HP Apollo 9000 Series 700 Model 715/75, Model 725/75 Sales Guide August 1993

[Figure, cover (photo of models 715/75 and 725/75)]

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CONTENTS

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- 1.0 Family Position and Product Overview 1
- 1.1 Processor Performance
- 1.2 Packaging 3
- 1.3 Memory (RAM)
- 1.4 Graphics
- 1.5 Mass Storage Support 6
- 1.6 Removable Media Options
- 1.7 Standard I/O Support 8
- 1.8 Networking Support 9
- 2.0 Competitive Comparisons 12
- 3.0 Target Markets

TABLES, CHARTS & ILLUSTRATIONS

- Series 700 Workstation Models
- Model 715/75 and 725/75 at a Glance
- Model 715/75 Packaging 4
- Model 725/75 Packaging 4
- Model 715/75 and 725/75 Graphics Specifications
- Model 725/75 and 715/75 Mass Storage Support
- Model 725/75 and 715/75 Removable Media Options
- Model 725/75 and 715/75 Standard I/O Specifications 9

2

- Model 725/75 and 715/75 Network Support 10
- Model 715/75 Back Panel 10
- Model 725/75 Back Panel 11
- Competitive Workstation Summary 12
- Competitive SPECinteger92 Summary 13
- Competitive SPECfloatingpoint92 Summary 13

Introduction

The new Model 715/75 and 725/75 extend the HP Apollo Series 700 workstation family with higherperformance processors at the mid-range. This unit discusses these latest additions. After completing this unit, you will be able to identify the unique characteristics and key benefits of the Model 715/75 and Model 725/75. This unit contains Model 715/75 and Model 725/75 key information and reference tables on:

8

- Product overview
- Competitive positioning
- Target Markets

1.0 Family Position and Product Overview

The HP Apollo Series 700 family continues to provide a complete range of industry-leading RISC workstations at every price point. This successful family is now complemented by two new products.

The Model 715/75 and 725/75 offer higher performance CPUs in low-cost Model 715 and Model 725 packaging. The Model 715/75 and 725/75 open doors to go head-on against Sun, DEC, SGI, and IBM in every selling situation where higher performance in a midrange desktop workstation is critical.

Both new models use a 75 MHz implementation of the PA 7100 PA-RISC chip. The performance gain for customers in moving from a 50 to a 75 MHz system is substantial and is additionally boosted through a higher (256KB) instruction and data cache. Depending on the applications used, customers will typically experience performance increases of up to 50 percent. While the Model 715/75 and 725/75 provide identical performance, they differ in the amount of EISA and storage expandability offered.

The following table shows the position of the Model 715/75 and 725/75 in the Series 700 family.

Series 700 Workstation Models

Benchmark	715/33	715/50	725/50	715/75	725/75	735	755
SPECmark89	46	69	69	110	110	147	147
MIPS 41	62	62	86	86	124	124	
MFLOPS (DP)	8.9	13	13	31	31	41	41
SPECint 92	24	37	37	61	61	81	81
SPECfp 92	45	72	72	113	113	150	150

Investment Protection. With these new models, HP continues to provide unparalleled investment protection in the Series 700 product line. Customers who have invested in Models 715/33, 715/50 or 725/50 can upgrade to the to the new 75 MHz systems through a simple CPU board swap. They'll benefit from an immediate increase in application performance while protecting their investment in memory, graphics, peripherals, and software.

Product Features. The Model 715/75 and Model 725/75 feature EISA expandability, with one slot on the Model 715/75 and 4 slots on the Model 725/75. These EISA slots can be used for adding advanced CRX graphics capabilities, additional network connectivity, and additional storage.

Like other Series 700 workstations, the Model 715/75 and Model 725/75 support standard grayscale and integrated 8-plane color, as well as optional CRX 24, 24Z, and 48Z graphics. As a result these systems continue Series 700 leadership in 2D/3D vectors as well as 3D solids solutions--at prices that position these systems very competitively. The following table lists the main features of the Model 715/75 and Model 725/75.

Model 715/75 and Model 725/75 at a Glance MIPS 86 SPECmarks 110 MFLOPS(DP) 31 Packaging Desktop & Deskside 715/75 - 4.3"H, 18.5"W, 15.7"D 725/75 - 6.6"H, 17.3"W, 16.1"D Processor PA-RISC Clock 75 MHz Cache 256KB Instruction, 256KB Data RAM 32-256MB Graphics 19" Grayscale (1280 x 1024, 72 Hz) 19" Color (1280 x 1024, 72 Hz) CRX-24, CRX-24Z, CRX-48Z options Internal Formatted Disk Capacity 1.05GB (2 x 525MB) or 2.10GB (2 x 1.05 GB) Total Disk Capacity 68.6GB (715/75); 239.8GB (725/75) Internal Removable Media Options 600MB CD-ROM 1.44MB 3.5" Floppy 2.0GB 5.25" DS Tape 4.0-8.0GB 5.25" DS Tape Built-in I/O (input/output) IEEE 802.3 Ethernet (ThickNET) 1 SCSI-II (Single Ended) 2 RS-232 Ports 1 Centronics Port 1 HP-HIL 1 EISA slot (715/75) 4 EISA slots (725/75) Audio ports Keyboard Options HP-UX or PC-style keyboard HP-UX Options UP-UX 9.01 run-time environment (instant Ignition, Media & Docs.)

1.1 Processor Performance

HP-UX 9.01 developer's environment

(Media & Documentation)

The Model 715/75 and 725/75 deliver impressive CPU performance by combining a 75 MHz PA-RISC integer processor with a 75 MHz floating-point processor. These processors, coupled with 256KB instruction and 256KB data caches, as well as a low-latency memory interface, provide the user with leading-edge application performance. These new systems not only deliver great performance and price/performance, they also offer additional functionality including CRX graphics and multimedia capabilities.

The Model 715/75 and 725/75 are designed to meet the needs of workstation users for ECAD, MCAD, Electronic Design Automation (EDA), Architecture and Engineering Construction (AEC), Geographic Information Systems (GIS), and Scientific applications. In addition, emerging markets such as Oil & Gas, Customer Services, and Financial Services are good targets for these workstations. See Section 3.0 for additional market information.

1.2 Packaging

The Model 715/75 and 725/75 make use of existing Model 715 and 725 packaging, enabling customers to add substantially higher performance through a simple CPU board swap. Existing memory, graphics, peripherals, and software can continue to be used with the 75 MHz systems.

1.2.1 Model 715/75 Packaging

The Model 715/75 is offered in the small, quiet Model 715 desktop package ideally suited for an office environment. The package measures 4.3 inches high, 18.5 inches wide, and 15.7 inches deep. This compact size is made possible by integrating the CPU, FPU, 8-plane graphics and standard I/O all on a single board. The package design gives the user the choice of placing the system on the desktop or on the floor in the deskside position using an optional pedestal.

Though compact, the small package can support up to three mass storage devices, that is, two hard drives and one removable drive (floppy, CD-ROM, or DDS tape). One slot is available for removable devices. For example, two 1GB disk drives and one 2GB DDS tape drive can all be configured within the system package. In addition, the Model 715/75 can accommodate 32-256MB of memory. One EISA slot is available for optional expansion (such as CRX graphics).

The Model 715/75 provides easy installation, upgradability, expansion and service. The package opens like a book so that all components are easy to access. These workstations are as easy to configure as stereo components, featuring plug-in memory modules, processor upgrade boards, disks, and removable media devices.

1.2.2 Model 725/75 Packaging

For users requiring more expansion, the Model 725/75 provides up to 4 EISA slots in a quiet desktop package well-suited to office environments. Storage can grow to 239.8GB through use of external storage arrays and EISA slots. The Model 725/75 package measures a compact 6.6 inches high, 17.3 inches wide, and 16.1 inches deep. If the user prefers a deskside system, an optional pedestal can be added to the system for convenient floor placement.

Though compact enough for desktop use, the package can support up to three internal mass storage devices; two removable devices can be accommodated. For example, one 1GB disk drive, one 2GB DDS tape drive, and one 1.44MB 3.5-inch Floppy drive can all be configured within the system package. Note that only one of each type of removable media can be supported on the system. The Model 725/75 can accommodate 32-256MB of memory. Four EISA slots are available for options. If optional CRX graphics are used, the system still provides three available EISA slots. Memory and processor access is simplified by a flip-up power supply that swings out of the way.

[Figure 1, p. 4 (Drawing. Model 715/75 packaging diagram.) Captions: Front, Autio/Headphones OUT Connector (Stereo), Audio/Mic IN Connector, Removable Media Bay, Power Switch]

[Figure 2, p. 4 (Drawing. Model 725/75 packaging diagram.) Captions: Nameplate, Bottom shelf, Middle shelf, Control panel]

1.3 Memory (RAM)

The Model 715/75 and 725/75 offer maximum memory capacity of 256MB. The memory subsystem is designed to achieve data transfer rates (160MB/sec peak) that match the high CPU performance of these systems. Two-way memory interleaving results in a balanced system architecture providing high application throughput. Consistent with HP's operational philosophy of "maximum reliability," ECC single-bit error correction and multiple-bit error correction logic are used. Industry-standard, low-cost DRAM SIMMS are used in both the Model 715/75 and the 725/75.

1.3.1 Memory Increments

Memory increments of 32, 64, 128, and 256MB are offered either factory integrated or as add-ons. The memory occupies 4 pairs of dedicated slots. Be sure to help your customers plan for future memory needs so that they can grow to the maximum memory capacity without having to exchange existing SIMMS. For example, a customer with four 32MB SIMMS would not be able to expand to 256MB without exchanging SIMMS.

1.3.2 32MB Memory Configuration Support and Constraints

The Model 715/75 and Model 725/75 support a minimum of 32MB of memory. This configuration is suitable for most 2D and some 3D application support. This configuration can be suitable for environments where applications run locally with either no requirement for a high-speed graphical user interface such as a CRX24Z, or with a user interface that can run remotely.

We believe that approximately 40% of Model 715/75 and 725/75 users will run a 32MB configuration. It is important to note that a majority of 3D, cache-intensive applications will require at least 64MB of total memory for optimum performance.

1.4 Graphics

The Model 715/75 and 725/75 deliver excellent graphics performance. Customers upgrading from Model 715/33, 715/50, or 725/50 workstations will experience a significant boost in graphics just by swapping CPU boards to obtain the new 75 MHz systems.

The Model 715/75 and 725/75 graphics hardware is the same integrated grayscale and 8-plane color implementation used in the Model 715 /50 and 725/50. Standard graphics support is available in either 19-inch grayscale or a choice of 8plane color monitors. The X11 performance of these workstations is

15,975. Their 2D/3D vectors per second performance is 1,100,000 using a standard 8-plane color monitor. All advanced CRX graphics options are also available. The following tables summarizes the Model 715/75 and 725/75 graphics specifications.

Model 715/75 and 725/75 Graphics Specifications GRAYSCALE 8 single buffered Image Planes Monitor Size & Resolution 19" Grayscale & 1280 x 1024 72 Hz (single sync) Scan Rates COLOR Image Planes 8 plane Monitor Sizes, Resolutions & 19" 1280 x 1024 (72 Hz) Scan Rates X11 Benchmarks X11 2D/3D Vectors/sec (sustained) 1,100,000 X11 Perf 15,975 Max. Graphics Performance (CRX-48Z) 3D Vectors/sec 1,450,000 Triangles/sec 600,000 Quads/sec 107,000 GPC PLBsurf93 74.1 Graphics Features Hardware Cursor Yes Hardware BLT Yes Hardware Text Acceleration Yes **CPU Integrated Graphics** Yes Graphics Interfaces X11 R5 PEX Yes **PHIGS** Yes Starbase GKS Yes PowerShade Yes CRX OPTIONS

1.5 Mass Storage Support

CRX-24 19-inch monitor

CRX-24Z 19-inch monitor

CRX-48Z 19-inch monitor

and visualization

The Model 715/75 and 725/75 feature high-performance, single-ended internal and external disk subsystems utilizing the industry-standard SCSI-II interface. SCSI-II is capable of supporting up to 5MB/sec synchronous data rate throughput. Model 715/75 and 725/75 workstations can accommodate up to two 3.5-inch half-height internal SCSI-II disks, providing up to 2GB of internal disk capacity. Support is available for both 525MB and 1GB disks.

24-plane, 3D wireframe

24-plane, Z-buffered, 3D solids

48-plane, Z-buffered, 2D/3D solids

The following tables depict the specifications for Model 715/75 and 725/75 mass storage options.

Model 715/75 and 725/75 Mass Storage Support

Disk Model (Formatted 525MB 1.05GB

Capacity) internal/external

Controller Type SCSI-II SCSI-II

Disk Size 3.5" 3.5"

Average Seek Time 10 ms 10 ms

Data Transfer Rate 5MB/sec 5MB/sec

Number of Int. Disks 2 2

Device Limit 7 7

Maximum Internal Disk Capacity 2.10GB (2 x 1.05GB)

Maximum External Disk Capacity 68.6GB (715/75); 239.8GB (725/75)

1.6 Removable Media Options

Model 715/75 and 725/75 offer a wide choice of internal removable media options. On the Model 715/75, one removable storage slot accommodates a 3.5-inch or 5.25-inch device. On the Model 725/75, two removable storage slots are available. On both workstations, the storage slots are accessible from the system's front panel. These slots can accommodate any one of the four internal, removable media options: 600MB CD-ROM drive, 1.44MB Floppy drive, 2.0GB DDS tape drive, or 4.0-8.0GB DDS tape drive.

NOTE: HP-UX 9.01 supports only one removable device of the same type at a time (externally or internally). The following table shows the Model 715/75 and 725/75 removable media options.

Model 715/75 and 725/75 Removable Media Options

.-----

4 mm DDS Drive

w or w/o

compression CD-ROM Drive Floppy Drive

Drive Size 3.5" half height 5.25" half height 3.5 half height Media Type 60m (120min)DDS 4.7" Flexible Diskette

Capacity 2.0GB 600MB 1.44MB

4-8GB w/Comp.

Interface SCSI SCSI SCSI

Data Transfer 183KB/sec 154KB/sec 500KB/sec

Rate

732KB/sec comp. 250KB/sec

Avg. Access Time 20 sec 350 msec N/A

HP-UX Dist. Media Yes Yes No

715/75, 725/75 Internal/External Internal/External Internal

Support

1350SE Support Yes Yes No Standalone Drive Yes Yes No

Applications Software Distrib. Software Distrib.

HP-UX Distrib. HP-UX Distrib. Data Exchange

Unattended On-Line Docu-Backup menatation Data Exchange Audio/Video Low-cost Archive Training

1.7 Standard Input/Output (I/O) Support

The Model 715/75 and 725/75 support a wide variety of industry-standard I/O interfaces, similar to the other members of the Series 700 family. In order to provide the best possible performance and cost savings for the user, the system has built-in Local Area Networking (LAN) AUI (ThickNET) connections as well as an external SCSI-II port, bidirectional Centronics interface, two RS-232 serial ports, Audio I/O, and either 1 (Model 715/75) or 4 (Model 725/75) EISA bus slots.

The Model 715/75 and 725/75 support a choice of two keyboards, the standard HP-UX keyboard and the PC-style keyboard. Both of these keyboards use HP's proprietary HP-HIL interface to the system. Only one keyboard can be configured with the system at any given time.

The Model 715/75 and 725/75 include built-in capability for recording and playing back CD-quality sound. The potential applications of CD-quality audio include voice annotation, voice notification, computer-based training, and emerging application areas such as verbatim recording and audio command & control. The following table lists the specifications for the built-in standard I/O.

Model 715/75 and 725/75 Standard I/O Specifications

SCSI-II Interface

Quantity 1

Type SCSI-II single-ended, 8 bit

Data Rate Up to 5MB/sec synchronous (1.5MB/sec asynchronous)

Device Limit 7

Connector SCSI-II, ALT-1 (50-pin high density)

Serial Interface

Quantity 2

Type EIA RS-232C, CCITT V.24/V.28

Data Rate Up to 460.8 Kbps with CTS/RTS

Device Limit 1 per connector

Connector 9-pin male DTE (PC standard)

Parallel Interface

Quantity

Type Centronics (Busy Handshake)

Data Rate Up to 300+ Kbps with DMA

Up to 200 Kbps sustained

Device Limit 1 per interface

Connector 25-pin female (PC standard)

Audio Interface

Quantity 1

Digital Data Rate 16-bit CD/DAT quality stereo (44.1 or 48 KHz)

```
Connector
               2 3.5 mm mini phone jacks
HP-HIL
 Quantity
 Type HP Serial Desktop Bus
 Device Limit 7
 Connector
               AMP SMD
EISA
 Slots 1 (715/75); 4 (725/75)
 Options
               CRX graphics
   FDDI
   SNA
   HP-IB
   X.25
   IEEE 802.3
   IEEE 802.5
   Apollo Token Ring
1.8 Networking Support
The Model 715/75 and 725/75 include the Ethernet 802.3 hardware integrated on the CPU board. An AUI
(ThickLAN) connector is standard. Customers needing a ThinLAN transceiver can order add-on option
A2670A.
   In addition to the standard Ethernet controller, the Model 715/75 and 725/75 also provide FDDI,
SNA, X.25, IEEE 802.3, (IBM) Token Ring IEEE 802.5, HP-IB and Apollo Token Ring interfaces
through the EISA bus. For a complete list of EISA options with product numbers, please refer to the
Prices and Configurations Guide.
   The following table summarizes the standard network support for the Model 715/75 and 725/75.
Model 715/75 and 725/75 Network Support
LAN Type
               IEEE 802.3 LAN
               ThickLAN AUI
Connector
Data Rate
               10MBits/sec
Standard HP-UX Networking
                                NCS, NFS
                        BSD 4.3 TCP/IP Services
Software Services
 BSD 4.3 Network Services
 ARPA Services
The following illustration depicts the back panel of the Model 715/75 with standard I/O and LAN
connectors.
[Figure, p. 10 (Drawing, Model 715/75 back panel diagram.) Captions: Power Switch, Reset Switch
(TOC), SCSI Connector (50 pin), Parallel Connector, HP-HIL Connector, RS-232 Connectors, AUI LAN
Connector, Power Cord Connector, Audio Line IN Connector, Monitor Connector, EISA Slot (Optional
on 715/33), Audio Line OUT Connector]
The following illustration depicts the back panel of the Model 725/75 with standard I/O and LAN
connectors.
[Figure, p. 10 (Drawing, Model 725/75 back panel diagram.) Captions: AUI LAN Connector, RS 232
Connectors, Monitor Connector, SCSI Connector, HP-HIL Connector, Parallel Connector, Audio In/Out]
2.0 Competitive Comparisons
This unit summarizes relevant competitive information. The table provides general comparative
information in a quick-reference format
Competitive Workstation Summary
Competitive Workstation Summary (Part 1 of 2)
 HP 9000
               HP 9000DEC Alpha AXP
Model Name
               715/75 725/75 3000 mod. 400
Package Desktop Desktop
Ship Date
               Q3 93 Q3 93 11/92
Performance
```

SPECmark89

110

110

111.1

Device Limit 1 mic, 1 headphone, 1 line in, 1 line out, 1 speaker

113	113	112.5				
86/31	86/31	134.3/26.4				
PA 7100PA 7100DECchip 21064						
1	1	1				
75 MHz 75 MHz 133 MHz						
1 EISA	4 EISA	3 TURB	O			
N/A	8/8KB					
KB	256/256	KB	512KB			
32/256N	1B	32-256N	1B	32/128MB		
68.6GB	239.8GE	3	36.7GB			
CRX 48	Z	CRX 48	Z	PGXT +		
15,975	15,975	NR				
24/24	24/24					
1,450 K	1,450 K	NR				
600 K	600 K	NR				
24-bit ha	ardware	24-bit ha	ardware	24-bit hardware		
kstation	Summary	/ (Part 2	of 2)			
1.5.00.1011	- amman	(14112	- ,			
Silicon	SUN					
SPARCS	stn					
	86/31 PA 7100 1 75 MHz 1 EISA N/A KB 32/256N 2GB 68.6GB CRX 48 15,975 24/24 1,450 K 600 K 24-bit hards skitation Silicon	86/31 86/31 PA 7100PA 7100 1 1 75 MHz 75 MHz 1 EISA 4 EISA N/A 8/8KB KB 256/256 32/256MB 2GB 2GB 68.6GB 239.8GE CRX 48Z 15,975 15,975 24/24 24/24 1,450 K 1,450 K 600 K 600 K 24-bit hardware ekstation Summary	PA 7100 PA 7100 DECchip 1 1 1 75 MHz 75 MHz 133 MH 1 EISA 4 EISA 3 TURB N/A 8/8KB KB 256/256KB 32/256MB 32-256M 2GB 2GB 2.1GB 68.6GB 239.8GB CRX 48Z CRX 48. 15,975 15,975 NR 24/24 24/24 1,450 K 1,450 K NR 600 K 600 K NR 24-bit hardware 24-bit hardware 24-bit hardware Silicon SUN	86/31 86/31 134.3/26.4 PA 7100 PA 7100 DECchip 21064 1 1 1 75 MHz 75 MHz 133 MHz 1 EISA 4 EISA 3 TURBO N/A 8/8KB KB 256/256KB 512KB 32/256MB 32-256MB 2GB 2GB 2.1GB 68.6GB 239.8GB 36.7GB CRX 48Z 15,975 15,975 NR 24/24 24/24 1,450 K 1,450 K NR 600 K 600 K NR 24-bit hardware 24-bit hardware ekstation Summary (Part 2 of 2)		

74.7

365 Indigo2 R4400 SS 10:51

Model Name Package Desktop Desktop

Ship Date Q1 93 7/93 Mid-93

Performance

SPECint92

61

61

NR 100 NR SPECmark89 SPECint92 48.7 94.2 65.2 99.2 SPECfp92 105.2 83.0

MIPS/MFLOPS NR/22.2 120.0/22.6 NR/NR

System Design

Power R4400 SuperSPARC Type processor

Max # process. 1 1

CPU clock spd. 50 MHz 75 MHz 50 MHz

I/O slots 1 4 4

Cache - int.

inst/dat 16/128KB 16/16KB 20/16KB

Cache - ext.

inst/dat NA 1MB 1,024KB

Configuration

RAM min/max 16/128MB 32/384MB 32/512MB

2GB 3.6GB 2.1GB Disk, int. max. 10.5GB 48GB 41GB Disk, ext. max.

Graphics

Highest option GT024 Extreme GT X11 perf overall NR NR NR # planes 24/24 24 24 24/24 3D vectors/sec 990 K 1200 K NR triangles/sec 120 K 415 K NR

Z buffering 21-bit hardware 24-bit hardware 24-bit hardware

NR = not released.

NOTE: The competitive information contained in this unit was valid at the time of printing but is subject to change. It is important to verify all data before using it in your sales strategy or presentations to customers.

The following two charts illustrate competitive SPECinteger92 and SPECfloatingpoint92 performance.

[Figure 1, p. 13 (Graph/chart. SPEC Integer 92 Competitive Performance.)]

[Figure 2, p. 13 (Graph/chart. SPEC Floating Point 92 Competitive Performance.)]

3.0 Target Markets

This section helps you identify those markets where the Series 700 Model 715/75 and 725/75 are appropriate workstations. Generally you are in a solid position to win in any selling situation in which

- 1. Cost effective workstations are required for fast X window performance
- 2. 2D/3D wireframe grayscale or color graphics are required
- 3. High-end CRX graphics are required

Key markets for the Model 715/75 and 725/75 are ECAD, MCAD, Electronic Design Automation (EDA), Geographic Information Systems (GIS), and Science, as well as emerging markets such as Oil & Gas, Customer Services, and Financial Services. Multimedia functionality is supported through CD-quality audio and add-on video card options. Entry-level surface rendering is available through HP's PowerShade 3D surface software. Optional CRX graphics are offered for solids modeling, visualization, and accelerated rendering requirements.

3.1 Mechanical Market

From a price/performance perspective, the new Model 715/75 and 725/75 systems fit nicely between the Model 715/50 and 735 systems. They compete head-to-head with SGI and their R4000-based products. For design applications such as solids modeling, the 75 MHz Model 715 and 725 will provide an attractive alternative in price-sensitive situations where the Model 735 is too expensive and the Model 715/50 does not offer adequate performance.

3.2 EDA (Electronic Design Automation)

The Model 715/75 and 725/75 are an important addition to the HP workstation product line for EDA. They provide the ideal solution for customers unsure of the need for Model 735 performance but who perceive the need for more performance--especially integer performance--than is available with the Model 715/50. The Model 715/75 will represent an ideal server for EDA accounts using less expensive software. It will do best in the IC design area and with power users in other areas of EDA.

3.3 Architecture and Engineering Construction (AEC)

The addition of the new Model 715/75 and especially the new 725/75 is important news for this market. Many applications are moving to 3D--i.e., the performance requirements are increasing. At the same time, more than one EISA slot is required in many cases. Facility design, large facility management, and infrastructure design and management are great opportunities for a low-cost, high performance visualization system.

3.4 GIS (Geographic Information Systems)

The Model 715/75 will be a key product for the GIS marketplace; the model 725/75 will have limited potential as the additional EISA slots are not a requirement. The Model 715/75 teamed with 1 - 3 X-Stations should form a potent and common configuration, offering a very attractive cost per seat. Acceptance of X-Stations has been growing rapidly in GIS, and the Model 715/75 will be an excellent X server in this configuration. Application areas within state and local government ranging from tax assessment to city planning and environmental analysis will be large-scale users of such a configuration.

3.5 Financial Services

The Model 715/75 will be a strong trader desktop product in the Securities segment, while the Model 725/75 will be an excellent product for the Banking and Insurance industries.

In the Securities segment, the Model 715/75 completes the desktop trader offering with a strong, high-performance system. The ability to offer the same Model 715 package with three different performance points (33 MHz, 50 MHz, and now 75 MHz--all board upgradable) will provide a great competitive advantage for the HP trader desktop.

In the Banking and Insurance environments, the Model 725/75 represents an even higher performing X-Station server. These implementations are generally seen in customer service delivery functions with 5 - 10 X-Stations. Adding the Model 725/75 to this configuration should considerably increase the performance of the overall network.

3.6 Scientific Market

The new 75 MHz workstations will be very effective additions to the already successful Series 700 product family. The additional cache (256KB) will allow larger, more logical data sets to be read into fast memory. Because of the vast amount of data required in Visualization, Oil & Gas, Chemistry, and Statistical Analysis, this ability will result in much higher application performance for those industries. Especially when competing against SGI in Computational Chemistry and Oil Exploration & Production, the Model 715/75 will be an excellent fit.

3.7 Electronic Publishing

For the publishing market, the lower-performance workstations such as the 33 MHz Model 715 and the 50 MHz Model 715 and 725 are generally the preferred solution. The new 75 MHz workstations will

therefore be required only in certain niches within publishing. Those niches include power users within the technical documentation segment who, for instance, have to move many engineering drawings or other graphics within documents or work on documents thousands of pages in length. In the commercial publishing pre-press market segment, the power of the 75 MHz systems will be a strong selling point for the raster image process (RIP), where vector graphics are converted to raster images before going to press. Here, high performance is a critical issue.

3.8 Office Automation

In this market segment the Model 715/75 and 725/75 will be attractive only to very specific customers. For instance, they could be used as a departmental server for applications such as Lotus Notes on HP-UX or as an e-mail backbone. Generally, the Model 715/33 and 715/50 products are the better fit in this segment.

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