

apollo

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Apollo Quick-reference Configuration Guide



Notes:

1. The HP/Apollo Documentation Catalogue is available via the Apollo Direct Channel (ADC). Call 1-800-225-5290 or Area Code 508-256-6600, X6620.
2. Special Credits/Price Adjustments ("K" options) are offered with certain specific disk and memory configurations with the following HP/Apollo products: DN2500, DN/DSP3500, 3550 and 4500.

NOTE: When ordering these products, ensure that they are entered on OMS as a M09 Price Adjustment and not as an option to the base system ordered.

3. Changes to the HP/Apollo Product Line will be communicated via the monthly MOMENTUM package.

Effective 7/1/90:

1. This Quick Reference Guide lists hardware and software products currently available on the HP/Apollo Products Price Guide. The 7/1/90 Guide will list new Apollo product offerings and mature and obsolete others. Please consult both documents when configuring and ordering HP/Apollo products.

This Quick Reference Guide is intended to be used in conjunction with the HP/Apollo Price Guide currently in effect.

2. SR9.7, Domain/IX, and all SR9.7-based products will appear in the MATURE PRODUCTS section of the 7/1/90 Price Guide. These products are being phased out and all customers should be migrating to SR10.

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This *Quick-reference Configuration Guide* will familiarize you with HP's Apollo Systems Division's approach to configuring workstation systems. It provides basic product descriptions, a treatment of configurable subsystems, some sample configurations, and some general **dos** and **don'ts**. The *Quick-reference Configuration Guide* will attune you to providing your customers the right mix and balance of Apollo's premier workstation-based team-computing solutions. For further details, you should refer to the *HP/Apollo Products Configuration Guide*, the Apollo price list, the *Quick-reference Add-ons and Upgrades Catalogue* (1-800-225-5290), *Instant Apollo*, the *Apollo Documentation and Software Replacement Media Catalogue*, and the sales center (508-256-6600, X7600).

With the addition of the Apollo product line, your customers now have one of the industry's broadest arrays of solutions from which to choose. Apollo pioneered the networked workstation industry, giving whole classes of engineers, scientists, and technical professionals the tools they need to do their jobs better. And consider these other Apollo strengths that can augment your sales offerings –

- a broad range of solutions spanning technical publishing, CASE, CIM, ECAD, CAE, MCAD, MCAE, education, and finance
- a strong presence in the aerospace, automotive, semiconductor, computer, and communications industries
- support of both Berkeley and System V UNIX standards, along with the highly transparent Domain/OS operating system
- progressive price/performance offerings: the entry-level Series 2500 starting at under \$4000, the 5MIPS Series 3500, the 8MIPS Series 4500, and – for those compute-intensive visualization tasks and server requirements – the RISC-based 100MIPS-plus Series 10000 Personal Supercomputer (in a class by itself at the high end)
- a thorough commitment to openness and standards
- in support of team computing, the best heterogeneous, distributed-processing networking in the industry and the ability to run across the IBM token ring, Ethernet, and DECnet networks

We have all the right tools at the right price. Good luck selling!



Series 2500

Product Description

The Series 2500 product is the Apollo Systems Division entry-level desktop platform. It is based on the Motorola 68030 (20Mhz version) and 68882 floating point coprocessor. The Series 2500 supports up to 16MB of main memory and can be run diskless or support up to 400MB of internal disk storage.

The Series 2500 product is equipped with a Small Computer Systems Interface (SCSI) that will allow the Series 2500 to interface with up to 7 daisy-chained SCSI devices. Additionally, the Series 2500 is equipped with a single serial port (RS232) which is expandable to 3 serial ports with the Multiple Serial Connector (sold through Instant Apollo – model # K1015).

The Series 2500 uses a single PC/AT-bus slot to accommodate a single network driver card (either Apollo Token Ring, Ethernet, or IBM token ring.) The Series 2500 does not offer any expansion bus slots.

The Series 2500 system supports either 15" or 19" monochromatic monitors.

Like all Apollo Systems Division products, the Series 2500 includes a license for the Domain/OS operating system, which provides System V.3, Berkeley 4.3, and Aegis environments. This triple port of the UNIX environments makes the Domain system truly one of the most open products in the industry. With the built-in Domain Distributed Services (DDS), Domain/OS provides a transparent network-wide distributed file system, which virtually administers itself.

Configurable Subsystems Memory

The Series 2500 utilizes 1MB Single In-Line Memory Modules (SIMMs) that are configurable in increments of 4, 8, 12, or 16MB. (The option to expand memory to 64MB will become a reality with the economical availability of 4MB DRAMs.) The standard entry-level configuration includes 4MB of memory and is available on bundled systems only.

Disk/Tape Drives

Two varieties of Winchester disk drives (100MB and 200MB) are available for configuration internal to the Series 2500 system box. These can be configured from the factory in increments of 100, 200, or 400MB (two 200MB drives provide 400MB). Additionally, customers may upgrade a DN2500 that already contains a 200MB disk with a 100MB disk – resulting in a 300MB configuration. 300MB configurations are NOT orderable from the factory.

External Winchester disks (200MB or 660MB), and floppy and/or cartridge tape drives may be added through the use of a Disk Expansion Module. The 200MB drive may be combined with the 5.25 inch floppy disk drive in this single Disk Expansion Module.

Local Area Network Controllers

Every Domain system includes a LAN controller at no additional charge. This is an integral part of an Apollo workstation due to the Domain distributed file system which was designed for use in a networked multinode environment. There are three types of network controllers available for running native Domain Distributed Services: 12Mbps Apollo Token Ring, 10Mbps IEEE 802.3 Ethernet, or 4Mbps IEEE 802.5 (IBM) token ring.

Graphics Options

The Series 2500 workstation is available only in monochrome. Two screen sizes and resolutions are available: a 15" monitor with 1024x800 resolution and 19" monitor with 1280x1024 resolution.

Configurations

The Series 2500 is packaged in a unique enclosure that can be installed to reside on the desktop or, with the addition of system unit floor stands, at the desk side.

Ordering the Right Workstation for the Job

The key to developing and maintaining satisfied customers is to properly identify the requirements for the workstation you are proposing for them, and then recommend a workstation that will get the job done. Here are a few basic rules-of-thumb that should prove useful when configuring Series 2500 workstations.

Does the customer need a standalone workstation?

Make sure that the configuration includes enough disk storage—200MB for a standalone configuration is recommended. Also make sure that you include sufficient memory for the application.

Will the customer want to use a graphical user environment?

Graphical user environments, or window managers, are becoming increasingly desirable. It is important to keep in mind that these easy-to-use graphical environments often require additional memory. The minimum memory configuration that will run most graphical window managers is 8MB.

Will the customer be using the workstation on a network (i.e., without local disk)?

Workstations that do not have local disks require additional memory for acceptable performance. The entry-level 4MB workstation will be unacceptable for most diskless environments. You must configure a disk expansion module on a network consisting *solely* of Series 2500s, since you need a cartridge drive to install the O.S.

Typical Applications

The Series 2500 workstation is ideal for applications that utilize monochrome displays. Examples of such applications are:

- Electronic Publications
- CASE or Software Development
- Office Automation applications such as spreadsheets and word processors.

The Series 2500 is also well suited in applications where a low-cost “front-end” to a high-powered compute server is desired. Such applications include:

- Database
- Simulation
- Finite Element Analysis

2500 Dos and Don'ts

The Series 2500 is equipped with an industry standard Small Computer Systems Interface (SCSI), which allows customers to plug in third-party peripherals. It is important to point out though that only the Apollo-approved cables have been tested and use of any other SCSI cables could result in serious difficulties.

Do use Apollo-approved SCSI cables.

The Series 2500 allows users to configure a system with a 100MB disk. Be careful to point out that 100MB is not large enough to contain SYS V.3, BSD4.3 and Aegis simultaneously.

Don't scrimp on disk size. Configure enough disk for the desired OS environment.

Sample Configuration

A typical Series 2500 system that would be useful for both Electronic Publications as well as CASE applications, is as follows:

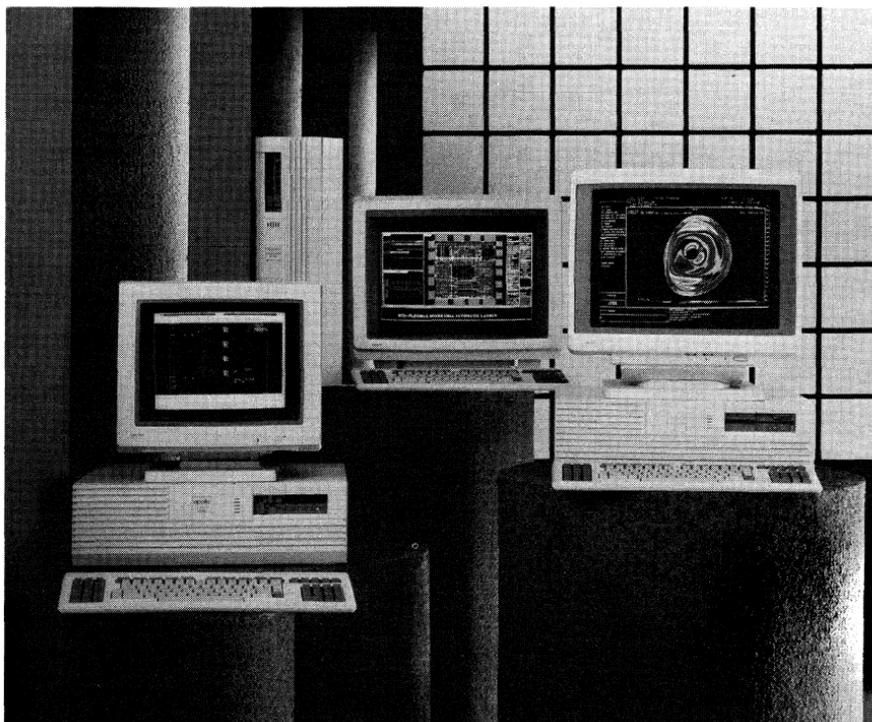
Base System

Cell (SPU)	DN2500	DN2500
Country Kit	Country Kit with Keyboard	DN2CK-*
Graphics	1280 x 1024 Monochrome	DM0
Storage	200MB Disk	E20
Monitor	19" High Resolution Monochrome	FM3
Communications	10" Mbps Ethernet	G02
Memory	8MB	H02

Options

Tape Drive	1/4" Cartridge Tape Drive	AADESTC*
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*Country Code must be specified. See Inside Back Cover.



Series 3500/4500

Product Description

The Series 3500, 3550, and 4500 products are the mid-range Apollo Systems Division desktop platforms. All of these products are based on the Motorola 68030 (both 25Mhz and 33Mhz versions) and 68882 floating point coprocessor. Additional floating point performance is available through the use of an optional floating point accelerator. Apollo systems support up to 32MB of main memory and can be run diskless or support up to 697MB of internal disk storage.

With the exception of the Series 2500, the Apollo product line SPUs are expandable through the use of an internal 7-slot PC/AT-compatible bus. This bus is used to support all of the standard network controllers (Apollo Token Ring, 802.3 Ethernet, 802.5 Token Ring, and Serial Controller-AT [SCAT] for SNA and X.25) as well as an MS-DOS compatible PC coprocessor. Each system contains one asynchronous serial RS-232 port and additional serial I/O ports are available through the use of a Serial Port Expansion board (SPE).

All Apollo systems support either 15" or 19" monitors. Graphics capabilities for these systems range from dumb frame-buffered monochrome to 4- or 8-plane color with 2-D and 3-D acceleration to the Desktop Visualization System 40-plane 3-D accelerated true color.

Apollo Systems Division products all come equipped with the Domain/OS operating system, which provides System V, Berkeley 4.3, and Aegis environments. This triple port of the UNIX environments makes the Apollo system truly one of the most open products in the industry. With the built-in Domain Distributed Services, Apollo systems provide a transparent network-wide distributed file system that virtually administers itself.

Configurable Subsystems

Memory

Series 3500 workstations may be purchased with 4, 8, 12, 16, 24, or 32MB of memory. Series 3550 and 4500 workstations may be purchased with 8, 16, 24 or 32MB of memory. Memory modules are available in either 4 or 8MB modules; however, an odd number of 4MB modules may only be used in the Series 3500 systems. Up to four 8MB memory modules may only be installed into any system providing up to 32MB of main memory.

Disk/Tape Drives

Winchester disk drives with 155MB, 348MB, or 697MB may be configured into a system along with either a floppy disk drive or a cartridge tape drive. External Winchester, floppy, or cartridge tape drives may be added through the use of either an External Disk/External SCSI Expansion Module or a floor-mounted Multiple Disk Expansion Module.

Local Area Network Controllers

Every Domain system comes equipped with a LAN controller at no additional charge. This is an integral part of an Apollo workstation due to its distributed file system which was designed for use in a networked multinode environment. There are three types of network controllers available for running native Domain Distributed Services (DDS): 12Mbps Apollo Token Ring, 10Mbps IEEE 802.3 Ethernet or 4Mbps IEEE 802.5 (IBM) token ring. Multiple network controllers (of any type) can be supported simultaneously in any of the Series 3500, 3550, or 4500 products to support internetwork routing.

Graphics Options

Series 3500

The Series 3500 system supports monochrome, 4-, or 8-plane color graphics. There are five different monitors, four of which are 19" and one 15". The 15" monitor is used for lower resolution (1024x800) 4- and 8-plane color only.



The 19" monitors are used for higher resolution (1280x1024) monochrome and higher resolution color graphic subsystems as well as the "F" option – a 2-D accelerator used for increased graphics drawing capabilities. One 19" color monitor operates at 70Hz refresh rate and is used in conjunction with the 8-plane Desktop Visualization System graphics option.

Series 3550 and 4500

In addition to supporting all of the graphic capabilities that the Series 3500 supports, the Series 3550 and 4500 systems also support monochrome, 8-, or 40-plane color graphics. Here also there are five different monitors, four of which are 19" and one 15". The only difference between the graphics options for these systems and that used by the 3500 is the additional availability of the 40-plane Desktop Visualization System (DVS) graphics option.

Configurations

The Series 3500 and 3550 share the same 25Mhz, 5MIPS, MC68030 while the Series 4500 comes equipped with a 33Mhz, 8MIPS MC68030. However, the Series 3550 and 4500 share the same chassis and power supply, which is important, because the larger power supply is required to support the 40-plane DVS option.

Since only 8-plane DVS is supported on the Series 3500, that system is better suited for CASE and ECAD applications. It can be configured with a minimum of 4MB of memory and can support a monochrome or 4-plane color monitor for a very economical solution. While the Series 4500 is equally capable of supporting CASE or ECAD applications, it also serves as an ideal MCAD system because of its greater integer performance and its 40-plane DVS capabilities. The 3550 can run the full 40-plane DVS, but it is more typically configured with the "F" option graphics and monitor that provides high-resolution 2-D acceleration, making this an ideal system for ECAD applications as well.

There are some restrictions to keep in mind when configuring a system with DVS graphics. Both the 8- and 40-plane configurations consist of two boards: the transformation processor board and either the 8- or 40- plane frame buffer. Both boards plug into the PC AT slot and get power from the AT bus. However, commands and data are sent to the boards through a ribbon-cable connector to the 32-bit HSI connector on the CPU board. Since the floating point accelerator (FPA) card also requires an HSI connector, configurations are limited on the Series 3500 and 3550. In addition, power consumption of the board-set limits the available configurations in the Series 3500. (Note the Desktop Visualization System is not supported on the Series 2500, 3000 or 4000.) Below is a table of DVS/FPA configuration rules.

Desktop Visualization System	8 Plane	40 Plane	FPA Allowed
Series 4500	Yes	Yes	Yes
Series 3550	Yes	Yes	No
Series 3500	Yes	No	No

With that in mind, consider the following configuration scenarios. A typical Series 3500 system might be configured for an ECAD application as follows:

Base System

Cell (CPU)	DN3500	DN3500
Memory	8MB	H02
Graphics	1280 x 1024 8 plane color accelerated 2D	DF0
Monitor	19" High Resolution Color	FC4
Communications	10 Mbps Ethernet	G02
Storage	Diskless	E01
Country Kit	Country Kit with Keyboard	DN3CK-*

*Country Kit must be specified. See Inside Back Cover.

It is recommended that a minimum of 8MB of memory be used in order to attain maximum performance. In this case a total of 16MB was specified. Actual memory requirements are dictated by the application(s) running and data on those requirements is contained within the product release notes or from the solutions supplier.

Another example might involve the need to configure a system to support a solids modeling MCAD application. Such a system would be configured as shown below:

Base System

Cell (CPU)	DN4500	DN4500
Memory	16MB	H04
Graphics	1280 x 1024 40-plane color accelerated 3D	DB0
Monitor	19" High Resolution Color (70Hz)	FC4
Communications	12 Mbps Ethernet	G01
Storage	697MB with cartridge tape drive	E8C
Country Kit	Country Kit with Keyboard	DN3CK-*
Credit	697MB, 40-plane special credit	K08

Options

FPA	Floating Point Accelerator	A-ADD-FPA
Memory	16MB of additional memory	A-16MB-B

*Country Code must be specified. See Inside Back Cover.

Notice in this case that both the FPA and 40-plane DVS were configured. This would not be possible if this were a Series 3500 or 3550.

The 3500, 3550 and 4500 systems can also be used as servers within an Apollo network. They can serve as file servers, print servers or communications gateways/servers. For example a DN4500 could be set up as a file server and can support a total of 2.8GB of disk storage. When configured with a Serial Controller AT (SCAT) card and communications software any one of these systems could be set up as an X.25 or SNA communications server for the purpose of providing a link to a remote site or an IBM main-frame host.

For example, a combination departmental file server and router could handle 2.8GB of on-line storage and provide linkage between multiple Ethernets and Apollo Token Rings as shown below:

Base System			Qty
Cell (CPU)	DSP4500	DSP4500	1
Memory	16MB	H04	1
Communications	10 Mbps Ethernet	G02	1
Storage	697MB with cartridge tape drive	E8C	1
Country Kit	Country Kit without Keyboard	DSPCK-*	1
Options			
Memory	16MB of additional memory	A-16MB-B	1
Disk Controller	SCSI/Winch/FIpy multi functl periph. cntl	A-ADD-SWFC	2 **
Cabinet	Multi. disk exp. mod. w/(3) 697 dsk & crt tape	A-697TC-*	1
Ethernet Controller	Additional AT-Bus Ethernet Controller	A-NET-ETH	1
ATR Controller	Additional AT-Bus Apollo Token Ring Controller	A-NET-ATR	1

*Country Code must be specified. See Inside Back Cover.

****Note:** Two controllers are needed because each controller supports only two disk drives.

This case involved a total of three network controllers. Some rules of thumb in this area are that no more than a total of six network controllers should be configured into any one system and no more than two of any type (e.g., Apollo Token Ring, Ethernet, IBM Token Ring) should be configured into any single system.

In another example, a departmental server may be needed in a financial services operation to communicate with an IBM mainframe located in a remote location. In this case, the server is essentially a communications gateway and would be configured as follows:

Base System			Qty
Cell (CPU)	DSP3550	DSP3550	1
Memory	8MB	H02	1
Communications	10 Mbps Ethernet	G02	1
Storage	155 MB Disk and Cartridge tape	E4C	1
Country Kit	Country Kit without keyboard	DSPCK-*	1

Options

Serial Contrlr Board	SCAT board	SCAT10N-N-B	1
3270 gateway	Domain SNA 3270 emulation & Gateway license	LA70ABAA	1

* Country Code must be specified. See Inside Back Cover.

Must specify cable type

In this case the SNA gateway software provides a total of 32 logical sessions for use by any Apollo node within the networked environment. No additional software is needed for those nodes to make use of this gateway capability. If this same node were being used for other purposes such as operating as a print server, serial I/O limitations would apply. For example, there can be no more than one Serial/Parallel Expansion (SPE) board per node and no more than two high-speed IKON controller boards per node. In general, care must be taken not to overload any system with too many peripheral cards on the AT bus. Check the configuration guide for power and heat limitations for each system.

Series 3500/4500 Dos and Don'ts

- Need at least 8MB of memory for good performance.
- One SPE card per node.
- Do not overload power supply with too many cards on the bus. See documentation that comes with node.
- Maximum of 2 IKON controllers per node.
- Maximum of 4 network controllers per node and no more than 2 of any given type. (i.e., 2 Ethernet and 2 token ring controllers are OK; 4 Ethernet controllers are not.)



Series 10000

Product Description

The Series 10000 is a high-performance multiprocessing workstation. The system architecture is based on the *PRISM* RISC CPU and high-performance floating point units. The system can support up to four processors, each one of which is rated at 22MIPS and 5.8 Double Precision Linpack MFLOPS. This allows extra computational capacity to be added to the system by simply adding an additional CPU board. The system is typically sold as a computational server on the network—either without graphics at all or with an 8-plane graphics option. However, high-performance 3-D graphics are also available as a simple single (40-plane) or dual (80-plane) PC board.

The Series 10000 supports a total of three buses. Processors, memory, and graphics subsystems all reside on the system X bus. This high speed (160MB/sec) 64-bit bus is the system backplane and has eight configurable, usable slots total. Also residing on the X bus is the service processor, which is responsible for monitoring and driving both of the I/O buses, a PC AT bus,

and a VME bus. The disk subsystem controllers and the network controllers (with the exception of FDDI and IBM token ring) reside on the VME bus. The eight-plane graphics controller (if so configured) and a variety of peripherals use the PC/AT bus.

The Series 10000 is an office environment machine, uses 110v or 220v power, requires no additional cooling, and fits under a desk. This is a real advantage in many areas where computer room cooling is not available.

Configurable Subsystems

The Series 10000 is typically sold either as a computational server on the network or as a high-performance workstation. As a server, the system is used for computationally intensive tasks such as finite element analysis. In this situation the user will typically not be interested in high-performance graphics. Therefore, the simple 8-plane graphics option is usually adequate. The system can also be sold with no graphics at all. Users will be interested in memory and number of CPUs required to satisfy their requirements.

CPUs

Up to four CPUs can be configured in the Series 10000, each one taking one X-bus slot. Today, these would be used to service multiple jobs or tasks submitted to the system simultaneously. In a team-computing environment, multiple desktop users will be submitting jobs for the Series 10000 to compute. Therefore, multiple processors are available to speed up the overall throughput of the system. The latest compiler technologies will also allow multiple CPUs to work on the same task in a parallel fashion to speed up a single job.

Memory Subsystem

All CPUs have access to main memory via the system bus. Each memory board contains connectors for four 64MB daughter boards, and thus a full memory card can hold 256MB memory. Up to three memory boards can be configured in the system for a total addressable memory configuration of 720MB. Each memory board uses two X-bus slots due to the height of the memory cards. There are only eight slots in the Series 10000 backplane.

Disk Subsystem

The system may have up to four disks internal in the package. These disks can be either 348MB or 700MB Winchester. Pairs of disks may be striped, meaning configured to share files. Though one disk controller can be used

for two disks, in the case of striping two should be used for multiple disks. This assures maximum performance. One disk and controller comes with the E6A and E8A options. To add one more disk, unstriped, a J option **without** the controller is specified. To add one more disk with striping, a J option **with** the controller is specified. The maximum number of J options that can be added is three. Then there will be a disk included in the package and three additional, giving four internal disks.

In addition, up to 2.7GB of additional external disks can be added to the system.

Graphics Subsystem

As a high-performance 3-D graphics workstation, the Series 10000 has two basic options, 40 planes and 80 planes. The 3-D drawing engine is very fast, delivering one million 3-D vectors per second, and over 100,000 polygons per second. The 40- and 80-plane graphics options use the high-resolution monitor, FC3, and reside directly on the X-bus. The 40-plane board consumes one X-bus slot and is used for pseudo color applications such as solids modeling. The 80-plane option consumes two X-bus slots and is used for true color double buffered options, as well as including features such as texture mapping, transparency, and 32 bit Z-buffering. There is no performance difference between the 40- and 80-plane options, just functionality. The graphics system is tightly coupled to the CPU, which performs all rendering and rotation operations. There is no separate graphics accelerator. However, the graphics library will use multiple CPUs to speed up graphics operations, if specified. Multiple processor rendering is specified by environment variables. There are no hardware or software changes to run in this mode.

Network Options

The base system includes a choice of Ethernet, Apollo Token Ring, or IBM token ring network controllers. It is possible to configure a system with both Ethernet and Apollo token ring. Both of these network controllers are VME cards. The IBM token ring card is an AT-bus interface card. Software to drive the network controllers is built into the OS, and is not ordered separately. A maximum of 6 network cards can be installed simultaneously, with no more than two of each type concurrently.

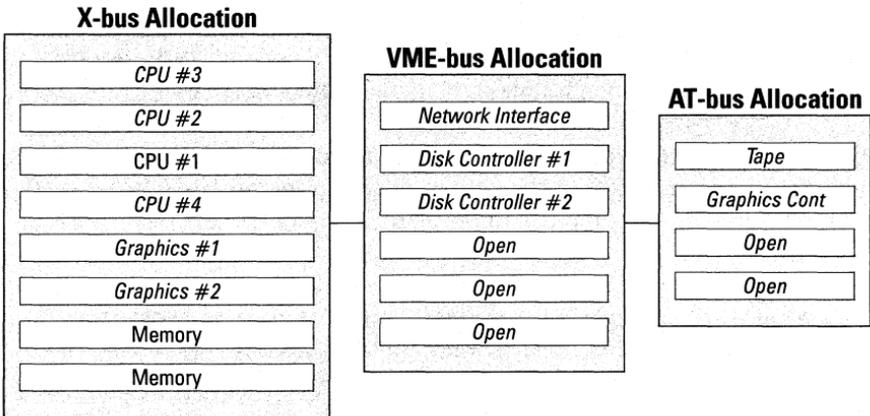
FDDI dual attach will be available as an X-bus option.

Configurations

The Series 10000 is the most highly configurable product in the Apollo family. Customers have the ability to configure optimally for specific job requirements, and flexibility for reconfiguring with upgrades and enhancements. There are, however, two basic configurations that seem to satisfy 80% of all requirements. First you must determine whether the user requirements depict a computational server, or a high-performance graphics workstation. If it is a server they need, a dual processor 64MB system with 760MB of disk will get them started and make them happy. If they have the extra \$10,000, the 8 planes of graphics gives them a display that acts primarily as a system console, but also satisfies ECAD applications quite well. If this system is a bit too high in price, drop back to one CPU and 32MB of memory.

If the user is interested in high-performance graphics, add the 40- or 80-plane option. Leave the base system described above the same, that is dual processors, 64MB of memory, and 700MB of disk. If price is an issue, drop back to 40 planes of graphics, and drop memory back to 24 or 32 megabytes. Never drop below 16MB per processor or the customer will be unhappy.

Now just choose your network options from the a la carte menu.



Italics = Optional, depending upon configuration

Examples

Typically the Series 10000 is used as a compute server in a network. The optimal number of processors in this environment is a function of the number of users and the number of jobs that users will want to run simultaneously. For example, in a small network of 15 nodes, typically two or three engineers may be running finite element models, five are using e-mail, the rest are setting up a finite element run or analysis results. The average load on the Series 10000 would require two processors, with enough memory to

run the application with a minimum of virtual memory accesses. This system may be configured with 8-plane graphics, even though it is actually being used as a server. Here the graphics option allows the Series 10000 to act as both a server and a workstation seat. A typical useful configuration would be:

Series 10000	Base system
C02	2 processors
DE0	Low-resolution 8-plane graphics
E8A	One 700MB disk
FC2	19" color monitor
G02	Ethernet
H05	32MB Memory
J04	Second 760MB disk <i>with</i> controller, required for striping capability
J05	Cartridge tape
J06	Cartridge tape controller
DN10CK-ABA	North American Country Kit

A typical configuration for an MCAE node is two processors and 32MB memory. The processors are used in a multiprocessing environment, and therefore a reasonably large disk configuration is necessary to keep the system in balance. Graphics requirements would depend on the application being run, but may often need 40- or 80-plane graphics.

Quantum chemistry applications are very disk and memory intensive, but less process intensive. One processor with 64MB memory and two 700MB striped disks would be typical. Eight-plane graphics would be adequate in this case.

Full memory configurations are always better performers. Users tend to purchase either small (16-32MB) or full memory options. Few tend to configure systems in the middle ground.

HOW TO—

STEP 1. Determine the number of processors that are optimal.

STEP 2. Allow 16MB per processor, or more if the application/data sets require it.

STEP 3. Allow two 700MB disks for every 64MB memory, or more if the application/data sets require it.

STEP 4. Determine graphics requirements.

STEP 5. Check the chart below. **Will it all fit on the X bus?**

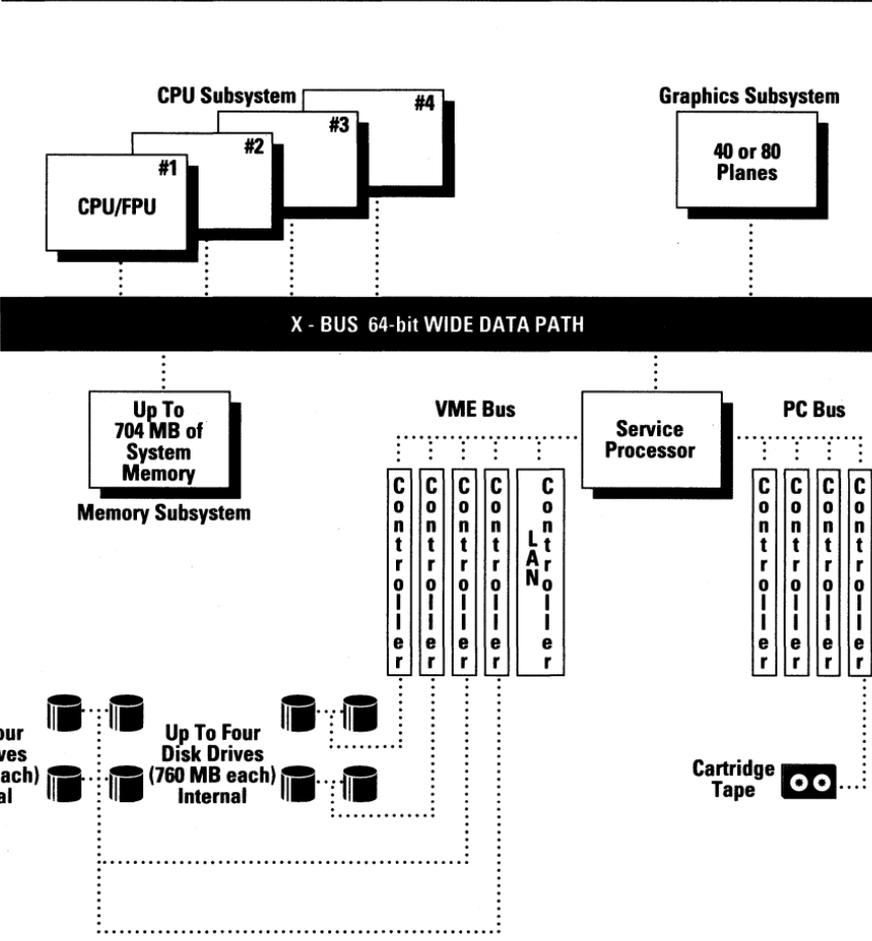
STEP 6. Check VME-bus slot count. Will it fit?

STEP 7. Check for all required components, such as keyboards, monitors, controllers for tape drives, and graphics software if applicable.

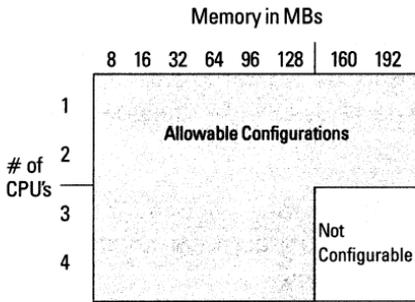
Series 10000 Dos and Dents

- **An underconfigured Series 10000 will be a disappointing performer.** Customers have a tendency to configure their systems with too little memory. This high-performance machine runs through data, and especially programs, faster than any other machine of its type. RISC machines in general require more memory, since programs are larger. Prospects will often extrapolate their memory requirements from their experience with a VAX. This will cause an underestimation of needs.
- **Do Not Configure a Series 10000 as a Terminal Server.** Domain O/S was designed for workstations, not minicomputers, therefore it does not handle multiple simultaneous users well. Instead, sell diskless 2500s off the Series 10000.
- If the prospect must make some tradeoffs, **it is better to configure with more memory than more CPUs.** That way, the customer will not be disappointed by the performance and will understand his system load requirements.
- **It is not possible to fully configure a system with all options.** See attached sheet for details.
- For best disk performance, use as many controllers as possible (up to four). Additional controllers provide for higher disk *throughput*; additional drives provide extra storage capacity.

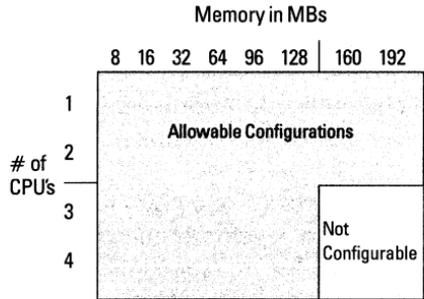
Series 10000 Block Diagram



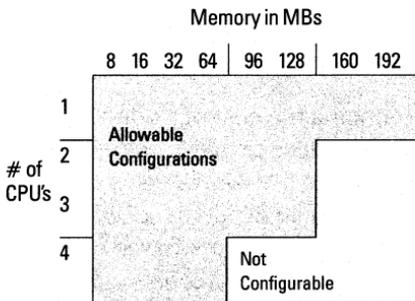
DSP100x0 Server



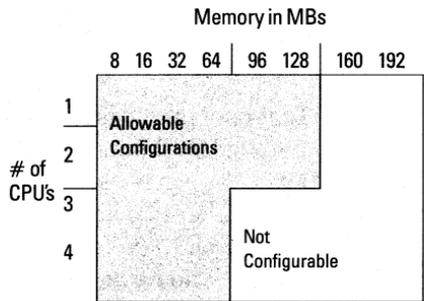
DN100x0 8pl graphics (DEO)



DN100x0 40pl VS (DGO)



DN100x0 80pl VS (DHO)



NOTE: 16MB – 256MB of memory requires (1) mem. mother bd., (2) X-bus slots
 272MB – 512MB of memory requires (2) mem. mother bds., (4) X-bus slots
 528MB – 704MB of memory requires (3) mem. mother bds., (6) X-bus slots

Node License (or License): a license to run the software on a single specific node. *Each node using the software is required to be licensed*, including diskless nodes. Discounts on Node Licenses are granted according to the customer's appropriate discount schedule. Node Licenses include the license, media, and documentation.

Development (Node) License: a type of Node License required for software used to develop applications. Only nodes developing applications using this software are required to purchase this license.

Run-time (Node) License: a type of Node License required to run applications created by Development Licensed software. These licenses are offered at a lower price than the Development License. Some Development Licensed software does not require Runtime Licenses; in these cases there is no license, or fee, for nodes running the resultant application.

Corporate License: provides a means of reducing the cost of Node Licenses, including Development and Runtime Licenses, when purchased in quantity. Quantities can be determined without any network or geographical restrictions. In order to obtain the discount, the quantity *must be ordered* on one purchase order. Corporate Licenses provide a discount based on the quantity ordered; no further discounting is permitted (i.e., *customer discount schedules do not apply*). Therefore, for customers with large discount schedules it might be more economical to order the required number of Node Licenses rather than take the discount offered on the quantity Corporate Discount schedule. Corporate licenses do not include media and documentation, which must be ordered separately.

Gateway License: a license for a communications product that runs on a single node but provides a service for users running on other systems. Although multiple users may benefit from the services provided, only the node running the software needs to be licensed.

Corporate Licenses permit the "right to use" the software. Separate media (cartridge tape, 8" floppy, 5¹/₄" floppy, or mag tape) must also be ordered to obtain the software. However, the software can be copied to licensed nodes, so only one copy of the media is required to obtain the original software. Product documentation must also be ordered separately from the *Apollo Documentation and Software Replacement Media Catalog*.

Each copy of the **Node Licenses** (including Runtime and Development versions) as well as **Gateway Licenses** are delivered with media and documentation. However, the specific media type (cartridge tape, 8" floppy, 5¼" floppy, or mag tape) must still be specified.

How to use this Software Guide

Example 1

Product Name – Example 1	Product: OmniBack	Example 1
Node License with Media and Doc. (LA430***) SR10 version – LA430BAA – not available SR10 version – LA430BAB – not available SR10 version – LA430BAC – AVAILABLE SR10 version – LA430BAD – AVAILABLE	License, Media and Doc. SR10 BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge	LA43A ■ ■
SR9.7 version – LA430AAA – not available SR9.7 version – LA430AAB – not available SR9.7 version – LA430AAC – AVAILABLE SR9.7 version – LA430AAD – AVAILABLE	SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge	■ AOD
NOTE: model number is LA43A AOD not AAD		
<i>PRISM</i> version – LA430BBC – AVAILABLE <i>PRISM</i> version – LA430BBD – AVAILABLE	<i>PRISM</i> BBC – mag tape BBD – cartridge	■ ■

Corporate License LB430B00	Corporate License	LB43AB00
NOTE: no Media and Doc. supplied		

Media only (LD43A***) SR10 version – LD430BAA – not available SR10 version – LD430BAB – not available SR10 version – LD430BAC – AVAILABLE SR10 version – LD430BAD – AVAILABLE	SR10 Media only: BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge	LD43A ■ ■
SR9.7 version – LD430AAA – not available SR9.7 version – LD430AAB – not available SR9.7 version – LD430AAC – AVAILABLE SR9.7 version – LD430AAD – AVAILABLE	SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge	■ AOD
NOTE: model number is LD43A AOD not AAD		
<i>PRISM</i> version – LD430BBC – AVAILABLE <i>PRISM</i> version – LD430BBD – AVAILABLE	<i>PRISM</i> BBC – mag tape BBD – cartridge	■ ■

Documentation – D-14819-B	Documentation:	D-14819-B
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- 8" floppy, 5¼" floppy, mag. tape, and cartridge – determines the media type the software will be supplied on.
- A ■ means get the model number from the definition under "Product:".
- If no block exists, the option is not available.
- A code such as AOD means use the code (AOD) instead of the definition under "Product:".
- Documentation can be found in the *Apollo Documentation and Software Replacement Catalog* number 5953-240Z
- No BOX under Example 1 column means product is not available on that medium.

How to use this Software Guide

Example 2

Product Name – Example 2	Product: Domain/PHIGS	Example 2
Development License with Media and Doc. LA51B***	Development – Lic., media, doc.	LA51B
Runtime License with Media and Doc. LA51A***	Runtime – Lic., media, doc.	LA51A
All versions of SR10 are available:		
<u>Development</u>	<u>Runtime</u>	
LA51BBAA	LA51ABAA	SR10 BAA – 8" floppy ■
LA51BBAB	LA51ABAB	BAB – 5¼" floppy ■
LA51BBAC	LA51ABAC	BAC – mag tape ■
LA51BBAD	LA51ABAD	BAD – cartridge ■
No versions for SR9.7 are available		
	SR9.7	AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge
<i>PRISM</i> versions are available:		
<u>Development</u>	<u>Runtime</u>	
LA51BBBC	LA51ABBC	<i>PRISM</i> BBC – mag tape ■
LA51BBBD	LA51ABBD	BBD – cartridge ■
Development Corporate License LB51B000		
Development Corporate License		LB51B000
Runtime Corporate License – not available		
Runtime Corporate License		
Media only for Development LD51B***		
Media only for Runtime LD51A***		
All versions of SR10 are available:		
<u>Development</u>	<u>Runtime</u>	
LD51BB0A	LD51AB0A	SR10 B0A – 8" floppy ■
LD51BB0B	LD51AB0B	B0B – 5¼" floppy ■
LD51BB0C	LD51AB0C	B0C – mag tape ■
LD51BB0D	LD51AB0D	B0D – cartridge ■
No versions for SR9.7 are available		
	SR9.7	A0A – 8" floppy A0B – 5¼" floppy A0C – mag tape A0D – cartridge
<i>PRISM</i> versions are available:		
<u>Development</u>	<u>Runtime</u>	
LD51BBBC	LD51ABBC	<i>PRISM</i> BBC – mag tape ■
LD51BBBD	LD51ABBD	BBD – cartridge ■
Documentation – D-EXMP2-C and D-1234-C are available. See Doc. Catalogue (5953-2460Z)		
Documentation:		D-EXAMP2-C D-1234-C

Software Model Number Definition

Example: LA010AAA

L X XX X X X X

Media Type:

- A = 8" Floppy
- B = 5.25" Floppy
- C = Mag Tape
- D = Cartridge
- E = HP Cartridge
- 0 = Not Applicable

Architecture:

- A = Motorola
- B = SR10
- C = Intel
- D = Sparc
- E = VAX
- F = MIPS (DEC)
- G = NLS Domain
- H = NLS Domain/SUN
- J = NLS Domain/VMS
- K = NLS Domain/SUN/VMS
- L = Motorola/Prism
- 0 = Not Applicable

O/S Release:

- A = SR9.7
- B = SR10
- C = SR9/10
- D = SunOS 3.X
- E = SunOS 4.X
- F = VAX/ULTRIX
- G = VAX/VMS
- H = HP-UX
- J = DOS
- K = Not Apollo
- 0 = Not Applicable

Modifier:

- A = Runtime
- B = Development
- C = Source
- D = Source & Binary Re-Marketing Rights
- E = Runtime Source
- F = Development Source Duplication Rights
- G = R/T Source Duplication Rights
- H = Reseller Royalty
- J = 100 Additional Licenses
- K = 500 Additional Licenses
- M = 2000 Additional Licenses
- N = 5000 Additional Licenses
- P = 10,000 Additional Licenses
- Q = 20,000 Additional Licenses
- 0 = Not Applicable

Product Code:

Product Type:

- A = License, Media & Doc.
- B = Corporate License
- D = Media
- E = BSU
- F = Domain/OS & Product Support Kit
- H = RTU

Family: Software

Operating System

- 45 = Domain OS
- 02 = Aegis SR9.7
- 30 = Domain/IX

Window Management

- 66 = Domain/X-Windows

Graphics

- 11 = Domain/CORE
- 22 = GKS
- 23 = GMR2D
- 24 = GMR3D
- 26 = GSR
- 51 = Domain/PHIGS
- 52 = Domain/PHIGS & GMR#D
- 72 = Domain/4014

Technical Office Applications

- 06 = Domain/ALIS
- 32 = Knowledge Broker Reader
- 33 = Knowledge Broker Publisher
- 81 = Knowledge Broker Intro Package
- 37 = DPSS/MAIL

PC Integration

- 17 = DPCE
- 47 = PCI-Ethernet
- 49 = PCI Server
- 50 = PCI-1
- 82 = MSDOS
- 83 = Domain/PCI-IT

Data Management

- 19 = D3M

Hardware Support Applications

- 53 = Postscript MMP
- 54 = Postscript VERS (GDD)
- 57 = SPE
- 63 = TRANS
- 64 = VERS V8
- 73 = Tektronix 4692
- 77 = CALCOMP (GDD)
- 78 = HP (GDD)
- 79 = VERS1 V.9
- 80 = VERS2

User Environment

- 61 = TMLib
- 90 = OSF/MOTIF

Development Tools

- 01 = Domain/ADA
- 07 = Domain/C
- 09 = Domain/CommonLisp V3.0
- 10 = Domain/CommonLisp V4.0
- 12 = Domain/C++ Translator
- 13 = Domain/C++
- 14 = Domain/DIALOGUE
- 15 = Domain/DPAK
- 18 = DSEE
- 21 = FORTRAN77
- 44 = OPEN DIALOGUE
- 46 = PASCAL
- 96 = MODULA-2

System Administration

- 43 = Omniback
- 75 = Password ETC

Product Support Kit

- 220 = PSK3 (SR9.7)
- 230 = PSK2500
- 240 = PSK5 HP VUE
- 660 = PSKB
- 690 = PSK4

Emulator

- 74 = 5080

Gateway Node License

- 00 = Domain/ACCESS
- 36 = LU6.2
- 67 = X.25
- 70 = 3270
- 71 = 3770

Single Node License

- 39 = NFS
- 59 = TCP/IP
- 62 = TNET

Network Computing System

- 38 = NCK

Network Licensing

- 35 = LSLock
- 40 = NDL
- 42 = NLS

Other

- 25 = GPIO
- 98 = HP VUE

Operating Systems

Domain/OS SR10: a single operating system that provides users with three operating environments – UNIX System V Release 3, 4.3 BSD, and AEGIS. The X-Window environment, along with the Domain Display Manager is also included. DDE, a powerful, multi-language debugging tool for large multi-process, distributed applications is bundled with Domain/OS.

AEGIS: the SR9.7 version of the AEGIS operating system which comes with the Domain Display Manager.

Domain/IX: adds UNIX System V Release 2 and 4.2 BSD to the SR 9.7 version of the AEGIS operating system (not required for Domain/OS).

A license to use these operating systems (node license) is granted with every node purchased. The licensee must purchase the initial distribution media and documentation for the operating system. Only one copy of the media is needed for multiple node purchases, because the software can be copied to licensed nodes.

Product:	Domain/OS (SR10)	Aegis (SR 9.7)	Domain/IX	Domain/IX
Media and Documentation	LF450*	LF020	LF300	LF310
SR10 BAA-8" floppy BAB-5 1/4" floppy BAC-mag tape BAD-cartridge	■ ■ ■ ■			
SR9.7 AAA-8" floppy AAB-5 1/4" floppy AAC-mag tape AAD-cartridge		■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
PRISM BBC-mag tape BBD-cartridge	■ ■			

Media only:	LD450	LD020	LD300	
SR10 BAA-8" floppy BAB-5 1/4" floppy BAC-mag tape BAD-cartridge	■ ■ ■ ■			
SR9.7 AAA-8" floppy AAB-5 1/4" floppy AAC-mag tape AAD-cartridge		■ ■ ■ ■	■ ■ ■ ■	
PRISM BBC-mag tape BBD-cartridge	■ ■			

Documentation:	See Apollo Documentation Catalogue for various OS documentation sets.
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*Documentation for the Domain/OS LF450 package includes user and system administrator documentation *only*. See the documentation catalogue for *Programmer's Documentation Set*.

Product Support Kits

SR9.7.1	LFZ20 AAB AAC AAD	Product Support Kit support for SR9.7.1 function peripheral controller, 70HZ monitor, F graphics options and FPA
SR10	LF890 BAD LFBB0BAD LFZ30 BAB BAD	SR10 Product Support Kit for DN2500. Interim product to be replaced by Domain O/S SR 10.2 SR10.2 Product Support Kit operating system and diagnostic support for DN2500 shoebox operations. Product Support Kit for SR10.1 Workstation to support SCSI devices control by 19" 1280x1024 70HZ color monitor and single/multi disk expansion modules.
	LFZ40 BAB BAC BAD BBC BBD	Product Support Kit 5 V10.2 for Domain MC68K & Prism Workstation. Supports HP VUE V1.0 and includes all features in SR10.2 PSKB. Also includes X performance improvements. Prerequisite: SR10.2

GPR: (Graphics Programming Resource) 2-D device coordinate, procedural-based graphics language. Included in the OS software.

Domain/CORE: a graphics subroutine package based on the SIGGRAPH GSPC CORE standard. It provides the display of 2-D and 3-D world coordinate primitives using a retained graphics display list database. Newer standards such as GKS and PHIGS are replacing it.

Domain/4014 EMULATOR: permits the Apollo system to function as a Tektronics 4014 graphics terminal. It conforms closely to the Tektronix Plot-10 protocol.

GKS: (Graphics Kernel System) an ANSI/ISO standard 2-D graphics programming language. The Apollo version is a native and full-level 2-B implementation.

GMR2D: (Graphics Metafile Resource—2-D) a world coordinate 2-D graphics package. It provides for the storage and display of 2-D primitives and attributes in retained hierarchical segments; this permits editing, local modeling and viewing.

GMR3D: (Graphics Metafile Resource—3-D) a world coordinate, 3-D graphics package providing for the storage, editing, modeling, and viewing of 3-D primitives and attributes. 3DGMR provides high performance with advanced lighting, shading, and rendering functions. The package provides two interfaces: retained hierarchical segments and application-maintained display list buffers for immediate display.

GSR: (Graphics Service Routines) provides for the display of 2-D integer device coordinates in display list buffers that are maintained by the application.

Domain/PHIGS: (Programmers Hierarchical Interactive Graphics System) an ANSI/ISO standard for 3-D graphics. Domain/PHIGS is a native implementation of the standard with added extensions (posting to views, CGM output). GMR3D's advanced lighting and shading functions can be used with PHIGS data structures.

Domain/PHIGS and GMR3D: a combination of Domain/PHIGS and GMR3D in one cost-effective package.

Graphics packages are divided into development and runtime versions. Development versions are for the application developer and are licensed on a per-node basis. Runtime licenses (the license to run the resultant application) are included free of charge for the following packages: 2DGMR, 3DGMR, PHIGS. GKS requires a runtime license which must be purchased for every node running GKS applications. In addition, media for these runtime environments must be ordered (only one copy is needed for multiple licensed nodes). GSR, CORE, and the 4014 Emulator are only offered in the development versions, which must be purchased for every node developing software; no license is required to run the resultant applications. No runtime license or media is required for GPR-based applications.

Corporate licenses are a means of reducing the costs of development licenses (all packages) and runtime licenses that have a fee (GKS). The corporate license grants the right to use the software on many nodes; it comes with no media or documentation. Thus media and documentation are ordered separately. Only one copy of the media is required since it can be copied to all the nodes for which a corporate license has been purchased.

See Apollo Documentation Catalogue for various Graphics Programming Languages Documentation Sets.

Product:	CORE	4014	GKS	GMR2D
Development - lic., media, doc.	LA110	LA720	LA22B	LA23B
Run-time - lic., media, doc.			LA22A	
SR10 BAA - 8" floppy	■	■	■	■
BAB - 5 1/4" floppy	■	■	■	■
BAC - mag tape	■	■	■	■
BAD - cartridge	■	■	■	■
SR9.7 AAA - 8" floppy	■	■	■	■
AAB - 5 1/4" floppy	■	■	■	■
AAC - mag tape	■	■	■	■
AAD - cartridge	■	■	■	■
PRISM BBC - mag tape		■	■	■
BBD - cartridge		■	■	■

Development Corporate License	LB11B000	LB720000	LB22B000	LB23B000
Run-time Corporate License			LB22A000	

Development Media:	LD110	LD720	LD22B	LD23B
Run-time Media:			LD22A	LD23A
SR10 B0A - 8" floppy	■	■	■	■
B0B - 5 1/4" floppy	■	■	■	■
B0C - mag tape	■	■	■	■
B0D - cartridge	■	■	■	■
SR9.7 A0A - 8" floppy	■	■	■	■
A0B - 5 1/4" floppy	■	■	■	■
A0C - mag tape	■	■	■	■
A0D - cartridge	■	■	■	■
PRISM BBC - mag tape		■	■	■
BBD - cartridge		■	■	■

Documentation:	D-1955-C	D-5224-C	D-12077-C	D-GMR2D-C
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Product:	GMR3D	GSR	PHIGS	PHIGS & GMR3D
Development – lic., media, doc.	LA24B	LA26B	LA51B	LA52B
Run-time – lic., media, doc.				
SR10 BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
<i>PRISM</i> BBC – mag tape BBD – cartridge	■ ■	■ ■	■ ■	■ ■
Development Corporate License	LB24B000	LB26B000	LB51B000	LB52B000
Run-time Corporate License				
Development Media:	LD24B	LD26B	LD51B	LD52B
Run-time Media:	LD24A		LD51A	LD52A
SR10 B0A – 8" floppy B0B – 5¼" floppy B0C – mag tape B0D – cartridge	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
SR9.7 A0A – 8" floppy A0B – 5¼" floppy A0C – mag tape A0D – cartridge	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
<i>PRISM</i> BBC – mag tape BBD – cartridge	■ ■	■ ■	■ ■	■ ■
Documentation:	D-GMR3D-C	D-GSR-C	D-PHIGS-C	D-PHIGS-C D-GMR3D-C

Development Tools

Domain/Ada: The Domain/Ada Development System includes a validated compiler, linker, source-level debugger, program library management tools and runtime system based on the Verdex Ada Development System. Combines all the features of Ada with Apollo-specific enhancements, including integration with DSEE and DPAK. Complies fully with the ANSI/MIL-STD-1815A specifications and is validated by the Ada Joint Program Office.

Domain/C++: C++ is the object-oriented language of choice for UNIX applications; it is an extension to the C language that is geared towards increasing programmer productivity. Tightly integrated with DSEE, DDE, and DPAK, this package includes both the C++ translator and the Domain/C compiler. The Motorola version contains a Motorola-to-PRISM cross compiler. The PRISM version contains a PRISM-to-Motorola cross compiler.

Domain/C++ Translator: Same as above *without* the C compiler and cross compilers.

Domain/C: Apollo C is a compatible superset of the de facto standard defined by *The C Programming Language* by Kernighan and Ritchie, including features of the emerging ANSI standard. Motorola versions contain a Motorola-to-PRISM cross compiler. PRISM version contains a PRISM-to-Motorola cross compiler.

Domain/CommonLISP: Based on Lucid Lisp, this is the Apollo advanced LISP compiler and development environment, designed for symbol manipulation and ideally suited for large systems programming, rapid prototyping, and ongoing program maintenance.

Domain/Dialogue: The Apollo User Interface Management System, Domain/Dialogue, enables users to create and maintain graphical user interfaces. Domain/Dialogue effectively separates the application from the user interface. The runtime library is bundled into Domain/OS; the development tools (translator) are sold separately. (See also User Environment Software.)

Open Dialogue: The portable Apollo User Interface Management System, Open Dialogue enables users to create and maintain graphical user interfaces. Open Dialogue effectively separates the application from the user interface. Open Dialogue is based on the X Window System and is available for a variety of standard hardware platforms. The runtime library is bundled into Domain/OS; the development tools (translator) are sold separately. The runtime library must be purchased for non-Apollo systems. Source code is also available. (See also User Environment Software and Portable Software.)

Domain Distributed Data Management (D3M): A database management system based on the CODASYL network database model. D3M has been extended to support distributed databases and transparent data access on an Apollo network. Also included is an interactive query/update processor, a report generator, and a database restructuring tool.

Domain Performance Analysis Kit (DPAK): DPAK consists of three tools for performance analysis: DPAT (Domain Performance Analysis Tool), which monitors program execution and reports on percentage of time spent in a procedure; HPC, which produces a histogram of the program counter during execution, enabling the user to evaluate compute-bound portions of code; and DSPST, which displays process statistics in a graphics format.

Domain Software Engineering Environment (DSEE): A support environment for managing large-scale software development projects involving teams of managers, engineers, and technical writers. Software developed under DSEE can run on a variety of target systems, including workstations, PCs, minicomputers, mainframes, and embedded microprocessor systems.

Fortran 77: A fully compliant ANSI X3, 9-1978 compiler, Fortran 77 is a core language commonly used for compute-intensive applications. The Motorola version contains a Motorola-to-*PRISM* cross compiler. The *PRISM* version contains a *PRISM*-to-Motorola cross compiler.

Modula-2: Implements a superset of the full language definition as described in *Programming In Modula-2* (Third, Corrected Edition), by Niklaus Wirth (with the exception of concurrency and local modules). In addition to the standard Modula-2 features, Domain Modula-2 is completely integrated into the Domain programming environment.

Pascal: A superset of the ISO standard, Pascal is a procedure-oriented language used for structured programming. Apollo extensions increase the power of this language for systems programming. The Motorola version contains a Motorola-to-*PRISM* cross compiler. The *PRISM* version contains a *PRISM*-to-Motorola cross compiler.

HP SoftBench: SoftBench is a software development environment for the edit, compile, debug phase of the software development lifecycle. There are 5 tools integrated on a tool integration platform that make up SoftBench. All of the tools have an OSF/Motif look and feel and are based upon the X window system. SoftBench is available on both Domain/OS and HP-UX.

HP Encapsulator: Encapsulator is a product that allows users or third parties to extend and customize the SoftBench environment by integrating tools.

Product:	ADA	C++ V2.0	C++ Trans V2.0	C++ Trans V1.2	C++ V1.2	C
Development – lic., media, doc.	LA010	LA130	LA120	LAB10	LA990	LA070
Runtime – lic., media, doc.						
SR10 BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge				■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
<i>PRISM</i> BBC – mag tape BBD – cartridge		■ ■	■ ■	■ ■	■ ■	■ ■

Development Corporate License	LB0100A0	LB1300A0	LB1200A0	LBB1000	LB990A0	LB0700A0
Dev. Corporate License – <i>PRISM</i>		LB1300B0	LB1200B0		LB990B0	LB0700B0
Runtime Corporate License						

Development Media:	LD010	LD130	LD120	LDB10	LD990	LD070
Runtime Media:						
SR10 B0A – 8" floppy B0B – 5¼" floppy B0C – mag tape B0D – cartridge	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
SR9.7 A0A – 8" floppy A0B – 5¼" floppy A0C – mag tape A0D – cartridge	■ ■ ■ ■			■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
<i>PRISM</i> BBC – mag tape BBD – cartridge		■ ■	■ ■	■ ■	■ ■	■ ■

Documentation:	D-ADA-A D-ADA-B	D-CPLT-D	D-CPLTR-D	D-CPLTR-B	D-CPLT-A D-CPLT-B	D-C-A
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Product:	D3M	DPAK	DSEE	Fortran	Pascal	Modula-2
Development – lic., media, doc.	LA190	LA150	LA180	LA210	LA460	LA96B
Runtime – lic., media, doc.						
SR10 BAA – 8" floppy	■	■	■	■	■	■
BAB – 5¼" floppy	■	■	■	■	■	■
BAC – mag tape	■	■	■	■	■	■
BAD – cartridge	■	■	■	■	■	■
SR9.7 AAA – 8" floppy	■	■	■	■	■	
AAB – 5¼" floppy	■	■	■	■	■	
AAC – mag tape	■	■	■	■	■	
AAD – cartridge	■	■	■	■	■	
<i>PRISM</i> BBC – mag tape	■		■	■	■	
BBD – cartridge	■	■	■	■	■	

Development Corporate License	LB190000	LB150000	LB180000	LB2100A0	LB4600A0	LB960A0A
Dev. Corporate License – <i>PRISM</i>				LB2100B0	LB4600B0	
Runtime Corporate License						

Development Media:	LD190	LD150	LD180	LD210	LD460	LD96B
Runtime Media:						
SR10 B0A – 8" floppy	■	■	■	■	■	■
B0B – 5¼" floppy	■	■	■	■	■	■
B0C – mag tape	■	■	■	■	■	■
B0D – cartridge	■	■	■	■	■	■
SR9.7 A0A – 8" floppy	■	■	■	■	■	
A0B – 5¼" floppy	■	■	■	■	■	
A0C – mag tape	■	■	■	■	■	
A0D – cartridge	■	■	■	■	■	
<i>PRISM</i> BBC – mag tape	■		■	■	■	
BBD – cartridge	■	■	■	■	■	

Documentation:	D-D3M-C	D-8906-A D-8906-B	D-DSEE-C	D-0530-A D-0530-B	D-0792-A D-0792-B	D-MOD2-B
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Product:	Domain Dialogue	Apollo Open Dialogue	Sun Open Dialogue	Source Open Dialogue
Development – lic., media, doc.	LA14B	LA44B	LA44B	LA44D
Runtime – lic., media, doc.			LA44A	LA44E
SR10 BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge	■ ■ ■ ■	■ ■*■*	Motorola & SPARC w/SUN OS DAD	00C
SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge	■ ■ ■ ■	■ ■ ■		
<i>PRISM</i> BBC – mag tape BBD – cartridge	■ ■	BAC BAD		

Development Corporate License	LB14BC00	LB44BCA0	LB44BDA0	LB44F000**
Dev. Corporate License – <i>PRISM</i>				
Runtime Corporate License			LB44AD00	LB44G000**

Development Media:	LD140		LF44B	
Runtime Media:				
SR10 B0A – 8" floppy B0B – 5¼" floppy B0C – mag tape B0D – cartridge	■ ■ ■ ■			
SR9.7 A0A – 8" floppy A0B – 5¼" floppy A0C – mag tape A0D – cartridge	■ ■ ■ ■			
<i>PRISM</i> BBC – mag tape BBD – cartridge	■ ■			
Documentation:	D-DIAL-C	D-OPDA-C	D-OPDA-C	D-OPDA-C

**PRISM* version included with SR10 version.

**License to duplicate Open Dialogue Source Code on ONE additional machine.

Product:	HP SoftBench for Apollo	HP Encapsulator for Apollo
License to Use 68K:	B1851A	B1855A
#0AN 1 seat	■	
#0A9 10 seats	■	
#0AG 25 seats	■	
#0AA 50 seats	■	
68 K Media & Manuals	B1852A	B1856AX

License to Use DN10000:	B1853A	B1857A
#0AN 1 seat	■	
#0A9 10 seats	■	
#0AG 25 seats	■	
#0AA 50 seats	■	
DN10000 Media & Manuals:	B1854A	B1858A

Documentation Kit:	B1859A	
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Development Tools

Product:		CLISP V3.0	CLISP V4.0
Development – lic., media, doc.		LA09B	LA10B
Runtime – lic., media, doc.		LA09A	LA10A
SR10	BAA – 8" floppy	CAA	CAA
	BAB – 5¼" floppy	CAB	CAB
	BAC – mag tape	CAC	CAC
	BAD – cartridge	CAD	CAD
SR9.7	AAA – 8" floppy	CAA	CAA
	AAB – 5¼" floppy	CAB	CAB
	AAC – mag tape	CAC	CAC
	AAD – cartridge	CAD	CAD
<i>PRISM</i>	BBC – mag tape		■
	BBD – cartridge		■

Development Corporate License	LB09B0A0	LB10B0A0
Dev. Corporate License – <i>PRISM</i>		LB10BBB0
Runtime Corporate License	LB09A0A0	LB10A000

Development Media:		LD09B	LD10B
Runtime Media:		LD09A	
SR10	B0A – 8" floppy	■	CAA
	B0B – 5¼" floppy	■	CAB
	B0C – mag tape	■	CAC
	B0D – cartridge	■	CAD
SR9.7	A0A – 8" floppy	■	CAA
	A0B – 5¼" floppy	■	CAB
	A0C – mag tape	■	CAC
	A0D – cartridge	■	CAD
<i>PRISM</i>	BBC – mag tape		■
	BBD – cartridge		■

Documentation:	D-CLISP-C	D-CLISP4-C
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Domain/Dialogue: Apollo's proprietary User Interface Management System, Domain Dialogue enables users to create and maintain graphical user interfaces for Domain-based systems. Domain/Dialogue effectively separates the application from the user interface. The runtime library is bundled into Domain/OS; the development tools are sold separately. (See also Development Tools Section.)

Open Dialogue: Apollo's portable User Interface Management System, Open Dialogue enables users to easily create and maintain graphical user interfaces. Open Dialogue effectively separates the application from the user interface. Open Dialogue is based on the *X Window System*, supports the OSF/Motif and other User Interface styles, and is available for a variety of standard hardware platforms. The runtime license is included with Domain/OS and HP-UX; the development tools are sold separately. Runtime licenses must be purchased for foreign (non-Apollo) systems. Source code is also available. (See also Development Tools and Portable Software Section.)

TMLib: is an object-oriented, portable toolkit that speeds the development of interactive text-intensive applications. TML supports all national languages including the support for mixed fonts and character sets. Node License is granted with every node, but media and documentation must be ordered.

OSF/Motif: Specifies an industry standard user interface offering applications with tools to develop a consistent appearance and behavior. It consists of: Presentation Manager compatible behavior, 3D appearance, complete set of interface primitives (menus, scrollbars, etc.), and the Motif window manager.

HP VUE: is a suite of X-based, OSF/Motif style applications that make the workstation easy to use. Included is a graphical interface to UNIX, a text file viewer, the OSF/Motif window manager and a set of personal productivity tools. A complete, easy-to-use environment for all HP workstations, HP VUE 1.0 runs on Domain/OS based platforms.

Domain/X11: adds X Version 11 Release 2 to the AEGIS SR9.7 environment and to Domain/OS versions SR10.0 and SR10.1. Requires Domain/IX and TCP/IP for the 9.7 version of AEGIS. Domain/X11 is not required for current Domain/OS versions (i.e. SR10.2 and above).

Product:	Domain Dialogue	Apollo Open Dialogue	Sun Open Dialogue	Source Open Dialogue
Development – Lic., media, doc.	LA14B	LA44B	LA44B	LA44D
Runtime – Lic., media, doc.			LA44A	LA44E
SR10 BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge	■ ■ ■ ■	■ ■*■*	Motorola & SPARC w/SUN OS DAD	00C
SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge	■ ■ ■ ■	■ ■ ■		
<i>PRISM</i> BBC – mag tape BBD – cartridge	■ ■	BAC BAD		

Development Corporate License	LB14BC00	LB44BCA0	LB44BDA0	LB44F000**
Dev. Corporate License – <i>PRISM</i>				
Runtime Corporate License			LB44AD00	LB44G000**

Development Media:	LD140		LF44B	
Runtime Media:				
SR10 B0A – 8" floppy B0B – 5¼" floppy B0C – mag tape B0D – cartridge	■ ■ ■ ■			
SR9.7 A0A – 8" floppy A0B – 5¼" floppy A0C – mag tape A0D – cartridge	■ ■ ■ ■			
<i>PRISM</i> BBC – mag tape BBD – cartridge	■ ■			

Documentation:	D-DIAL-C	D-OPDA-C	D-OPDA-C	D-OPDA-C
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**PRISM* version included with SR10 version

**License to duplicate Open Dialogue Source Code on ONE additional machine

Product:	OSF/Motif	TMLib	HP VUE	Domain/X11
License, Media, and Doc.	LA900		LA980	LF660
SR10 BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge	■ ■ ■		BLB BLC BLD	■ ■ ■ ■
SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge				■ ■ ■ ■
PRISM BBC – mag tape BBD – cartridge	■ ■			■ ■

Development Corporate License	LB900B00		LB980B00	
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Media only:	LD900	LD610	LD980	LD660
SR10 BOA – 8" floppy BOB – 5¼" floppy BOC – mag tape BOD – cartridge	■ ■ ■	■ ■ ■	BLB BLC BLD	■ ■ ■ ■
SR9.7 AOA – 8" floppy AOB – 5¼" floppy AOC – mag tape AOD – cartridge				■ ■ ■ ■
PRISM BBC – mag tape BBD – cartridge	■ ■			■ ■

Documentation:	D-17151-B D-17152-B D-17153-B D-17169-B D-17164-0	D-TML-C	D-15913-A00 D-15914-A00	
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Supported platforms for HP VUE 1.0 are the Series 2500, 3500, 4500 and 10000 with a minimum Domain OS level of SR10.2 and 8 MB memory (more recommended). HP VUE 1.0 requires Product Support Kit LFZ40 and will not install or run without the PSK. Only one PSK needs to be ordered for each network on which the software will be installed.

Optional Software/Applware Products

Alis: an integrated office software system, including a multi-font word processor, spreadsheet, business graphics, a personal database, calendar, time management, and electronic mail.

DPSS/Mail: provides robust e-mail services for Apollo workstations. It includes both a command-based user interface and a menu-driven "point and click" user interface. SR10 versions provide gatewaying facilities to UNIX mail systems.

Knowledge Broker: an online documentation delivery and retrieval system that gives fast access to published information from anywhere on the network. It includes three parts: the Publisher, which puts information into the system (Interleaf's TPS V3.0, troff, ASCII text); the Reader, which extracts information through an easy-to-use mouse-driven interface; and the Intro Kit, which offers some of the most popular Apollo manuals bundled with the Reader.

Product:	Alis	DPSS/Mail	Knowledge Broker Reader	Knowledge Broker Publisher	Knowledge Broker Intro Kit
License, Media, and Doc.	LA060	LA370	LA32A	LA33A*	LA81A
SR10 BAA - 8" floppy		■			
BAB - 5 1/4" floppy		■			
BAC - mag tape		■	■	■	■
BAD - cartridge		■	■	■	■
SR9.7 AAA - 8" floppy		■			
AAB - 5 1/4" floppy		■			
AAC - mag tape	■	■	■	■	■
AAD - cartridge	■	■	■	■	■
PRISM BBC - mag tape		■	■	■	■
BBD - cartridge		■	■	■	■

Corporate License	LB0600A0	LB370000	LB32AC00	LB33AC00	LB81AC00
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Media only:	LD060	LD370			
SR10 BAA - 8" floppy		■			
BAB - 5 1/4" floppy		■			
BAC - mag tape		■			
BAD - cartridge		■			
SR9.7 AAA - 8" floppy		■			
AAB - 5 1/4" floppy		■			
AAC - mag tape	■	■			
AAD - cartridge	■	■			
PRISM BBC - mag tape		■			
BBD - cartridge		■			

Documentation:	D-ALIS-A	D-3660-A D-3660-B	D-14951-C D-14952-C	D-14951-C D-14952-C	D-14951-C D-14952-C
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*Requires TRANSCRIPT (LA630) for troff

OmniBack Network Backup System: a network-oriented approach to the process of file system backup and restore. It supports automatic unattended filesystem backup and simple, rapid file restore. Requires 10.1 or greater.

Important: One copy of LA43A*** must be ordered per site. Nodes that will be backed up with OmniBack should be licensed by buying the appropriate number of Corporate Licenses (LB43AB00).

Passwd Etc: a user account management system that manages both login and password information for a heterogeneous distributed network. Requires one Apollo running SR10 for server capabilities. Passwd Etc is included in SR10.

Product:	OmniBack	Passwd Etc
License, Media, and Doc.	LA430A	LA75A
SR10 BAA – 8" floppy BAB – 5 1/4" floppy BAC – mag tape BAD – cartridge	■ ■	SUN/OS 3.4-3.5 4.0 DDD
SR9.7 AAA – 8" floppy AAB – 5 1/4" floppy AAC – mag tape AAD – cartridge		VAX/ ULTRIX 2.0-2.2 FEC
PRISM BBC – mag tape BBD – cartridge	■ ■	

Corporate License	LB43AB00	
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Media only:	LD430	LD75A
SR10 BAA – 8" floppy BAB – 5 1/4" floppy BAC – mag tape BAD – cartridge	BOB BOC BOD	SUN/OS 3.4-3.5 4.0 DAD
SR9.7 AAA – 8" floppy AAB – 5 1/4" floppy AAC – mag tape AAD – cartridge		VAX/ ULTRIX 2.0-2.2 FEC
PRISM BBC – mag tape BBD – cartridge		

Documentation:	D-14819-B	D-15363-0
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Network Computing Kernel (NCK): the run-time portion of the Network Computing System (NCS). It contains library functions that implement the NCS remote procedure call facility, along with global and local location brokers and related administrative tools. NCK software is included in SR9.7, SR10, and greater. Source code is available.

NIDL Compiler: The Network Interface Definition Language (NIDL) Compiler translates NIDL into stubs and header files that provide the connection between Clients and Servers and the NCS remote procedure call run-times. It also contains standard NCS interface definitions and examples on NCS use.

Network License Server: The run-time software used by end users (i.e., users of applications with the Network License System embedded in it) to manage application licenses. It will usually be distributed by application developers rather than HP.

LS Locks: Application developers kit. Contains library of calls to embed in an application to enable it to use the Network License System. Also includes Network License System server software, for own use and for re-distribution to the end user.

NLS License: Quantities of licenses that go to application developers, giving them the right to distribute that number of licenses of their application to end users (like prepaid royalty).

Open Dialogue: Apollo's portable User Interface Management System, Open Dialogue enables users to easily create and maintain graphical user interfaces. Open Dialogue effectively separates the application from the user interface. Open Dialogue is based on the *X Window System*, supports the OSF/Motif and other User Interface styles, and is available for a variety of standard hardware platforms. The runtime license is included with Domain/OS and HP-UX; the development tools are sold separately. Runtime licenses must be purchased for foreign (non-Apollo) systems. Source code is also available. (See also User Environment Software and Development Tools Software.)

Product:	NCK	NCK Source	NIDL	NIDL Source
License, Media, and Doc.	LA380	LA38C	LA400	LA40C
Apollo SR10 BAD – cartridge SR9.7 AAD – cartridge <i>PRISM</i> BBD – cartridge	■	00C	■ ■ ■	C0C
Sun/OS DAD – cartridge VAX/Ultrex FEC – mag tape VAX/VMS GEC – mag tape HP-UX HOE – cartridge	■ ■ ■ ■		■ ■ ■ ■	

Product:	NCK	NCK Source	NIDL	NIDL Source
Corporate License	LB380		LB400	
Apollo AAD Sun/OS DAD VAX/Ultrex FEC VAX/VMS GEC HP-UX HOE	■ ■ ■ ■ ■		■ ■ ■ ■ ■	

Product:	NCK	NCK Source	NIDL	NIDL Source
Media only:			LD400	
Apollo SR10 B0D – cartridge SR9.7 A0D – cartridge <i>PRISM</i> BBD – cartridge			■ ■ ■	

Product:	NCK	NCK Source	NIDL	NIDL Source
Documentation:	D-NCS-C D-NCA-C	D-NCS-C D-NCA-C	D-NCS-C D-NCA-C	D-NCS-C D-NCA-C

Product:	Apollo Open Dialogue	SUN Open Dialogue	Source Open Dialogue
Development-Lic., media, doc.	LA44B	LA44B	LA44D
Runtime – Lic., media, doc.		LA44A	LA44E
SR10 BAA-8' floppy BAB-5¼' floppy BAC-mag tape BAD-cartridge	■ ■* ■*	Motorola & SPARC w/SUN OS DAD	00C
SR9.7 AAA-8' floppy AAB-5¼' floppy AAC-mag tape AAD-cartridge	■ ■ ■		
<i>PRISM</i> BBC-mag tape BBD-cartridge	BAC BAD		
Development Corporate License	LB44BCA0	LB44BDA0	LB44F000**
Dev. Corporate License-PRISM			
Runtime Corporate License		LB44AD00	LB44G000**

Product:	NCK	NCK Source	NIDL	NIDL Source
Development Media:			LF44B	
Runtime Media:				
SR10 B0A-8' floppy B0B-5¼' floppy B0C-mag tape B0D-cartridge				
SR9.7 A0A-8' floppy A0B-5¼' floppy A0C-mag tape A0D-cartridge				
<i>PRISM</i> BBC-mag tape BBD-cartridge				
Documentation:	D-OPDA-C	D-OPDA-C	D-OPDA-C	

*PRISM version included with SR10 version

**License to duplicate Open Dialogue Source Code on ONE additional machine

Product:	NetLS Server	NetLS Server Source	NetLS License	LS Lock	LS Lock Source	LS Lock Source Dev. Apl.
License, Media, and Doc.	LA420	LA42C		LA350	LA39C	LA39A
Apollo SR10 cartridge SR9.7 cartridge <i>PRISM</i> cartridge Sun/OS cartridge VAX/Ultrix mag tape VAX/VMS mag tape HP-UX cartridge	DAD GEC	00C		BAD AAD BBD DDD FEC GEC HOE	C0C	

Corporate License	LB420		LB420			
Apollo Sun/OS VAX/Ultrix VAX/VMS HP-UX 100 additional 500 additional 1,000 additional 2,000 additional Annual Buyout Lifetime Buyout	0D0 0G0		J000 K000 L000 M000 R000 S000			

Media only:	LD420					
Apollo SR10 cartridge SR9.7 cartridge <i>PRISM</i> cartridge	B0D A0D BBD					

Documentation:	D-NLSA-C	D-NLSA-C	D-NLSA-C	D-NLSA-C	D-NLSA-C	
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Domain/Access: provides transparent file access, file transfer, and file management to DEC VAX/VMS systems using an Ethernet Local Area Network (LAN) and TCP/IP software. – **GATEWAY**

Apollo/Integrated SNA Facility: provides users with IBM mainframe connectivity in a System Network architecture (SNA) environment. Apollo/SNA consists of two products, the IBM 3270 and IBM 3770 emulators. Requires the SCAT card. – **GATEWAY**

Domain/Integrated SNA LU6.2: a Systems Network Architecture (SNA) communications product that adds IBM's Advanced Program-to-Program Communications (APPC) standard, LU 6.2 and PU 2.1, to Apollo networks. Requires the SCAT card. – **GATEWAY**

Apollo/Integrated SNA 3270: Emulates IBM 3278 series or 3279 interactive terminals within an Apollo workstation window. Includes PC3270 file transfer capability. Requires Apollo/Integrated SNA Facility gateway. – **Licensed per CONCURRENT SESSION.**

Apollo/X.25 Communications: enables Apollo workstations to communicate over packet-switched wide area networks (WAN). This includes file transfer, electronic mail, remote log in, and remote program execution. Requires the SCAT card. – **GATEWAY**

TCP/IP Access Protocol: provides the following protocols – Internet Protocol (IP), the Transport Control Protocol (TCP), and the User Datagram Protocol (UDP). In addition, the Application Services – File Transfer Protocol (FTP), Telnet, and Simple Mail Transfer Protocol (SMTP) – are provided. TCP/IP is bundled with SR10 or later. – **NODE LICENSE**

Network File System (NFS): allows complete interoperability of the Domain Distributed File System and NFS machines (both as a client and a server). – **NODE LICENSE**

Apollo TECHnet: supports the bidirectional transfer of files between Apollo workstations and DEC VAX/VMS systems running DECnet Phase-IV. The product also permits multiple virtual terminal sessions in either direction between Apollo and DEC systems. Requires an Ethernet Controller. – **NODE LICENSE.**

Product:	Access	SNA Facility	SNA 3270	SNA LU6.2	X.25
License, Media, and Doc.	LA000	LAA0A*	LAA20	LAA1A	LA67A*
SR10 BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge	■ ■ ■ ■	■ ■	■ ■	■ ■	■ ■ ■
SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge	■ ■ ■ ■				■ ■ ■
<i>PRISM</i> BBC – mag tape BBD – cartridge		■ ■	■ ■	■ ■	

Corporate License		LBA0A000	LBA2000	LBA1A000	
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Media only:	LD000	LDA0A	LDA20	LDA1A	LD670
SR10 B0A – 8" floppy B0B – 5¼" floppy B0C – mag tape B0D – cartridge	■ ■ ■ ■	BAC BAD	BAC BAD	BAC BAD	■ ■ ■
SR9.7 A0A – 8" floppy A0B – 5¼" floppy A0C – mag tape A0D – cartridge	■ ■ ■ ■				■ ■ ■
<i>PRISM</i> BBC – mag tape BBD – cartridge		■ ■	■ ■	■ ■	

Documentation:	D-ACC-C	D-7760-B D-7663-B	D07762-B	D-10017-C	D-13587-C D-13586-C D-13588-C D-8264-A D-8264-B
*Requires SCAT					

Product:	TCP/IP	NFS	TECHnet
License, Media, and Doc.	LA590	LA390	LA620
SR10 BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge		■ ■ ■ ■	■ ■ ■
SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge	■ ■ ■ ■	■ ■ ■ ■	
<i>PRISM</i> BBC – mag tape BBD – cartridge		■ ■	

Corporate License	LB590A00	LB390000	LB620B00
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Media only:	LD590	LD390	LD620
SR10 B0A – 8" floppy B0B – 5¼" floppy B0C – mag tape B0D – cartridge		■ ■ ■ ■	■ ■ ■
SR9.7 A0A – 8" floppy A0B – 5¼" floppy A0C – mag tape A0D – cartridge	■ ■ ■ ■	AAA AAB ■ ■	
<i>PRISM</i> BBC – mag tape BBD – cartridge		■ ■	■ ■

Documentation:	D-TCPIP-A	D-10414-A D-10414-B	D-TNET-C
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7.4 Integrative Products

Terms:

Server – a system or software package that provides a service (e.g., file storage, gateway to remote networks) to other systems in a network.

Client – a system or software package that accesses a service provided by one or more servers in a network.

Products:

MS-DOS Operating System: Microsoft Disk Operating System version 3.3. Includes utilities, GW-Basic interpreter, license, media, MS-DOS, and GW-Basic manuals. Requires DPCC coprocessor board.

DPCE (PC Emulator): provides an IBM PC-compatible DOS environment in a workstation window. Emulates monochrome, Hercules, and CGA graphics.

Domain/PCI-Ethernet: client-only software for direct connection of IBM PCs and other compatibles to Apollo Ethernet network. Requires Domain/PCI-Server software (LA490xxx) running on Apollo. Includes both 5¼" and 3½" media.

Domain/PCI-1: software for direct connection between one PC and one Apollo workstation via RS-232 cable or modem. Includes software for both client and server. Client software includes both 5¼" and 3½" media.

Domain/PCI-IT (IBM token ring): client-only software for direct connection of IBM PCs and other compatibles to Apollo IBM token ring network. Requires Domain/PCI-Server software (LA490xxx) running on Apollo. Includes both 5¼" and 3½" media.

Domain/PCI Server: will support clients on Apollo Token Ring, IBM token ring, or Ethernet.

Product:	MS-DOS	PC Emulator	PCI Ethernet	PCI-1
License, Media, and Doc.	LA820	LA170	LA470	LA500
SR10 BAA-8" floppy BAB-5 1/4" floppy BAC-mag tape BAD-cartridge	0CB	■ ■ ■	0CB	■ ■ ■ ■
SR9.7 AAA-8" floppy AAB-5 1/4" floppy AAC-mag tape AAD-cartridge		■ ■ ■		■ ■ ■ ■
<i>PRISM</i> BBC-mag tape BBD-cartridge				

Corporate License		LB1700A0	LB4700C0	LB5000A0
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Media only:		LD170	LD470	LD500
SR10 B0A-8" floppy B0B-5 1/4" floppy B0C-mag tape B0D-cartridge		■ ■ ■	■	■ ■ ■ ■
SR9.7 A0A-8" floppy A0B-5 1/4" floppy A0C-mag tape A0D-cartridge		■ ■ ■	■	■ ■ ■ ■
<i>PRISM</i> BBC-mag tape BBD-cartridge				

Documentation:		D-PCI-C	D-PCI-C	D-PCI-C
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Product:	PCI-IBM Token Ring	PCI Server
License, Media, and Doc.	LA830	LA490
SR10 BAA-8" floppy BAB-5 1/4" floppy BAC-mag tape BAD-cartridge	0CB	■ ■ ■
SR9.7 AAA-8" floppy AAB-5 1/4" floppy AAC-mag tape AAD-cartridge		■ ■ ■
<i>PRISM</i> BBC-mag tape BBD-cartridge		

Corporate License	LB8300C0	LB4900A0
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Media only:	LD830	LD490
SR10 B0A-8" floppy B0B-5 1/4" floppy B0C-mag tape B0D-cartridge	■	■ ■ ■
SR9.7 A0A-8" floppy A0B-5 1/4" floppy A0C-mag tape A0D-cartridge	■	■ ■ ■
<i>PRISM</i> BBC-mag tape BBD-cartridge		

Documentation:	D-PCI-C	D-PCI-C
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Hardware Support Software

CGM Device Driver for HP: translates Apollo/PHIGS-generated CGM metafiles to HPGL data format. Available to CADAM customers only.

CGM Device Driver for CALCOMP: translates Apollo/PHIGS-generated CGM metafiles to CALCOMP plotter data format. Available to CADAM customers only.

PostScript Driver for Dot Matrix (MMP): translates PostScript input from application programs into low-level commands for driving the HCD-MMP dot matrix printer and Versatec V.80 plotters.

AT-Driver (SPE): driver software for the SPE (serial/parallel) expansion board. Supports two additional serial and one Centronics parallel I/O ports.

TRANS (Translate UNIX into Postscript): translates UNIX's device-independent "TROFF" print commands into PostScript print commands.

Domain VERS: driver software for the multibus controller board (multiport IKON 85). Supports Centronics Parallel, Versatec differential, or Versatec TTL output port on multibus-based systems.

CGM Device Driver for VERSATEC (VERS1/VERS2): translates Apollo/PHIGS-generated CGM metafiles to Versatec raster data (V9) or Versatec Random Format (VRF). Available to CADAM customers only.

Tektronix 4692 Device Driver: software driver for the Tektronix 4692 color printer.

Product:	CGM to HP	CGM to Calcomp	PostScript HCD-MMP	PostScript V.80	SPE
License, Media, and Doc.	LA780*	LA770*	LA530	LA540	LA570
SR10 BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge	■ ■	■ ■			■ ■
SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■
<i>PRISM</i> BBC – mag tape BBD – cartridge					

Corporate License	LB7800A0	LB7700A0			LB570000
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Media only:					LD570
SR10 B0A – 8" floppy B0B – 5¼" floppy B0C – mag tape B0D – cartridge					■ ■
SR9.7 A0A – 8" floppy A0B – 5¼" floppy A0C – mag tape A0D – cartridge					■ ■
<i>PRISM</i> BBC – mag tape BBD – cartridge					

Documentation:					D-9798-0
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*CADAM customers only

Product:	TRANS	Domain VERS	CGM to Versatec V9	CGM to Versatec Random	Tektronix 4692
License, Media, and Doc.	LA630	LA640	LA790*	LA800*	LA730
SR10 BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	
SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge		■ ■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■ ■
<i>PRISM</i> BBC – mag tape BBD – cartridge					
Corporate License	LB630BAD	LB640000	LB7900A0	LB8000A0	LB730000
Media only:	LD630	LD640			LD730
SR10 B0A – 8" floppy B0B – 5¼" floppy B0C – mag tape B0D – cartridge	■ ■ ■	■ ■ ■ ■			
SR9.7 A0A – 8" floppy A0B – 5¼" floppy A0C – mag tape A0D – cartridge		■ ■ ■ ■			■ ■ ■ ■
<i>PRISM</i> BBC – mag tape BBD – cartridge					
Documentation:	D-12887-B				D-9906-0

*CADAM customers only.

General Purpose I/O Software (GPIO): supports system calls that allow customers to write device drivers for peripheral devices attached to our various peripheral buses.

Domain 5080 Emulator: emulates the IBM 5080 Model 1 graphics terminal.

Product:	GPIO	5080	5080	5080
		4 users	8 users	12 users
License, Media, and Doc.	LA250	LA74J	LA74K	LA74L
SR10 BAA – 8" floppy BAB – 5¼" floppy BAC – mag tape BAD – cartridge	■ ■ ■ ■	000	000	000
SR9.7 AAA – 8" floppy AAB – 5¼" floppy AAC – mag tape AAD – cartridge	■ ■ ■ ■			
PRISM BBC – mag tape BBD – cartridge	■ ■			

Corporate License	LB250000			
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Media only:	LD250	LD740	LD740	LD740
SR10 B0A – 8" floppy B0B – 5¼" floppy B0C – mag tape B0D – cartridge	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
SR9.7 A0A – 8" floppy A0B – 5¼" floppy A0C – mag tape A0D – cartridge	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
PRISM BBC – mag tape BBD – cartridge	■ ■			

Documentation:	D-0959-A D-0959-B D-11012-A	D-5080-C	D-5080-C	D-5080-C
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Field Add-On and Upgrade Availability

A large selection of field-installable add-ons and upgrades are offered for Apollo workstations. Add-ons allow customers to get additional functionality or performance for their workstations or network. Customers must contact customer services for installation charges. Upgrades are usually trade-ins of old functionality for new. Upgrades include installation, parts, and system retrofit, as described in the product literature. Parts removed are returned to Apollo.

For details on field installable add-ons or upgrades, see the Apollo Direct Channel quick reference guide or the configuration guide. Customers can call in orders or request model #'s through the Apollo Direct Channel at 1-800-225-5290. Sales of these products through the Channel are fully commissionable to the field.

			Model	Add-On	Upgrade
Model	Add-On	Upgrade	External Storage:		
CPU			Single Expansion Modules		
DN2500			DN2500	Yes	
DN3000		Yes	DN3000		
DN3500	FPA	Yes	DN3500	Yes	Disk
DN3550	FPA	Yes	DN3550	Yes	Disk
DN4000		Yes	DN4000	Yes	Disk
DN4500	FPA	Yes	DN4500	Yes	Disk
DN10000	Yes		DN10000	8MM	

External Storage:

System Storage			Multiple Disk Expansion Modules		
DN2500	Yes	Yes	DN2500		
DN3000	Yes	Yes	DN3000		
DN3500	Yes	Yes	DN3500	Yes	
DN3550	Yes	Yes	DN3550	Yes	
DN4000	Yes	Yes	DN4000		
DN4500	Yes	Yes	DN4500	Yes	
DN4500	Yes	Yes	DN10000	Yes	
DN10000	Yes	Yes			

			Model	Add-On	Upgrade
Model	Add-On	Upgrade	External Storage: Printers and Drivers		
DN2500	Yes			Interface	
DN3000	Yes	DN3010A	DN2500	RS232C	
DN3500	Yes		DN3000	RS232, ATBUS	
DN3550	Yes	Yes	DN3500	RS232, ATBUS	
DN4000	Yes		DN3550	RS232, ATBUS	
DN4500	Yes	Yes	DN4000	RS232, ATBUS	
DN10000	Yes	Yes	DN4500	RS232, ATBUS	

Graphics			PC Integration HW		SW
DN2500		Yes	DN2500		Yes
DN3000		Yes	DN3000	Yes	Yes
DN3500		Yes	DN3500	Yes	Yes
DN3550		Yes	DN3550	Yes	Yes
DN4000		Yes	DN4000	Yes	Yes
DN4500		Yes	DN4500	Yes	Yes
DN10000	Yes	Yes	DN10000		
			IBM PC/XT/AT	Yes	Yes

Networking

DN2500	Yes	Yes
DN3000	Yes	Yes
DN3500	Yes	Yes
DN3550	Yes	Yes
DN4000	Yes	Yes
DN4500	Yes	Yes
DN10000	Yes	

For older product options, see configuration guide or quick reference.

HP ApolloLine Support Services

The new HP ApolloLine system support services couple on-site hardware support with operating system telephone support to provide complete system support in a single package. Customers receive unlimited telephone assistance from operating system specialists, and have the flexibility to choose the hardware response time and coverage periods that best meet their needs.

HP ApolloLine software support provides telephone problem assistance for Apollo layered software as well as updates to software and documentation. Software support will help customers to become more productive by more quickly solving problems and by ensuring customers are using the latest software releases.

System Support

Customers can select from two new services, HP ApolloLine Priority System Support Service or HP ApolloLine System Support Service, for complete system support. In addition to on-site hardware support and operating system telephone support, both services include access to on-line support information through HP SupportLine, hardware support work-to-completion, elimination of travel zone charges up to 200 miles from the nearest HP SRO, and an account-assigned HP representative. Each service has the following unique hardware support features.

HP ApolloLine Priority System Support Service

- HP's best possible response time (within four hours).
- Coverage 5 days a week, 13 hours per day (8 am to 9 pm in the U.S.).
- Custom coverage options provide the ability to extend hardware coverage up to 24 hours per day, every day of the year.

HP ApolloLine System Support Service

- Next business day response.
- Coverage 5 days a week, 9 hours per day (8 am to 5 pm in the U.S.).

HP ApolloLine Priority System Support service is the right choice for customers with critical applications. HP ApolloLine System Support service is the most cost-effective solution for customers with less critical applications.

Telephone assistance for the operating system is bundled into HP ApolloLine system support services. Although system support provides OS telephone assistance, it does not provide any software updates. Because the

HP Response Center will only support the two most current versions of the operating system, customers must purchase HP ApolloLine Software Subscription Service for the operating system to receive OS update media and documentation.

To order an HP ApolloLine system support service, add the appropriate support product number (SPN), either 02R for Priority System Support or 02S for System Support, to the hardware model number. If a customer wants installation, add 17A to the hardware model number.

Layered Software Support

Customers may choose between two levels of support for each of their layered software products. For each layered software product requiring support, an appropriate support product must be ordered.

Both services provide software update media and documentation. HP ApolloLine Response Center Support also provides telephone assistance for layered software through the HP Response Center. A customer cannot purchase either service unless he has an HP ApolloLine system support service agreement for the system.

HP ApolloLine Response Center Support (RCS)

- Telephone assistance from the Response Center for the contacts designated in the HP ApolloLine system support service agreement.
- One set of media and documentation updates.
- Right-to-copy the updates onto other supported nodes at the site, based on the volume level purchased.
- Choice of media.

HP ApolloLine Software Subscription Service (SSS)

- One set of media and documentation updates.
- Right-to-copy the updates onto other supported nodes at the site, based on the volume level purchased.
- Choice of media.

NOTE:

- RCS and SSS pricing are non-discountable.
- RCS and SSS are available for optional software programs previously licensed on the Node/Server.
- RCS and SSS purchased on a site basis.
- RCS and SSS pricing for the same optional software product cannot be mixed within a site.
- A Site is defined as a group of Nodes/Servers located within a one-half ($1/2$) mile radius, and interconnected on a single network.
- For HP ApolloLine system support customers, SSS for the operating system is required. Purchase must encompass all nodes/servers under system support at the site.
- Software support is sold on a site, rather than system basis. For each product ordered, choose the option corresponding to the number of nodes requiring support for that product at that site. All nodes on site must be supported.
- Software products running on different architecture nodes are supported through different support products using different support product numbers. However, the level of support for identical products running on different architectures must be the same.

Other Software Support Services

Right-to-Execute Support (RTE) – Right-to-Execute Support provides the right to copy updates to the covered software program on the designated node/server plus the right to funnel questions for that program through the central site contact or alternate contact. This service is not site based. Each product covers a single node. To support multiple nodes order multiple quantities of the RTE products.

RTE support may be less expensive for supporting remote sites which are small and can be supported through a central site. As sites become larger, RCS and SSS support is more economical. RTE support provides no materials, so customers must have a central site covered with RCS or SSS support. Customers must also funnel questions on RTE supported software through an RCS supported site. RTE charges are non-discountable.

Additional Documentation Service – Additional Documentation Service provides one additional copy of documentation updates for supported software products.

Additional Media Service—Additional Media Service provides one additional copy of software update media for supported software products. Customers may only copy the software to nodes covered by RCS, SSS or RTE support. Customers may only order additional media if desired software product is supported through SSS or RCS support at that site.

Ordering Software Support

Software Support Products are ordered by appending a support suffix and option to a base software product number. The base software product number corresponds to the latest revision Basic Software Update (BSU) product. The support suffix identifies the support level, and the option identifies the number of nodes supported at the site. The basic form of the support product number will be:

LE210BBD	+ H00	Option: - 100
BSU Software	Service	Number of
Product No.	Level	nodes supported

The following table lists the support suffixes and their corresponding service levels.

Support

Suffix	Service Level
+ H00	Response Center Support
+ S00	Software Subscription Service (layered software)
+ B00	Pre-Oct 88 Support (DO NOT ORDER)
+ Q00	Additional Documentation Service
+ Z00	Additional Media Service
+ X00	Right-to-Execute Support
+ S23	OS SSS - Cartridge Media
+ S41	OS SSS - 8 in. Floppy Media
+ S43	OS SSS - 5¼ in. Floppy Media
+ S62	OS SSS - Mag Tape

The following table lists the support product options and the corresponding number of nodes supported.

Option	Number of Nodes Supported
001	1 Node
005	Up to 5 Nodes
010	Up to 10 Nodes
025	Up to 25 Nodes
050	Up to 50 Nodes
100	Up to 100 Nodes
200	Up to 200 Nodes
300	Up to 300 Nodes

Other Services/Additional Information

In addition to the new services offered under the HP ApolloLine program, HP has a wide range of networking, consulting, implementation, education and application support services available for Apollo systems. Refer to the appropriate sales tools for more information.

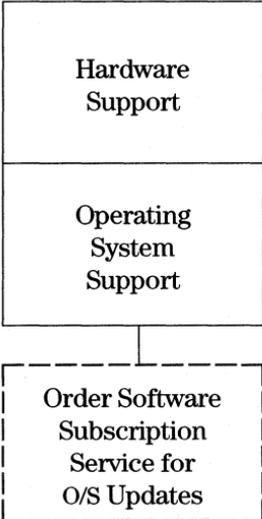
To assist your selling efforts, sales tools and customer literature have been developed. A list of the materials and their corresponding part numbers is shown on the following chart. Bulk quantities of these pieces are available from the Literature Distribution Center.

HP ApolloLine Sales Tools

Literature	Sales Cycle	Part Number
• HP ApolloLine Program – Field Training Materials	–	5952-0846
• HP Support Capabilities Brochure	Qualify	5952-4891
• Quick Reference Guide to HP's Support	Qualify	5952-0548
• Product Brief	Analysis	5952-0544
• Data Sheets	Present	
– System Support		5952-0543
– Software Support		5952-0542
		5952-0541
• Exhibits	Close	
– System Support		5952-0547
– Software Support		5952-0546
		5952-0545

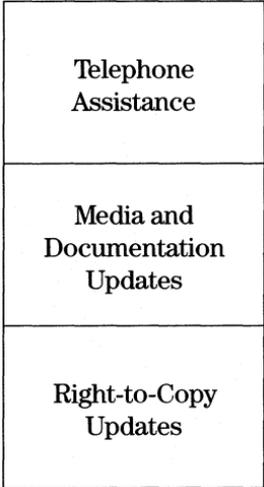
Workstation Support for Apollo Systems Division Products

System Support

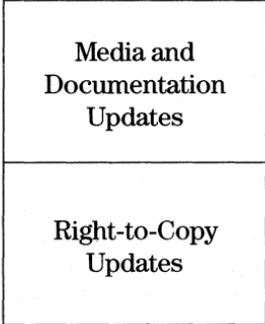


- HP ApolloLine:
 - Priority System Support Service
 - System Support Service

Software Support



- HP ApolloLine Response Center Support Service



- HP ApolloLine Software Subscription Service

System Support		
HP ApolloLine:		
Service Name	Priority System Support Service SPN: 02R	System Support Service SPN: 02S
Major Benefits	<ul style="list-style-type: none"> • Fastest response • Custom coverage options 	<ul style="list-style-type: none"> • Cost-effective
Best Fit for Systems Used in:	<ul style="list-style-type: none"> • Production critical applications 	<ul style="list-style-type: none"> • Less critical applications
Specified Hardware Response	<ul style="list-style-type: none"> • On-site as quickly as possible within 4 hours 	<ul style="list-style-type: none"> • On-site next working day
Hardware Coverage Hours/Days	<ul style="list-style-type: none"> • 8 am-9 pm • Monday-Friday 	<ul style="list-style-type: none"> • 8 am-5 pm • Monday-Friday
Specified O/S Phone Response	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Not specified
O/S Phone Coverage Hours/Days	<ul style="list-style-type: none"> • 8:30 am-8 pm (et) • Monday-Friday 	<ul style="list-style-type: none"> • 8:30 am-8 pm (et) • Monday-Friday
HP Supportline Access	<ul style="list-style-type: none"> • 8 am-9 pm (et) • 7 days/week 	<ul style="list-style-type: none"> • 8 am- 9 pm (et) • 7 days/week
Relative Price	1.25	1.0

Software Support		
HP ApolloLine:		
Service Name	Response Center Support Service (RCS) SPN: + HOO	Software Subscription Service (SSS) SPN: + Sxx
Major Benefits	<ul style="list-style-type: none"> • Telephone access to software experts • Includes SSS 	<ul style="list-style-type: none"> • Software and manual updates
Target Market	<ul style="list-style-type: none"> • Experienced and inexperienced users • Developers 	<ul style="list-style-type: none"> • Self-supporting customers
SW Phone Coverage Hours/Days	<ul style="list-style-type: none"> • 8:30 am-8 pm (et) • Monday-Friday 	<ul style="list-style-type: none"> • Not included
HP Supportline Access	<ul style="list-style-type: none"> • 8 am-9 pm (et) • 7 days/week 	<ul style="list-style-type: none"> • 8 am-9 pm (et) • 7 days/week

Additional information may also be obtained through the Support Services Help Desk at the Sales Response Center.

Telephone: (408) 447-4444

HP Desk: Support Help DESK /HP6650/11

Configuration
Our Underlying Basic Hardware Configuration

1. ALL SYSTEM CONFIGURATIONS MUST INCLUDE THE FOLLOWING:

- **Base Product** – Select **ONE (1)** (either a Node or a Server)

NODE

e.g. DN2500

SERVER

e.g. DSP4500

- **ONE (and only 1) of each of the following options (subsystems) per Configuration**

CELL

e.g. E6C

NETWORK

e.g. G02

MEMORY

e.g. H06

GRAPHICS (DN10000 Graphics is optional)

e.g. DEO

MONITOR

e.g. FC4

FACTORY INSTALLED OPTIONS (DN10000 only)

e.g. J04

CELL

e.g. E8C

NETWORK

e.g. G03

MEMORY

e.g. H02

N/A

N/A

e.g. J02

- **COUNTRY KITS (every order must include the proper Country Kit/ National Version)**

DN – COUNTRY KIT DSP – COUNTRY KIT

*e.g. DN2CK-**

*e.g. DSPCK-**

*Specific COUNTRY CODE (National Version) must be entered, that is enter the proper 3 alpha characters for the proper country.

See inside back cover.

e.g. DN2CK-ABJ (Japan)

(without multinational keyboard)

DN2CK-ABJ-1

(with multinational keyboard)

- 2. **Base Products and Options CANNOT be ordered alone – they must always be ordered within a full system configuration.**

- 3. **All Options within a configuration must have the same QUANTITY as the Base Product.**

- 4. **If an Option is required as an ADD-ON or STAND-ALONE, refer to the appropriate Add-On Option section of your Price Guide.**

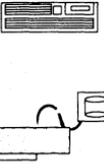
Product/ Opt. No.	Description
	<p>Bundled into each of the DN2500 System Model Numbers listed below are the following:</p> <ul style="list-style-type: none"> • 20MHz MC68030 Processor with 20MHz MC6882 floating point coprocessor • 4MB main memory • 3 asynchronous RS232-C port [cable must be ordered separately through Apollo Direct Channel (ADC) to support more than one port] • SCSI Bus capable of supporting up to 7 devices • Auto Ranging power supply for 120V/240V operations (no switch is necessary) • Operating system license (including all environments – System V, BSD, and Aegis) • Documentation: <ul style="list-style-type: none"> Domain Series 2500 Installation Instructions Domain Series 2500 Owners Guide Getting started with Apollo's Release and Installation Tools Domain Documentation Quick Reference Domain Documentation Master Index

Domain Series 2500 Bundled Systems (Continued)

Product/ Opt. No.	Description
A1647A	• Includes DN2500 system bundle + 15" 1024x800 70 Hz non-interlaced Monochrome Display Diskless
A1648A	• Includes DN2500 system bundle + 19" 1280x1024 70 Hz non-interlaced Monochrome Display Diskless
A1649A	• Includes DN2500 system bundle + 15" 1024x800 70 Hz non-interlaced Monochrome Display 100MB Disk
A1650A	• Includes DN2500 system bundle + 19" 1280x1024 70 Hz non-interlaced Monochrome Display 100MB Disk
A1653A	• Includes DN2500 system bundle + 15" 1024x800 70 Hz non-interlaced Monochrome Display 200MB Disk
A1654A	• Includes DN2500 system bundle + 19" 1280x1024 70 Hz non-interlaced Monochrome Display 200MB Disk
A1655A	• Includes DN2500 system bundle + 15" 1024x800 70 Hz non-interlaced Monochrome Display 400MB Disk
A1656A	• Includes DN2500 system bundle + 19" 1280x1024 70 Hz non-interlaced Monochrome Display 400MB Disk
Network Controller: (Must select one)	
G01	12 Mbps Apollo Token Ring Network Controller
G02	10 Mbps Ethernet/IEEE 802.3 Network Controller
G03	4 Mbps IBM Token Ring 802.5 Network Controller
Country Kit: (Must select one)	
DN2CK-*	Country Kit
DN2CK-*-1	Country Kit, multinational keyboard

*Country Code must be specified. See inside back cover.

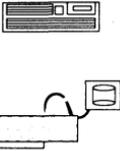
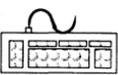
Quick Reference

Must Specify Base Product:		DN2500	DN3010A	
Mandatory System Configuration Sub-systems:		D,E,F,G,K	D,E,F,G	
System Type:		mono	mono	Color
Select One from each of the required sub-systems below:				
	D) Graphics:			
	DC0	4-plane clr 1024x800		■
	DE0	8-plane clr 1024x800 } (req. FC1 or FC2)		■
	DL0	mono 1024x800 (req. FM1)		■
	DM0	mono 1280x1024 (req. see O)		○ FM3 ○ FM2
	E) Cell w/Storage Option:			
	E01	Diskless		■
	E02	72MB/flpy		■
	E2A	72MB		■
	E03	72MB/cart		■
	E04	155MB/flpy		■
	E4A	155MB		■
	E05	155MB/cart		■
	E06	348MB/flpy		■
	E6A	348MB		■
	E07	348MB/cart		■
E10	100MB		■	
E20	200MB		■	
E40	400MB(2x200MB)		■	
	F) Display:			
	FM1	15" mono (req. DL0)		■
	FM2	19" mono } (req. DM0)		■
	FM3	19" mono }		■
	FC1	15" color (req. DC0 or DE0)		■
FC2	19" color (req. DC0 or DE0)		■	
	H) Memory:			
	H01	4MB		■
	H02	8MB		■
	H03	12MB		■
	H04	16MB		■
	G) Network:			
	G01	Apollo Token Ring		■
	G02	Ethernet/IEEE 802.3		■
	G03	IBM Token Ring 802.5		■
	CK) Country Kits:			
	DN2CK-*	DN2500 Country Kit		■
	DN2CK-*1	(w/multinational keyboard)		
	DN3CK-*	DN3/4XXX Country Kit		■
	DN3CK-*1	(w/multinational keyboard)		■

* = Country Code Must Be Specified. See inside back cover.

"K" Option for DN2500
K01 Special Credit (use when configuring 8, 12, or 16MB main memory and any Disk

Configuration Quick Reference

Must Specify Base Product:		DN3500		DN3550		DN4500	
Mandatory System Configuration Sub-systems:		D,E,F,G,H,CK,K		D,E,F,G,H,CK,K		D,E,F,G,H,CK,K	
System Type:		Mono	Color	Mono	Color	Mono	Color
Select One from each of the required sub-systems below: D) Graphics:  DA0 8-pl VS clr 1280x1024 } DB0 40-pl VS clr 1280x1024 } (rec. FC4) DC0 4-pl clr 1024x800 } (req. FC1) DE0 8-pl clr 1024x800 } or FC2 DF0 8-pl clr acclr 1280x1024 (req. FC4) DM0 mono 1280x1024							
E) Cell w/Storage Option:  E01 Diskless E4C 155MB/cart E4D 155MB E4F 155MB/flpy E6C 348MB/cart E6D 348MB E6F 348MB/flpy E8C 697MB/cart E8D 697MB E8F 697MB/flpy							
F) Display:  FM2 19" mono (req. DM0) FC1 15" color } (req. DC0 or DE0) FC2 19" color } FC4 19" color 70hz (req. DA0, DB0 or DF0)							
H) Memory:  H01 4MB H02 8MB H03 12MB H04 16MB H05 24MB H06 32MB							
Select One from each of the required sub-systems below: G) Network:  G01 Apollo Token Ring G02 Ethernet/IEEE 802.3 G03 IBM Token Ring 802.5							
CK) Country Kits:  DN3CK-* DN3/4XXX Country Kit DN3CK-* -1 w/multinational keyboard							

* = Country Code Must Be Specified. See Inside Back Cover.

"K" Options For DN3500, 3550, 4500

"K" Options for DN3500

- K01** Special Credit (use when configuring 8MB main memory and any 155MB Disk)
- K02** Special Credit (use when configuring 8MB main memory and any 348MB Disk)
- K03** Special Credit (use when configuring 8MB main memory and any 697MB Disk)
- K04** Special Credit (use when configuring 12MB main memory and any 155MB Disk)
- K05** Special Credit (use when configuring 12MB main memory and any 348MB Disk)
- K06** Special Credit (use when configuring 12MB main memory and any 697MB Disk)
- K07** Special Credit (use when configuring 16MB main memory and any 155MB Disk)
- K08** Special Credit (use when configuring 16MB main memory and any 348MB Disk)
- K09** Special Credit (use when configuring 16MB main memory and any 697MB Disk)
- K10** Special Credit (use when configuring 24MB main memory and any 155MB Disk)
- K11** Special Credit (use when configuring 24MB main memory and any 348MB Disk)
- K12** Special Credit (use when configuring 24MB main memory and any 697MB Disk)
- K13** Special Credit (use when configuring 32MB main memory and any 155MB Disk)
- K14** Special Credit (use when configuring 32MB main memory and any 348MB Disk)
- K15** Special Credit (use when configuring 32MB main memory and any 697MB Disk)

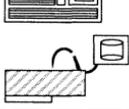
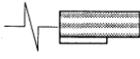
"K" Options for DN3550

- K07** Special Credit (use when configuring 16MB main memory and any 155MB Disk)
- K08** Special Credit (use when configuring 16MB main memory and any 348MB Disk)
- K09** Special Credit (use when configuring 16MB main memory and any 697MB Disk)
- K10** Special Credit (use when configuring 24MB main memory and any 155MB Disk)
- K11** Special Credit (use when configuring 24MB main memory and any 348MB Disk)
- K12** Special Credit (use when configuring 24MB main memory and any 697MB Disk)
- K13** Special Credit (use when configuring 32MB main memory and any 155MB Disk)
- K14** Special Credit (use when configuring 32MB main memory and any 348MB Disk)
- K15** Special Credit (use when configuring 32MB main memory and any 697MB Disk)

"K" Options for DN4500

- K01** Special Credit (use when configuring 16MB main memory and any 155MB Disk)
- K02** Special Credit (use when configuring 16MB main memory and any 348MB Disk)
- K03** Special Credit (use when configuring 16MB main memory and any 697MB Disk)
- K04** Special Credit (use when configuring 24MB main memory and any 155MB Disk)
- K05** Special Credit (use when configuring 24MB main memory and any 348MB Disk)
- K06** Special Credit (use when configuring 24MB main memory and any 697MB Disk)
- K07** Special Credit (use when configuring 32MB main memory and any 155MB Disk)
- K08** Special Credit (use when configuring 32MB main memory and any 348MB Disk)
- K09** Special Credit (use when configuring 32MB main memory and any 697MB Disk)

Configuration Quick Reference

Must Specify Base Product:	DSP3010A	DSP3500	DSP3550	DSP4500
Mandatory System Configuration Sub-systems: 	E,H,G,CK	E,H,G,CK	E,H,G,CK	E,H,G,CK
System Type:	Server	Server	Server	Server
Select One from each of the required sub-systems below:				
 E) Cell w/Storage Option  E4C 155MB/cart E05 155MB/cart E6C 348MB/cart E07 348MB/cart E8C 697MB/cart				
 H) Memory:  H01 4MB H02 8MB H04 16MB				
 G) Network:  G01 Apollo Token Ring G02 Ethernet/IEEE 802.3 G03 IBM Token Ring 802.5				
 CK) Country Kits: DSPCK.* DSP3/4XXX Country Kit				

* = Country Code Must Be Specified. See Inside Back Cover.

"K" Options for DSP3500

Special Credit (use when configuring 8MB main memory and any 155MB Disk)
 Special Credit (use when configuring 8MB main memory and any 348MB Disk)
 Special Credit (use when configuring 8MB main memory and any 697MB Disk)
 Special Credit (use when configuring 12MB main memory and any 155MB Disk)
 Special Credit (use when configuring 12MB main memory and any 348MB Disk)
 Special Credit (use when configuring 12MB main memory and any 697MB Disk)
 Special Credit (use when configuring 16MB main memory and any 155MB Disk)
 Special Credit (use when configuring 16MB main memory and any 348MB Disk)
 Special Credit (use when configuring 16MB main memory and any 697MB Disk)
 Special Credit (use when configuring 24MB main memory and any 155MB Disk)
 Special Credit (use when configuring 24MB main memory and any 348MB Disk)
 Special Credit (use when configuring 24MB main memory and any 697MB Disk)
 Special Credit (use when configuring 32MB main memory and any 155MB Disk)
 Special Credit (use when configuring 32MB main memory and any 348MB Disk)
 Special Credit (use when configuring 32MB main memory and any 697MB Disk)

"K" Options for DSP3550

K07 Special Credit (use when configuring 16MB main memory and any 155MB Disk)
K08 Special Credit (use when configuring 16MB main memory and any 348MB Disk)
K09 Special Credit (use when configuring 16MB main memory and any 697MB Disk)
K10 Special Credit (use when configuring 24MB main memory and any 155MB Disk)
K11 Special Credit (use when configuring 24MB main memory and any 348MB Disk)
K12 Special Credit (use when configuring 24MB main memory and any 697MB Disk)
K13 Special Credit (use when configuring 32MB main memory and any 155MB Disk)
K14 Special Credit (use when configuring 32MB main memory and any 348MB Disk)
K15 Special Credit (use when configuring 32MB main memory and any 697MB Disk)

"K" Options for DSP4500

K01 Special Credit (use when configuring 16MB main memory and any 155MB Disk)
K02 Special Credit (use when configuring 16MB main memory and any 348MB Disk)
K03 Special Credit (use when configuring 16MB main memory and any 697MB Disk)
K04 Special Credit (use when configuring 24MB main memory and any 155MB Disk)
K05 Special Credit (use when configuring 24MB main memory and any 348MB Disk)
K06 Special Credit (use when configuring 24MB main memory and any 697MB Disk)
K07 Special Credit (use when configuring 32MB main memory and any 155MB Disk)
K08 Special Credit (use when configuring 32MB main memory and any 348MB Disk)
K09 Special Credit (use when configuring 32MB main memory and any 697MB Disk)

Configuration Quick Reference

Add-On Options For:	DN2500	DN3010A DSP3010A	Prerequisites:
Storage Devices			
AADDSFLP*	■	■	DN2500
A-ADD-FLP		■	DN/DSP3010A & A-ADD-WFC-D
AADESTC*	■		DN2500
ADD-TC		■	DN/DSP3010A
A-ADD-72M		■	A-ADD-WFC-D
A-ADD-155M		■	A-ADD-WFC-D
A-ADD-348FA		■	A-ADD-WFC-D
A-ADD-200I	■		DN2500
A-200EF-*	■		DN2500
A-660E-*	■		DN2500
A-EX-*	■		DN2500
A-ADD-WFC-D		■	DN/DSP3010A
Memory:			
A-ADD-4MB-C	■		DN2500
A-ADD-8MB-A		■	DN/DSP3010A
A-ADD-8MB-C	■		DN2500
Product Support Kits:			
LFBB0BAD	■		DN2500
Optical Disk Drive:			
C1701	■		Option 400
			LFBB0BAD (PSK)
Options:			
1AK	■		Delete Disk Cartridge
1BB	■		Add three (3) disk cartridges
400	■		Add one 1.0m SCSI Cable
Country Kits & Kbds:			
A-DN2CK-*	■		N/A
A-DN3CK-*		■	N/A
A-LPFK-*	■	■	Domain/PHIGS application sfw

* = Country Code Must Be Specified. See Inside Back Cover.

Configuration Quick Reference

Add-On Options For:	DN3500 DSP3500	DN3550 DSP3550	DN4500 DSP4500	Prerequisites:
Misc: A-ADD-FPA Floating point adapter (req. LZ20-xxx w/SR9.7.1)	■	■	■	DN/DSP35X0/4500
Memory: A-ADD-4MB-A 4MB add-on memory A-ADD-8MB-A 8MB add-on memory A-ADD-8MB-B 8MB add-on memory A-16MB-B 16MB add-on memory	■ ■	■ ■	■ ■	DN/DSP3500 DN/DSP3500 DN/DSP3550/4500 DN/DSP3550/4500
Product Support Kits: LFZ20-xxx SR9.7.1 support (SCSI, 8pl) LFZ30-xxx SR10 support (SCSI devices) Note: xxx = media type	■ ■	■ ■	■ ■	DN/DSP35X0/4500 DN/DSP35X0/4500
Country Kits & Kbd: A-DN3CK-* DN3/4XXX Country Kit A-LPFK-* Lighted Programmable function keyboard	■ ■	■ ■	■ ■	N/A Domain/PHIGS application sfw

* = Country Code Must Be Specified. See Inside Back Cover.

Configuration Quick Reference

Add-On Options For:	DN3500 DSP3500	DN3550 DSP3550	DN4500 DSP4500	Prerequisites:
Storage Devices:				
System add-on devices				
A-ADD-FLP 1.2MB 5.25" floppy	■	■	■	A-ADD-SWFC
ADD-TC 60MB cart. tape w/ctrl	■	■	■	DN35X0/4500
A-ADD-STC SCSI cart. tape drive	■	■	■	DN35X0/4500
A-ADD-155M 155MB disk	■	■	■	w/A-ADD-SWFC
A-ADD-348FA 348MB disk	■	■	■	DN35X0/4500
A-697FA-* 697MB disk	■	■	■	w/A-ADD-SWFC
A-ADD-SWFC SCSI/Winchester/Flypy ctrl	■	■	■	DN/DSP35X0/4500
				w/A-ADD-SWFC
				DN/DSP35X0/4500
				w/A-ADD-SWFC
				DN/DSP35X0/4500
				w/A-ADD-SWFC
				DN/DSP35X0/4500
				w/A-ADD-SWFC
				DN35X0/4500
				w/A-ADD-SWFC
Multiple Disk Expansion Modules (MDEM)				
A-697S-* MDEM w/697MB disk	■	■	■	} Must have DN/DSP 35X0/4500 w/int 697MB disk
A-697SC-* MDEM w/697MB disk & tape	■	■	■	
A-697D-* MDEM w/2-697MB disk	■	■	■	
A-697DC-* MDEM w/2-697MB disk & tape	■	■	■	
A-697DX-* MDEM w/2-697MB & 8mm tape	■	■	■	
A-697SX-* MDEM w/697MB & 8mm tape	■	■	■	
A-697T-* MDEM w/3-697MB disks	■	■	■	
A-697TC-* MDEM w/3-697MB disks & tape	■	■	■	
A-697TX-* MDEM w/3-697MB & 8mm tape	■	■	■	
A-6250-* 1600/6250 bpi 1/2" tape for MDEM	■	■	■	
A-697FAA add-on 697MB for MDEM	■	■	■	Must have DN/DSP 35X0/4500 w/disk
A-ADD-STCA Add-on SCSI cart tape for MDEM	■	■	■	Must have MDEM A-697-S/SC/D/DC
A-XT-* Add-on 8mm tape for MDEM	■	■	■	Must have MDEM A-697-S/D/T
				Must have MDEM w/1, 2, or 3 disks & Omnibk
Single Disk Expansion Modules (SDEM)				
A-348E-* SDEM w/348MB disk	■	■	■	Must have DN/DSP 35X0/4500 w/348MB disk
A-697E-* SDEM w/697MB disk	■	■	■	Must have DN/DSP 35X0/4500 w/697MB disk
A-ETC-* SDEM w/SCSI cart tape	■	■	■	Must have DN/DSP 35X0/4500 w/disk
A-EX-* SDEM w/8mm tape	■	■	■	Must have DN/DSP 35X0/4500 w/Omniback
Disk Expansion Modules w/Omniback				
A-OBEX-*† SDEM w/8mm tape	■	■	■	DN/DSP35X0/4500
A-OBDX-*† MDEM w/2-697MB & 8mm tape	■	■	■	} DN/DSP35X0/4500 w/697MB disk
A-OBSX-*† MDEM w/697MB & 8mm tape	■	■	■	
A-OBTX-*† MDEM w/3-697MB & 8mm tape	■	■	■	} Must have MDEM w/1, 2, or 3 disks
A-OBXT-*† Add-on 8mm tape for MDEM w/Omniback	■	■	■	
†Must specify media type.				

Add-on Options for DN/DSP35X0/4500 continued on next page

* = Country Code Must Be Specified. See Inside Back Cover.

Hard Copy Devices

LP26, Laser Print 800, Multi-Mode, Color Print 300 and LaserJet IIP Printer		
Product/ Opt. No.	Description	Prerequisites
LP26C-A 8" floppy -B 5¼" floppy -C mag tape -D cartridge LP26C-50-A 8" floppy -B 5¼" floppy -C mag tape -D cartridge	Domain/Laser-26 high quality laser printer with MULTIBUS Parallel Interface Kit bundled as part of the configuration. PostScript Interpreter is integrated into the printer's controller. Paper Size A, A4, B and A3	Any MULTIBUS-based Apollo node. SR9.7.1
LP26S-A 8" floppy -B 5¼" floppy -C mag tape -D cartridge LP26S-50-A 8" floppy -B 5¼" floppy -C mag tape -D cartridge	Domain/Laser-26 high quality laser printer. PostScript Interpreter is integrated into the printer's controller. Paper Size A, A4, B and A3 Note: For parallel operation use the appropriate parallel interface kit (KIT-CENT). Must be installed by customer service.	Any Apollo node with Serial RS232-C or Parallel port.
LP26-SPE9-B 5¼" floppy -D cartridge LP26-SPE950-B 5¼" floppy -D cartridge	Domain/Laser-26 high quality laser printer with PC/AT Parallel Interface Kit. PostScript Interpreter is integrated into the printer's controller. Includes A-ADD-SPE, A-CBL-SPE and SPE software.	Any ATbus-based Apollo node except the DN10000.
LP8009ABA-B* 8" floppy -D* cartridge	2108 Laser Printer with country-specific power cord, Serial cable and Release Notes. NOTE: For parallel operation use KIT-CENT. Must be installed by customer service.	SR9.7.1 Any Apollo based node with serial RS-232.
LP80010-ABA*	2108 Laser Printer with country-specific power cord, Serial cable and Release Notes. No media included. NOTE: For parallel operation use the appropriate interface kit for ATBUS-based nodes (KIT-CENT). Must be installed by customer service.	SR10
HCD-MMP HCD-MMP-50	Multi-Mode dot matrix printer which prints in near letter quality, draft, and graphics (plot) modes. It uses one asynchronous RS232-C port.	RS-232 serial port.

Hard Copy Devices (Continued)

LP26, Laser Print 800, Multi-Mode, Color Print 300 and LaserJet IIP Printer		
Product/ Opt. No.	Description	Prerequisites
33471A	LaserJet IIP printer. Prints maximum 4 pages per minute, at 300 dpi resolution. Includes 512KB of standard internal memory, RS-232/422 and Centronics parallel interface ports. Access to the PostScript Page Description Language and 35 Adobe typefaces are available through an optional plug-in cartridge.	LaserJet IIP PostScript Interface, PostScript printer cartridge 2MB memory upgrade and SR10.1 and up are required for Domain workstations.
33439P ABA	PostScript Printer Cartridge (English Version) for LaserJet IIP printer. Plugs into font cartridge slot of LaserJet IIP printer and provides a simple and relatively inexpensive means for adding PostScript capability to the standard LaserJet IIP printer. The cartridge offers true authentic Adobe PostScript including 35 resident Adobe typefaces.	Requires LaserJet IIP printer with at least 2.5MB of memory.
33439P ABD	PostScript cartridge for LaserJet IIP, German version.	
33439P ABE	PostScript cartridge for LaserJet IIP, Spanish version.	
33439P ABF	PostScript cartridge for LaserJet IIP, French version.	
33439P ABS	PostScript cartridge for LaserJet IIP, Swedish version.	
33439P ABC	PostScript cartridge for LaserJet IIP, Italian version.	
33474B	1MB memory upgrade board for LaserJet IIP printer.	Standard 512KB LJ IIP memory must be increased in 2MB increments when PostScript printer cartridge is installed.
33475B	2MB memory upgrade board for	
33472A	Optional lower cassette (Letter size paper tray).	
33472AB	Optional lower cassette (A4-size paper tray).	

Hard Copy Devices (Continued)

LP26, Laser Print 800, Multi-Mode, Color Print 300, and LaserJet IIP Printer		
Product/ Opt. No.	Description	Prerequisites
CGP-ABA*	ColorPrint 300 color graphics printer. U.S. Version. Does not include interface kit. NOTE: Not recommended for use on DSP80 or DSP90.	Any ATbus-based node with KIT-CENT or any DN5xxt with KIT-CENT-MB SR9.7.1, SR10.
CGP9-MBABAB* 5¼" floppy D* cartridge	Color Print 300 color graphics printer and MultiBus Parallel Interface Kit. Includes documentation and power cord. KIT-CENT-MB is bundled into system. NOTE: Not recommended for use on DSP80 or DSP90. Must be installed by customer service.	SR9.7.1 Any MULTIBUS based Apollo node.
CGP10-MBABA*	Color Print 300 color graphics printer and MultiBus Parallel Interface Kit. Includes documentation and power cord. KIT-CENT-MB is bundled into system. NOTE: Not recommended for use on DSP80 or DSP90. Must be installed by customer service.	SR10 Any MULTIBUS based Apollo node.
CGP9-ATABAB* 5¼" floppy D* cartridge CGP10ATABAB* 5¼" floppy D* cartridge CGPP-ATABAC* mag tape	Color Print 300 color graphics printer and ATbus Parallel Interface Kit. Includes documentation and power cord. KIT-CENT is bundled into system. NOTE: 9 = SR9 or SR9.7.1, 10 = SR10, P = PRISM	Any ATBUS-based node SR9.7.1, SR10 or above.

*Localization which must be specific by National Version option ABA in the U.S.

Hard Copy Devices (Continued)

Printer Interface Kits		
Product/ Opt. No.	Description	Prerequisites
KIT-CENT-PC cartridge only KIT-CENT10B 5 1/4" floppy D cartridge KIT-CENT9-B 5 1/4" floppy -D cartridge	Parallel Interface Kit for ATBUS-based nodes. Will support Centronics Parallel, or Versatec differential or Versatec TTL output port. Kit includes a Centronics parallel cable and an ATbus controller board with the software drivers for SR9.7.1, SR10 Motorola and SR10 PRISM. NOTE: KIT-CENT-PC = <i>PRISM</i> , 10 = SR10, 9 = SR9.7 or SR9.7.1	PRISM SR10 SR9.7 Any ATbus-based Apollo node
KIT-CENT-MB	Parallel Interface Kit for MULTIBUS-based systems. Will support Centronics Parallel or Versatec differential or Versatec TTL output port. Kit includes a Centronics parallel cable and a MULTIBUS controller board with software drivers for SR9.7 and SR10.	SR10 SR9.7 Any MULTIBUS-based Apollo node.
KT4692AT9B 5 1/4" floppy D cartridge	TEKTRONIX 4692 Driver with SPE PC/AT Parallel Interface kit. Includes A-ADD-SPE, A-CLB-SPE cable and SPE software.	Any ATbus-based Apollo node except the DN10000. SR9.7 Tek 4692
KT4692MB9A 8" floppy B 5 1/4" floppy D cartridge	TEKTRONIX 4692 Driver for MULTIBUS-based systems. Kit includes MULTIBUS controller board, parallel cable, and Tektronix 4692 software driver.	Any MULTIBUS-based Apollo node. SR9.7
K2244	25 feet, serial interface cable. Connects the RS-232C port on the DN2500, DN3010, DN3500, DN3550, DN4000, DN4500 and DN10000 workstations to the LaserJet IIP printer. (Can be ordered through the ADC)	
D-17932-0	LaserJet IIP PostScript Printer installation instructions.	

Printer Add-Ons		
A-ADD-SPE	SERIAL/PARALLEL EXPANSION board for PC/AT bus systems. Adds 2 serial and 1 Centronics parallel port. Interface Kit includes SPE controller board, 9 to 25 pin RS232-C serial adapter cable and user documentation.	Any ATbus-based Apollo node except the DN10000.
A-CBL-SPE	Centronics parallel adapter cable for use with Serial/Parallel expansion board, A-ADD-SPE.	A-ADD-SPE
ADD-CGPMEM	4MB Add-on memory for ColorPrint 300 which can have a total of 12MB of memory. NOTE: Available through <i>Apollo Direct Channel (ADC)</i> only on a lead time basis. Must be installed by Customer Service.	CGP, CGP-AT or CGP-MB.

Hard Copy Devices (Continued)

HP-Apollo Supported Hardcopy Printers				
Price Listed, Software in SR10, & Fully Supported by Customer Service				
Make/Model	Printer Type	Interface	Device Speed	Resolution
Apollo CP300 Tek 4693DX	Thermal wax Color	Parallel	1½ minutes per page	300 dpi
Apollo-LP800 TI 2108	Laser	RS232 Parallel	8 ppm*	300 dpi
Apollo-LP26 DP 2665LZR	Laser	RS232 Parallel	26 ppm* 400 cps draft	300 dpi 72/144 dpi
LaserJet IIP	Laser	RS232 Parallel	4 ppm*	300 dpi
Apollo-MMP	Dot matrix impact	RS232	400 cps draft 100 cps LQ	72/144 dpi

Make/Model	Paper Size	File Type		
Apollo CP300 Tek 4693DX	8½ x 11 8½ x 14	Bitmap		
Apollo-LP800 TI 2108	8½ x 11	Text, Bitmap		
Apollo-LP26 DP 2665LZR	8½ x 11	Text, Bitmap		
LaserJet IIP	8½ x 11	Text, Bitmap		
Apollo-MMP Genicom	8-14 ⁷ / ₈ inch fan fold			

NOTE:

*A page is defined as a maximum of 2500 characters with 4 fonts or a maximum of 4000 characters with one font.

**All laser printer device names should be postscript with model as shown for the configuration file for SR10.

Network Controllers

Product/ Opt. No.	Description	Prerequisites/Notes
V-NET-ATR	Add-on Apollo Token Ring Controller-VME for the DN100X0. Includes: Network controller board, cable and installation documentation.	DN100X0
V-NET-ETH	Add-on 802.3 Network Controller-VME for the DN5XXT workstations and servers. Includes: Network controller board, cable and installation documentation.	9.7 or later VME and DN570T, DN580T and DN590T or DSP500T.
VNETETHPLUS	Add-on 802.3 Network Controller-VME for the DN100X0. Includes: Network controller board, cable and installation documentation.	DN100X0
A-NET-ATR	Add-on Apollo Token Ring network controller for all AT-BUS nodes. Includes: Network controller board and installation documentation.	Series 3XXX Series 4XXX Series 2XXX
A-NET-ETH	Add-on ETHERNET/IEEE 802.3 network controller for all AT-BUS nodes. Includes: Network controller board and installation documentation.	SR9.6 or later Series 3XXX Series 4XXX Series 2XXX
A-NET-ITR	Add-on IBM Token Ring network controller for AT-BUS nodes. Includes: Network controller and documentation.	SR10.1 or later DN/DSP3500 DN/DSP3550 DN/DSP4000 DN/DSP4500 Series 2XXX Note: DN35XX and DN40XX purchased before 1/1/89 may require hardware modifications prior to being upgraded.
ANETITR3K-B ANETITR3K-D	Add-on IBM Token Ring network controller for AT-BUS nodes. Includes: Network controller, documentation and software. Available on 5.25" floppy or cartridge tape.	SR10.1 DN/DSP3000 DN/DSP3010 DN/DSP3010A (Supported at SR10.2 only) Note: DN3000's may require boot prom.

NOTE: Call the **Apollo Direct Channel 1-800-225-5290** for the appropriate wall to workstation cable informat

Communications Controllers		
Product/ Opt. No.	Description	Prerequisites/Notes
COM-X259-B COM-X259-D COM-X2510-B COM-X2510-D	Domain X.25 Gateway, PNA, MBUS. Synchronous Hardware controller, mounts in a DSP80, DSP80A, DSP90, PNA or MBUS. Includes: dual synchronous lines, full X.25 software with extensions, and 2 modem cables.	DSP80, DSP80A, and DSP90. Note: Incompatible with SFW-X25 and SC-AT.
SCAT See Below	Intelligent communications controller that mounts in a DN3XXX or DN4XXX series node. It provides 2 serial, high speed ports for SNA or X.25 communications. It supports one of 4 physical interfaces for each port. Includes: 2 interface cables which must be specified from the list below. Available only with 5.25" floppy or cartridge tape.	SR9.7 or SR9.7.1 or SR10 DN3XXX or DN4XXX Note: If additional cables are required after board receipt, they must be ordered through ADC.

		CABLE 1	CABLE 2
SCAT9-N-N-B SCAT9-N-N-D	SCAT10N-N-B SCAT10N-N-D	No Cable No Cable	No Cable No Cable
SCAT9R2-N-B SCAT9R2-N-D SCAT9R2R2-B SCAT9R2R2-D SCAT9R2R4-B SCAT9R2R4-D SCAT9R2-V-B SCAT9R2-V-D	SCAT10R2N-B SCAT10R2N-D SCAT10R2R2B SCAT10R2R2D SCAT10R2R4B SCAT10R2R4D SCAT10R2V-B SCAT10R2V-D	RS232 RS232 RS232 RS232 RS232 RS232 RS232 RS232	No Cable No Cable RS232 RS232 RS422 RS422 V.35 V.35
SCAT9R4-N-B SCAT9R4-N-D SCAT9R4R4-B SCAT9R4R4-D SCAT9R4-V-B SCAT9R4-V-D	SCAT10R4N-B SCAT10R4N-D SCAT10R4R4B SCAT10R4R4D SCAT10R4V-B SCAT10R4V-D	RS422 RS422 RS422 RS422 RS422 RS422	No Cable No Cable RS422 RS422 V.35 V.35
SCAT9-V-N-B SCAT9-V-N-D SCAT9-V-V-B SCAT9-V-V-D	SCAT10V-N-B SCAT10V-N-D SCAT10V-V-B SCAT10V-V-D	V.35 V.35 V.35 V.35	No Cable No Cable V.35 V.35

Serial Communication Cables		
Product/ Opt. No.	Description	Prerequisites/Notes
CB-SYNC-232	RS-232 replacement cable.	SCAT Note: Replacement Cables for Serial Controller – AT.
CB-SYNC-449	RS-449 replacement cable.	
CB-SYNC-V35	V.35 replacement cable.	

Bridges & Routers		
Product/ Opt. No.	Description	Prerequisites/Notes
COM-DFL	Domain/DFL-100 Fiber Optics Line which links Apollo Token Rings together using fiber optics.	Note: 2 are required for complete link.
COM-DFL-R	Domain/DFL-100-R Redundant Fiber Optics Link which links Apollo Token Rings together using fiber optics. Used as part of a redundant Domain/DFL-100 link. Also contains a connector cable to connect to a primary Domain/DFL link.	Note: 2 are required for a complete redundant link.
COM-BRG-A	Domain/Bridge-A (T1) Internetwork Router is an intelligent communications controller that provides a 1544 Mbps connection between Apollo networks over T1 facilities. It mounts in a dedicated DSP80A or DSP90 and provides a single RS-449 interface to T1 channel access equipment. Includes: 25' Router to channel access unit cable.	Note: 1 is required in each network.
COM-BRG-B	Domain/Bridge-B (Coax) Internetwork Router is an intelligent communications controller that provides a connection between Apollo networks over coax cable. It mounts in a dedicated DSP80A or DSP90.	Note: 1 is required in each network.

Local Area Network Controller

Every Apollo system comes equipped with a LAN controller at no additional charge. This is an integral part of an Apollo workstation due to its distributed file system which was designed for use in a networked multinode environment. There are three types of network controllers available for running native Domain Distributed Services: 12Mbps Apollo Token Ring, 10Mbps IEEE 802.3 Ethernet, or 4Mbps IEEE 802.5 (IBM) token ring. Multiple network controllers (of any type) can be supported simultaneously in any of the Series 3500, 3550, or 4500 products to support internetworking routing.

PC Integration Products

PC Coprocessor		
Product/ Opt. No.	Description	Prerequisites/Notes
A-ADD-PCC	PC Coprocessor Board which provides an IBM PC/AT compatible MS-DOS environment, in a window. Includes: controller board, software license, media and documentation.	Series 3XXX or Series 4XXX with one free AT bus slot SR9.7 or later (SR9 and SR10) Available only on 5.25" floppy.

PC Interconnect		
Product/ Opt. No.	Description	Prerequisites/Notes
COM-PCI-RGB	PCI-Ring client: Apollo Token Ring Controller and client software for direct connection of IBM PC/XT, PC/AT or compatible personal computers to Apollo Token Ring network. Includes: controller board, documentation and PC software.	PC/XT, PC/AT or compatible running MS-DOS 3.1 or greater. Available only on 5.25" floppy. Also requires PCI-Server software LA490xxxx on Apollo workstation or server
COM-PCI-ETB	PCI-Ethernet client: 3 Com Etherlink II Controller board and client software for direct connection of IBM PC/XT or PC/AT and other compatible personal computers to Apollo's ETHERNET network. Includes: controller board, documentation and PC software.	

For convenient use in various nations throughout the world, Apollo products are offered in specific national versions called Country Kits. Each national version provides appropriate keyboard, keyboard cable, mouse, country specific power cord and keyboard cover.

Option	National Version
---------------	-------------------------

ABA	North America*
ABD	Germany*
ABF	France*
ABG	Australia
ABH	Netherlands
ABN	Norway*
ABP	Switzerland*
ABS	Sweden/Finland*
ABT	Israel
ABU	United Kingdom*
ABY	Denmark*
ABZ	Italy

*Indicates available with Multinational Keyboard

NOTE:

- 1) Ensure that Country Kit model numbers are noted correctly.
If you are ordering a workstation Country Kit, you must order a **DN_xCK** –
If you are ordering a Country Kit for a server product, you must order **DSPCK** –
- 2) Option **ABA** is the North American national version country kit *only*.
- 3) If a Country Kit other than the **ABA** (North American version) is selected, it must be ordered as a *Sub-Item* within the *same* Configuration.
e.g. **DN2CK-ABJ** (Japan)
(without multinational keyboard)
DN2CK-ABJ-1
(with multinational keyboard)

apollo

A subsidiary of



Apollo Systems Division

300 Apollo Drive
Chelmsford, MA 01824
Tel: (508) 256-6600
Fax: (508) 256-1599

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