

Quick Reference Guide



**HP 9000 Series 700**  
Models 715/64, 715/80, and 715/100

For HP and HP Channel Partner  
Internal Use Only

**W**ith the HP 9000 Models 715/64, 715/80 and 715/100, Hewlett-Packard sets new standards in performance, price/performance and price for 2D and 3D graphics workstations. The Model 715 systems are the industry's fastest 2D workstations. They deliver the fastest mid-range 3D graphics performance and the best 3D entry-level price/performance. And, they are aggressively priced to satisfy sensitive budgets.

Designed to deliver excellent application performance, the Models 715/64, 715/80 and 715/100 feature the latest in PA-RISC technology, the PA7100LC chip. They provide outstanding integer and floating point performance, innovative integrated color graphics capabilities, industry-standard expandability through an EISA slot, and leading memory and disk configurability.

The integrated color graphics of the Model 715/64, 715/80 and 715/100 includes Color Recovery, a unique HP technology that enable the display of virtually true color images approximately 8 million simultaneous colors—on 8 plane systems. This results in the lowest-cost true color graphics available in the industry.

Also, the Model 715 systems can be equipped with a new class of 2D and 3D graphics accelerators, the HCRX graphics family. Available in both 8- and 24-plane versions, with and without Z buffers, the HCRX graphics systems deliver

new levels of graphics capabilities and performance. For performance-hungry users, the CRX-48Z graphics subsystem delivers the fastest 3D solids performance on the Model 715 systems.

#### **With HP, Your Investment is Secure**

When you invest in HP's Model 715/64, 715/80 and 715/100 workstations, you get something only HP can offer — proven commitment to innovative, standards-based products. With HP products, you can count on a level of quality, long-term support and service that's unequaled in the industry. HP protects your investment by designing upgradeability into our products by offering binary compatibility across the entire HP 9000 family of workstations and servers, and by delivering some of the industry's most innovative upgrade programs. You can rest assured that the solutions you build today will continue to pay off for years to come.

#### **Popular Application Areas for Model 715/64, 715/80 and 715/100 Workstations:**

The HP 9000 Model 715/64, 715/80 and 715/100 systems' CPU and graphics performance combined with low prices make them the ideal workstations for applications requiring fast X Window performance, 2D/3D wireframe, 3D solids modeling, visualization and accelerated rendering. Markets valuing these capabilities include:

- Mechanical Design Automation
- Electronic Design Automation
- Architecture, Engineering, Construction

- Geographic Information Systems
- Scientific Computing
- Exploration & Production (Oil & Gas Industry)
- Application Development
- Document Management and Publishing

Computational power, graphics capabilities, configurability and network flexibility also make the Model 715 systems excellent high-performance computational engines serving several X stations or entry-level workstations in commercial environments, such as

- Financial Trading
- Customer Service
- Brand and Category Management

With the Series 700 workstations broad application support, the performance range, the graphics choice, the multimedia and networking capabilities and the system management functionality, HP has the flexibility to deliver solutions that meet your customers' requirements within their budget parameters.

The following pages will give you an overview of the performance and functionality of the Model 715 systems and will position them against other vendors' systems in the market.

## Model 715 Workstations and Competition At-a-Glance

Model Name	HP 9000 Series 700			SGI			DEC Alpha			IBM RS/6000			SUN SPARCstation 5		SUN SPARCstation 20		
	715/64	715/80	715/100	Indy R4400	Indigo R4000	Indigo2 R4400	3000LX	300X	600	25T/25W	365/36T	375/37T	70 MHz	85 MHz	Mod. 50	Mod. 51	Mod. 61
Package	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop	Desktop
Ship Date	5/94	5/94	5/94	3/94	7/92	7/93	2/94	2/94	10/93	10/93	10/93	10/93	4/94	4/94	4/94	5/94	6/94
<b>Performance</b>																	
SPECint92	66.6	83.5	100.1	88.1	59.1	85.9	63.5	84.4	114.1	62.6	57.5	70.3	57.0	64.0	69.2	73.6	88.9
SPECfp92	96.5	120.9	137.0	96.6	62.1	93.6	76.5	100.5	162.1	72.2	99.2	121.1	47.3	54.6	78.3	84.8	102.8
SPECrate_int92	1497.8	1866.1	2237.3	NP	NP	NP	1501.0	1925.0	2722.0	NP	NP	1332.0	1352.0	1518.0	1628.0	1731.0	2092.0
SPECrate_fp92	2281.4	2864.6	3225.9	NP	NP	NP	1788.0	2374.0	3857.0	NP	NP	2612.0	1122.0	1295.0	1842.0	1995.0	2418.0
MIPS	77.5	97.1	121.6	NP	85.0	120.0	NP	NP	NP	NP	NP	NP	100.3	112.5	142.3	129.4	167.4
MFLOPS	24.3	30.5	37.8	NP	16.3	22.6	15.7	26.9	34.1	12.7	22.2	25.9	13.1	14.9	30.6	29.6	35.3
<b>System Design</b>																	
Type Processor	PA7100LC	PA7100LC	PA7100LC	R4400SC	R4000SC	R4400SC	Alpha 21064	Alpha 21064	Alpha 21064	PowerPC 601	Power	Power	Micro SPARCII	Micro SPARCII	Super SPARC	Super SPARC	Super SPARC
CPU Clock Speed	64 MHz	80 MHz	100 MHz	75 MHz	50 MHz	75 MHz	125 MHz	175 MHz	175 MHz	66 MHz	50 MHz	62.5 MHz	70 MHz	85 MHz	50 MHz	50 MHz	60 MHz
# I/O Slots	1	1	1	2	2	4	2	2	3	2	1/3	1/3	3	3	4	4	4
<b>Configuration</b>																	
Memory MB	32-256	32-256	32-256	32-256	16-384	32-384	32-256	32-256	32-512	16-256	16-128/ 256	16-128/ 256	16-256	16-256	35-512	32-512	32-512
Disk Int. Max.	4 GB	4 GB	4 GB	2 GB	3.6 GB	3.6 GB	4.2 GB	4.2 GB	4.2 GB	2 GB	4 GB	4 GB	2 GB	2 GB	2 GB	2 GB	2 GB
Disk Total Mdx.	84GB	84GB	84GB	48GB	48GB	48GB	66.9GB	66.9GB	73.4 GB	30GB	100 GB	100/ 205.2GB	42GB	42GB	139GB	139GB	139GB
<b>Graphics</b>																	
Xmark93	9.2	10.7	12.3	NP	NP	NP	NP	NP	NP	10.3	NP	NP	NP	NP	NP	NP	NP
X11 vectors	2.2M	2.5M	2.6M	1.6M	434K	NP	520K	520K	676K	1620K	949K	949K	NP	NP	NP	NP	NP
3D vectors/s	1.5M	1.9M	2.3M	800K	1000K	1200K	727K	948K	1400K	691K	990K	990K	NP	NP	NP	NP	NP
PLB surf93	49	59	89	NP	NP	NP	NP	40.9	72.8	28	NP	29	NP	NP	NP	NP	NP

**Answers to Some Commonly Asked Questions:**

**Q** Are the Model 715/64, 715/80 and 715/100 systems compatible to the older Model 715 systems?

**A** Yes. There is full object code compatibility from the Models 715/33, 715/50 and 715/75 to the new generation Model 715s. Applications running today with CRX style graphics are also fully compatible with the HCRX graphics family. HP offers no-penalty board upgrades to help customers to upgrade from their current technology to the Model 715/64, 715/80 and 715/100 systems.

**Q** What are the graphics choices I can offer on the Model 715/64, 715/80 and 715/100 products?

**A** These systems all come equipped with integrated color graphics, including HP Color Recovery technology, delivering excellent vector and X Window performance. With the HCRX-8

these Model 715 systems have the fastest 2D/3D vector performance on the desktop! The HCRX-24, which supports 24-bit plane graphics and 8 overlay planes is ideally suited for applications where full 24-bit visual imaging quality (up to 16.7 million colors) is required. The HCRX-8Z and the HCRX-24Z are 3D hardware accelerators. With HP Color Recovery technology the HCRX-8Z delivers a low-cost, superior 3D design and modeling solution with virtually true color, a leading technology, that is only available from HP. The HCRX-24Z is for more demanding users who require the highest in visual quality with a full palette of 16.7 million colors. For advanced performance 3D graphics for design and scientific modeling the CRX-48Z is the fastest graphics accelerator for the Model 715 systems.

**The Model 715 Facts**

Model	715/64	715/80	715/100
<b>Performance Level</b>			
SPECint92	66.6	83.5	100.1
SPECfp92	96.5	120.9	137.0
SPECrate_int92	1497.8	1866.1	2237.3
SPECrate_fp92	2281.4	2864.6	3225.9
<b>Architecture</b>			
PA 7100LC Processor	64 MHz	80 MHz	100 MHz
Cache	256 KB I/D	256 KB I/D	256 KB I/D
<b>Graphics</b>			
	Integrated Color HCRX Graphics	Integrated Color HCRX Graphics	Integrated Color HCRX Graphics CRX-48Z
<b>Configurability</b>			
Memory MB	32-256	32-256	32-256
Internal Disk (max)	4 GB	4 GB	4 GB
Disk (max)	84 GB	84 GB	84 GB
Expandability - EISA Slots	1	1	1

**Q** What are the key differentiating features of the Model 715 systems compared to the competition?

- A** The Models 715/64, 715/80 and 715/100 deliver
- better graphics application performance (measured by PLBsurf93 and PLBwire93) than any competitor's systems in this class
  - the fastest 2D performance on the desktop
  - the fastest 3D mid-range graphics performance
  - leading price/performance
  - HP Color Recovery, the capability to display up to 8 million colors on an 8 plane system, a true HP technology advantage
  - fast video playback through MPEG decompression
  - Collaborative multimedia capabilities with HP MPower
  - PEX 5.1 runtime standard in every system
  - outstanding investment protection through a comprehensive suite of no-penalty upgrades.

## NEW Model 715 Workstation Configuration Worksheet

### 1. Required: Select Base Configuration

715/64 SPU with integrated graphics and 32MB RAM A4090A ✓  
 715/80 SPU with integrated graphics and 32MB RAM A4093A ✓  
 715/100 SPU with integrated graphics and 32MB RAM A4091A ✓

### 2. Required: Select One Monitor Option

17" Color Monitor (1280x1024) AQ5  
 20" Color Monitor (1280x1024) AQ7

### 3. Optional: Additional Factory Integrated Graphics – Select ONE Only

HCRX8 Accelerated 2D, 8/8 bit planes AQF  
 HCRX24 Accelerated 2D, 24 bit planes AQG  
 HCRX8Z Accelerated 3D, 8 bit planes\* AQH  
 HCRX24Z Accelerated 3D, 24 bit planes\* AQJ  
 CRX48Z Accelerated 3D 24/24 bit planes\* available on 715/100 only AQK

\*Includes PowerShade

### 4. Optional: Additional Factory Integrated Memory – Select ONE Only

Add 32MB memory, for a total of 64MB (8x8MB) ANN  
 Add 32MB memory, for a total of 64MB (2x32MB) UFT  
 Add 96MB memory, for a total of 128MB (4x32MB) ANY  
 Add 224MB memory, for a total of 256MB (8x32MB) UFN

### 5. Required: Factory Integrated Disks – must select ONE (maximum of two internal disks)

Add 525MB Single-Ended SCSI II Disk Drive AT9  
 Add 1 GB Single-Ended SCSI II Disk Drive AT7  
 Add 2GB Single-Ended SCSI II Disk Drive AT6

### 6. Optional: Factory Integrated Removable Media – Select ONE Only

Add 3.5" 1.44MB Floppy Disk Drive AMB  
 Add 600MB CD-ROM SCSI II Drive AM8  
 Add 2GB DDS SCSI II Tape Drive AMW  
 Add 4-8GB DDS SCSI II Tape Drive w/Data Compression AMX

### 7. Optional: Select one Installation and ONE Support Option Only

Upgrades warranty to 1-year next-day response OS0  
 Upgrades warranty to 1-year 4-hour response OS1  
 Upgrades warranty to 1-year next-day response\*\* OS2  
 Upgrades warranty to 1-year 4-hour response\*\* OS3  
 Installation OS4  
 Upgrades warranty to 1-year (7-day) 4-hour response OS5  
 Upgrades warranty to 1-year (7-day) 4-hour response\*\* OS6

\*\* Includes software phone support

### 8. Required: Workstation Localization Kit

(keyboard, mouse, powercord and documentation)  
 PC-101 Keyboard A4030A  
 HP-HIL Keyboard A1099C

### 9. Required: HP-UX Documentation Release for Localization Kit

(Required for A1099C only)  
 HP-UX 9.0 Documentation APH

### 10. Required: Localized Option

North American Option ABA  
 Other \_\_\_\_\_ Opt \_\_\_\_\_

### 11. Recommended: Ethernet Kit (ThickLAN (AUI) is standard)

Add-on ThinLAN Ethernet Transceiver A2670A  
 Add-on EtherTwist Transceiver A2671A

### 12. Optional: Select HP-UX 9.0 Instant Ignition

English Run-Time HP-UX Instant Ignition B2910A  
 German Run-Time HP-UX Instant Ignition B2911A  
 Spanish Run-Time HP-UX Instant Ignition B2912A  
 French Run-Time HP-UX Instant Ignition B3485A  
 Japanese Run-Time HP-UX Instant Ignition B3531AE  
 Korean Run-Time HP-UX Instant Ignition B3531AZ  
 Italian Run-Time HP-UX Instant Ignition B3531AV

### 13. Required: Operating System Version for Instant Ignition

HP-UX 9.0 Version APH

### 14. Optional: Add-On Options

#### Memory Options

8MB Memory A2577A  
 16MB Memory A2578A  
 32MB Memory A2829A  
 64MB Memory A2827A



#### Internal Storage

525MB Single-Ended SCSI II Disk A2800A  
 1GB Single-Ended SCSI II Disk A2801A  
 2GB Single-Ended SCSI II Disk A4118A  
 Floppy Disk Drive A4180A  
 CD-ROM Drive A2803A  
 2GB DDS Tape Drive A2274A  
 Mounting Bracket AHV  
 4-8GB DDS Tape Drive (with compression) A2275A  
 Mounting Bracket AHV

#### EISA Interface

EISA FAST Differential SCSI II Host Adaptor 25525B  
 EISA Single-Ended SCSI II Host Adaptor A2679A  
 EISA HP-IB Host Adaptor 25560A  
 EISA LAN/9000-IEEE 802.3 25567B  
 Add Thick Mau tap and 6 meter cable 740  
 Add EtherTwist MAU and 1 meter cable 840  
 EISA X.25 Link J2159A  
 Provides software on DDS (4mm DAT) tape UJC  
 Add RS232 cable 1AT  
 Add V.35 cable 1AU  
 Delete software right-to-use & documentation 1AW  
 EISA 802.5 (IBM) Token Ring network J2165A  
 HP-UX Version 9.0 APH  
 Apollo Token Ring Adaptor A2544A  
 HP-UX Version 9.0 APH  
 Provides software on DDS (4mm DAT) tape AAH  
 CD-ROM Certificate AAU  
 ISDN BRI ISA/EISA Adaptor J2460A  
 Provides software on DDS (4mm DAT) tape AAH  
 CD-ROM Certificate AAU

For help with this worksheet or to place an order,  
 fax this form to:

### Additional Info

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

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### Portugal:

Tel:+351/1/3017330

### Spain:

Tel:+34/1/6261600

### Sweden:

Tel:+46/8/750/2000

### Switzerland:

Tel:+41/57/312111

### Turkey:

Tel:+90/1/224/5925

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