to take advantage of this offer must change their orders from the Series 930 to the Series 950 by July 31, 1987.
7. After May 18, 1987, return credits from Series 6X/70 systems to the Series 930 will no longer be offered. For Series 6X/70 to Series 930 orders in the backlog as of 5/18/87, the 80% Series 6X/70 upgrade credit towards a \$225K Series 930 will be honored under the original terms. However, Series 6X/70 customers are encouraged to change upgrade orders to a Series 950.
8. Ordering instructions for Europe will be issued by HPSA.



# Questions And Answers

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Q: When can my customer expect more performance than the Series 950?

A: The new Precision Architecture systems open up many possibilities for improved performance, including additional software tuning, faster and more efficient I/O, and faster processors. Projects are currently under development to provide higher performance systems than the Series 950.

Q: Will multiprocessing be supported on the Series 950?

A: The performance potential of Precision Architecture allows HP to provide uniprocessors which meet customer performance requirements and match the performance levels which competitive systems can achieve only via multiprocessing. Thus, our current plans for the near term are to focus on providing faster uniprocessors, with multiprocessing a longer term opportunity.

Q: When will a disc interface faster than HP-IB be provided for the 900 Series systems?

A: A higher speed interface based on fibre optic technology will be available in the future. Current 7936/37 disc drives will be upgradeable to this faster interface.

Q: Are there any special considerations if my customer wants to consolidate two Series 70's onto a single Series 950?

A: As Series 950 performance relative to MPE V systems is highly variable, and considering that the Series 70 has typically delivered more than the 1.2-1.35X Series 68 performance originally specified, consolidation of two Series 70's onto a single Series 950 is not generally recommended. It is suggested that for customers who desire to consolidate, that the Series 950 first replaces one Series 70, and over time, as the Series 950 performance in that customer environment is better understood, that applications are gradually moved from the second Series 70 onto the Series 950.

Q: Why do 900 Series systems support so much memory?

A: HP Precision Architecture systems are based on a demand-paged virtual memory management scheme, and such architectures typically benefit from supporting relatively large memory configurations. The DEC VAX architecture, for example, is also a demand-paged architecture, and the 900 Series standard memory configurations are generally comparable to VAX systems.

Q: Can my customer receive upgrade credits for multiple systems if consolidating applications onto a single Series 950?

A: HP does not currently offer return credits for multiple systems being consolidated onto a single 900 Series system.

## Questions & Answers, Continued

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Q: How do I know how many HP-IB channels to order for a 900 Series system?

A: HP-IBs are analogous to GICs on MPE V systems, and are subject to the same configuration rules. Thus, for a 900 Series system, order the same number of HP-IBs channels as you would GICs for a given peripheral configuration.

Q: How do I know how many CIB's to order for a 900 Series system?

A: CIB Adapters are analogous to IMB's on Series 6X/70 systems. As a rule of thumb, it is recommended that 900 Series upgrade systems be ordered with one more CIB than the number of IMBs installed on the system to be upgraded in order to provide additional I/O capacity. For example, for a Series 70 with two IMB's, the recommended Series 950 upgrade system configuration would include 3 CIBs.

Q: Why is the floating point coprocessor standard on the Series 950 and optional on the Series 930?

A: The floating point coprocessor on the Series 930 is a separate board, while on the Series 950 the coprocessor is a set of four VLSI chips on the processor board. Thus, as the incremental factory cost is relatively low, and considering that competitive high-end systems often include a floating point accelerator, the coprocessor hardware has been included standard.

Q: The high performance of the Series 950 floating point coprocessor makes it difficult or impossible to import into some countries. Is there anyway to get the Series 950 without floating point?

A: There will be a special ordering option, done as an override, which will allow the Series 950 to be obtained without the floating point coprocessor. Details will be provided at a later date, and in the interim, please indicate on the Series 950 order under special instructions that the system must be delivered without floating point.

Q: Where can I get more details regarding supported peripheral configurations for the Series 950?

A: Supported peripheral configurations for the Series 950 are the same as for the Series 930. Thus, you can use the Series 930 Configuration Guide as a reference for both 900 Series systems.



# Appendix A

## 900 Series vs. IBM & DEC

* HP Advantages vs. IBM 9370/4381 . . . . .	25
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* HP Advantages vs. DEC . . . . .	27
* What DEC Will Pitch . . . . .	28



# 900 Series vs. IBM 9370/4381

## HP Advantages

### HP Advantage/IBM Weakness

### IBM Counter

### HP Response

HP protects customer investments by providing return credits

Can sell used systems to brokers

Highly variable prices in used computer market, while HP ensures that a significant part of your investment will be protected

HP supports common peripherals across the product line, protecting customer investments

Some smaller/slower peripherals not appropriate to support on high-end systems.

Customers think it's appropriate for protecting their investments

HP 3000's designed for interactive processing - 370's were meant for batch

370 systems today can support hundreds of online users (IBM 3090's)

But need a larger machine, and mainframes are too expensive

Common operating environment, networking, and peripherals across the family

VM runs on all 370's

But IBM recommends VM for office, VSE for data processing, and MVS for large system environments.

HP 3000's are easy to use, operate, and manage

So is VM/IS

VM/IS is more expensive, and it's not clear that it really is easy to use. VM is expensive to operate; delivers poor transaction processing performance

48-Bit virtual addressing

Non-Issue

Big issue to meet future needs - ask someone who's gone through the pain and cost of converting to MVS/XA.

# 900 Series vs. IBM 9370/4381

## What IBM Will Pitch

### What IBM Will Pitch

Easy growth path to mainframe performance.

No one ever loses their job buying IBM.

MPE XL is new & unknown - 370 and VM/MVS are proven.

Billions of dollars worth of 370-compatible software available

IBM support is the standard to which others are compared

Large pool of 370 expertise available: programmers, operators, etc.

MPE is for minicomputers, it doesn't have the functionality you need for large system environments

You can take mainframe software and run it on midrange systems

### HP Response

Conversion to MVS for IBM customers is expensive and painful. Our growth path is adequate and will continue to grow to meet customer needs.

Doesn't mean IBM is the best solution to meet your needs. HP is also very well established.

VM has been proven to be inadequate for data processing environments, while MVS has been proven to be inappropriate for DDP. MPE XL will have the quality and reliability you expect with HP.

But it's spread over 4-5 operating environments, and 370-software is expensive to purchase and support

HP is #1 in support 4 years running, according to Datapro

But they are very expensive people. A big pool exists as it takes so many people to support 370's.

MPE provides the key capabilities needed for large systems, while maintaining ease-of-use and ease-of-operation. Additionally, third party packages are available to compliment MPE.

But the cost of the support staffs to run it on midrange systems often makes it financially unattractive. The 370 systems are a "force-fit" for DDP.

# 900 Series vs. DEC

## HP Advantages

HP Advantage/DEC Weakness	DEC Counter	HP Response
HP protects customer investments by providing return credits when processors are upgraded	Clusters eliminate the need to trade in peripherals and SPUs	But clusters don't provide incremental performance in most commercial application environments, and thus a bigger SPU is what's required, not another SPU.
HP 3000's designed for interactive processing; VAX designed for technical environments	DEC systems offer very high performance in transaction processing environments	DEC overpositions their performance in commercial environments: that's why \$150K Series 70 approaches the performance of the \$400K VAX 8530.
Better, tightly integrated database	DEC offers excellent databases, and additionally good third party databases are available for VAX.	Few DEC customers use DEC databases; most use third party solutions. HP provides a single-vendor solution, and our DBMS solutions, particularly TurboImage, are better than third party products
HP has better peripherals (ex: 7937, 7980)	New SA-82 disc drive is hot.	7937 is faster than the SA-82, has a better price/MB, and has much lower monthly support costs (\$40 vs. \$252).
HP 3000's have a far lower cost of ownership	DEC reduces ownership costs with a one-year warranty on all hardware	DEC's support charges are very high; HP's 3-year hardware support costs are much lower than DEC, even including DEC's one-year warranty
HP offers better product support	DEC's support is very good	But independent analysts (ex: Datapro) continually rate HP as better than DEC

# 900 Series vs. DEC

## What DEC will Pitch

### What DEC will pitch

### HP Counter

VAXClusters provide modular growth, higher performance, and high availability; and HP doesn't have a cluster

Clusters do not offer incremental performance for a single large application; NS & LAN with multiple HP 3000's is less expensive and meets needs of most customers; and Silhouette is a less expensive high-availability solution which provides good functionality for a lower price

DEC has superior networking

Gartner Group says that HP's networking is as good as DEC's (2/86 article on AdvanceNet); all services available for 900 Series via server; DEC's networking is more expensive for comparable functionality

DEC has fully compatible low-end systems

HP does even better: software compatibility is maintained, with source code on Series 950 with TurboImage running unchanged on Micro3000; and DEC can't match HP's peripheral compatibility (several peripherals supported on the high-end are not supported on the MicroVax).

DEC offers mainframe class systems (VAX 89XX)

HP's product line is as broad as DEC's; VAX 89XX products are networks sold as a marketing bundle.

DEC has a full family of 32-bit systems

For commercial systems, 32-bits is primarily of importance for increased addressability on high-end systems. With full 48-bit addressing on the 900 Series, HP **surpasses** DEC!

Reliability and availability are critical, and HP doesn't have a good high availability solution

HP is well-known for high-quality, very reliable products, and our RISC-based HP Precision Architecture and new disc drives will make even greater reliability contributions. Additionally, Silhouette is a cost-effective solution for meeting high availability needs, and will be available on the 900 Series in the future.

DEC has high-end systems now!

Series 930 begins shipping this summer and Series 950 follows in 4Q87.

DEC offers a single operating environment which meets the need of both technical and commercial customers (VMS).

Commercial and technical environments have very different requirements, and one operating system cannot effectively meet the needs of both. MPE is optimized for database-intensive online transaction processing environments, and is better for commercial processing than VMS, while HP-UX has been optimized for technical environments.

# Appendix B

## Detailed Series 930/950 Product Structure & Pricing

- \* New System Ordering Example . . . . . 30
- \* Series 70 Upgrade Ordering Example. . . . . 31
- \* Series 930 Product Structure & Pricing. . . . . 32
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- \* Series 950 Upgrades . . . . . 35
- \* 900 Series Common Products . . . . . 37





# New System Ordering Example

## Example of what to order for a new Series 950 sale

For the purpose of this ordering example, the customer is assumed to need:

- o Series 950 SPU
- o 48 MB memory
- o 3 Channel I/O Busses
- o 5 HP-IB channels
- o System Console
- o 128 workstation ports, including 32 modems
- o LAN/NS

Products also required, not shown below, include:

- o Workstations
- o Peripherals
- o LAN cable
- o MPE V Server, if required for IBM or remote communications

Note that a complete, detailed breakdown of 900 Series new system and upgrade system pricing is provided at the back of this appendix.

Qty.	Product Number	Description	US List Price
1	32490A	Series 950 Preconfigured System, includes 32MB memory, 2 CIBs, 2 HP-IBs channels, Floating Point Coprocessor, MPE XL, FOS, ALLBASE/XL, System Dictionary/XL	260,000
1	opt. 500	Add 16 MB memory	32,000
1	A1101A	Series 950 CIB Adapter	15,000
3	27113A	Series 930/950 HP-IB channel (@ 1.9K each)	5,700
1	2392A opt 305	2392A for System Console EMP protection cable	1,375 85
1	2345A	Distributed Terminal Controller	7,100
6	opt 625	6 modem RS232 ports (@ \$2520 each)	15,120
2	2345A	Distributed Terminal Controller	14,200
12	opt 803	8 local RS232 ports (@ \$2520 each)	30,240
1	36921A opt 400	LAN/3000 XL Network Link for use on Series 950	0 9,000
1	36920A opt 440	NS3000/XL Network Services for use on Series 950	0 7,500
1	51453A opt 062 opt 200 opt 650	HP 3000 MPE XL Media Product 6250 BPI mag tape media latest MPE XL release Series 950 Preconfigured System Software	0 0 0 0

# Series 70 Upgrade Ordering Example

## Ordering example for Series 70 to Series 950 upgrade

For the purposes of this example, it is assumed that the Series 70 includes 16MB memory, 2 IMB's, 6 GICs, 60 ATP direct connect ports, and

24 modem ports. The Series 950 upgrade system configuration is to include 48MB memory, 3 CIBs, 6 HP-IB channels, and the same number of ports.

Qty.	Product Number	Description	US List Price
1	32490AH	Series 950 Preconfigured System Upgrade	260,000
1	opt. 629	upgrade from S70 with 8MB memory	-120,000
1	opt. 500	add 16MB memory	32,000
4	27113A	Series 930/950 HP-IB Channel (@ \$1.9K each)	7,600
1	A1101A	Series 950 CIB	15,000
1	2345A	Distributed Terminal Controller	7,100
6	opt. 803	Provides 8 direct connect ports (@ \$2520)	15,120
1	2345A	Distributed Terminal Controller	7,100
2	opt. 803	Provides 8 RS-232 direct connect ports (@ \$2520)	5,040
4	opt. 625	Provides 6 RS-232 modem ports (@ \$2520)	10,080
2	30165AN	Return credit for S6X/70 4MB Memory (@ \$12K ea.)	-24,000
4	30079AN	Return credit for GICs (@ \$400 each)	-1,600
1	30143AN	Return credit for S6X/70 I/O Adapter (@ \$2000)	-2,000
1	30144AN	Return credit for SIB (@ \$800)	-800
5	30145AN	Return credit for ATP Direct Connect Port Controller (@ \$1650)	-8,250
2	30155AN	Return credit for ATP Modem Port Ctlr. (@ \$2050)	-4,100
1	51453A	MPE XL Media Product	0
	opt 062	6250 BPI mag tape media	0
	opt 200	latest MPE XL release	0
	opt 650	Series 950 Preconfigured System Software	0

\* Note: For new Series 70 systems (not Series 6X-to-70 upgrades) purchased between 3/1/86 and 10/31/87, additional return credits are available for Series 70 return credit products. As shown on the June 1 CPL, these are available by ordering option 070, which is structured to each Series 70 return credit product.

# Series 930 Product Structure & Pricing

Changes to products, options, descriptions and prices are effective June 1, 1987. In addition to the listed products, the 32480A, 32481A and 32480AH come standard with 2 CIB Adapters and 2 HP-IB Channels.

		Current List \$	New List \$	New FBP \$
32480A	HP 3000 Series 930 Preconfigured System with 32 Mb memory, MPE XL FOS, ALLBASE/XL, and System Dictionary/XL. Must order 51453A with option 630 for MPE XL FOS. May order multiple memory options 50x.	225,000	180,000	178,500
501	Add 8 Mb memory	n/a	16,000	15,990
503	Add 32 Mb memory	n/a	48,000	47,990
32481A	HP 3000 Series 930 SPU with 32 Mb main memory. Does not include software. Order 32650A and 51453A option 730 for MPE XL FOS. May order multiple memory options.	185,000	140,000	138,700
501	Add 8 Mb memory	n/a	16,000	15,990
503	Add 32 Mb memory	n/a	48,000	47,990

## Series 930 Add-Ons

19742A	Series 930 Floating Point Coprocessor	" "	10,000	9,990
19744D	Channel adapter for HP 3000 Series 930	n/a	15,000	14,970
19732A	8 Mb main memory for HP 9000 Model 840S and HP 3000 Series 930	n/a	20,000	20,000
19733A	32 Mb main memory for HP 9000 Model 840S and HP 3000 Series 930	n/a	64,000	64,000

# Series 930 Upgrade Pricing

32480AH	Series 930 Preconfigured System upgrade with 32 Mb memory, MPE XL FOS, ALLBASE/XL, and System Dictionary/XL. Must order 51453A with option 630 (MPE XL FOS). May order multiple memory options.	225,000	180,000	178,500
501	Add 8 Mb memory	n/a	16,000	15,990
503	Add 32 Mb memory	n/a	48,000	47,990
601	Upgrade from pre-SII or HP2000 w 128Kb	same	-2,500	n/a
602	Upgrade from SII w 128Kb memory	same	-3,000	n/a
603	Upgrade from SIII w 256Kb memory	same	-5,000	n/a
605	Upgrade from S33A/B w 256Kb memory	same	-3,000	n/a
606	Upgrade from S33C/U w 256Kb memory	same	-3,000	n/a
607	" " S30A/B w 256Kb memory	" "	-3,000	"
608	" " S30C/U w 256Kb memory	" "	-3,000	"
609	" " S44 w 1Mb memory	" "	-13,000	"
611	" " S40 no memory	" "	-11,650	"
613	" " SIII w 256Kb, 30341A HP-IB adapter	" "	-6,000	"
614	" " S39 no memory	" "	-11,650	"
615	" " S42 no memory	" "	-15,000	"
616	" " S48 w 1Mb memory	" "	-19,000	"
617	" " S37 no memory	" "	-6,000	"
618	" " S37XE no memory	" "	-11,500	"
619	" " S42XP or S52 w 2Mb memory	" "	-24,000	"
620	" " S58 w 4Mb memory	" "	-30,000	"
621	" " S39HP no memory	" "	-13,800	"
622	" " S58 w 2Mb memory	" "	-28,000	"
632	" " Micro3000 w 2Mb memory	same	-8,000	n/a
633	" " Micro3000 w 4Mb memory	" "	-12,000	"
634	" " Micro3000XE no memory	" "	-15,000	"
635	" " Micro3000XE, 5 card, no memory	" "	-12,000	"
636	" " HP 250	" "	-6,000	"
637	" " HP 260	" "	-5,000	"
640	" " S52 w 2Mb memory	" "	-24,000	"
641	" " S52 w 4Mb memory	" "	-26,000	"

# Series 950 Product Structure

All products are new as of June 1, 1987. In addition to the listed products, the 32490A, 32491A and 32490AH each come standard with 2 CIB Adapters and 2 HP-IB Channels.

		List \$	FBP \$
32490A	HP 3000 Series 950 Preconfigured System with 32 Mb memory, Floating Point Co-Processor, MPE XL FOS, ALLBASE/XL, and System Dictionary/XL. Must order 51453A with option 650 (MPE XL FOS). May order multiple memory options (opt. 500).	260,000	258,500
015	380V/50 Hz three-phase operation	0	0
016	415V/50 Hz three-phase operation	0	0
500	Add 16 Mb memory	32,000	31,990
32491A	HP 3000 Series 950 SPU with 32 Mb main memory and Floating Point Co-Processor. Does not include software. Order 32650A and 51453A option 750 for MPE XL FOS. May order multiple memory options.	220,000	218,700
015	380V/50 Hz three-phase operation	0	0
016	415V/50 Hz three-phase operation	0	0
500	Add 16 Mb memory	32,000	31,990
32491AH	Series 950 SPU system upgrade with 32 Mb memory and Floating Point Co-Processor. <b>Does not include software.</b> May order multiple memory options.	220,000	218,700
015	380V/50 Hz three-phase operation	0	0
016	415V/50 Hz three-phase operation	0	0
500	Add 16 Mb memory	32,000	31,990

## Series 950 Add-Ons

A1101A	Channel adapter for HP 9000 Model 850S and HP 3000 Series 950	15,000	15,000
A1104A	16 Mb main memory board for HP 9000 Model 850S and HP 3000 Series 950	40,000	40,000

# Series 950 Upgrades

32490AH	Series 950 Preconfigured System upgrade with 32 Mb memory, Floating Point Co-Processor, MPE XL FOS, ALLBASE/XL, and System Dictionary/XL. Must order 51453A with option 650 (MPE XL FOS). May order mutiple memory options.	260,000	258,500
015	380V/50 Hz three-phase operation	0	0
016	415V/50 Hz three-phase operation	0	0
500	Add 16 Mb memory	32,000	31,990
601	Upgrade from pre-SII or HP2000 w 128Kb	-2,500	n/a
602	Upgrade from SII w 128Kb memory	-3,000	n/a
603	Upgrade from SIII w 256Kb memory	-5,000	n/a
605	Upgrade from S33A/B w 256Kb memory	-3,000	"
606	Upgrade from S33C/U w 256Kb memory	-3,000	"
607	" " S30A/B w 256Kb memory	-3,000	"
608	" " S30C/U w 256Kb memory	-3,000	"
609	" " S44 w 1Mb memory	-13,000	"
611	" " S40 no memory	-11,650	"
613	" " SIII w 256Kb, 30341A HP-IB adapter	-6,000	"
614	" " S39 no memory	-11,650	"
615	" " S42 no memory	-15,000	"
616	" " S48 w 1Mb memory	-19,000	"
617	" " S37 no memory	-6,000	"
618	" " S37XE no memory	-11,500	"
619	" " S42XP or S52 w 2Mb memory	-24,000	"
620	" " S58 w 4Mb memory	-30,000	"
621	" " S39HP no memory	-13,800	"
622	" " S58 w 2Mb memory	-28,000	"
623	" " S64 w 2Mb memory	-62,000	"
624	" " S68 w 2Mb memory	-72,000	"
625	" " S68 w 4Mb memory	-77,000	"
626	" " S68 w 8Mb memory	-96,000	"
627	" " S70 w 2Mb memory	-96,000	"
628	" " S70 w 4Mb memory	-101,000	"
629	" " S70 w 8Mb memory	-120,000	"
632	" " Micro3000 w 2Mb memory	-8,000	"
633	" " Micro3000 w 4Mb memory	-12,000	"
634	" " Micro3000XE no memory	-15,000	"
635	" " Micro3000XE, 5 card, no memory	-12,000	"
636	" " HP 250	-6,000	"
637	" " HP 260	-5,000	"
640	" " S52 w 2Mb memory	-24,000	"
641	" " S52 w 4Mb memory	-26,000	"

# 900 Series Common Products

## Products used on both the Series 930 and Series 950

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Changes to products, options, descriptions and prices are effective June 1, 1987.

		Current List \$	New List \$	New FBP \$
32650A	MPE XL Fundamental Operating Software includes MPE XL Native Mode, Compatibility Mode, KSAM/V, TurboIMAGE/XL, QUERY/V, VPLUS/V, SORT-MERGE/XL, EDIT/V, FCOPY/XL, STORE/RESTORE, DEBUG/V, NM/CM Debug, migration utilities and software manual set. Must order option 430 or 450 and 51453A with option 730 or 750.	0	0	0
430	For use on Series 930	35,000	35,000	35,000
450	For use on Series 950	n/a	35,000	35,000
51453A	HP 3000 MPE XL Media Product. Includes FOS tape, software installation procedures and FOS manuals.	0	0	0
001	Delete FOS Tape	0	0	0
051	1600 bpi Magnetic Tape Media	0	0	0
062	6250 bpi Magnetic Tape Media	0	0	0
200	MPE XL Latest Release	0	0	0
201	MPE XL Release 1.0	0	0	0
630	S930 Preconfigured System S/W. Includes FOS, ALLBASE/XL and System Dictionary/XL.	0	0	0
650	S950 Preconfigured System S/W. Includes FOS, ALLBASE/XL and System Dictionary/XL.	0	0	0
730	Series 930 FOS software	0	0	0
750	Series 950 FOS software	0	0	0
27113A	Series 930 and 950 HP-IB Channel	1,900	1,900	1,885







