

Control Data Corp. Cyber 910 and 920 Series: Product Profile

In this report:

Characteristics.....	-202
Pricing.....	-203

System Overview

Control Data Corp. (CDC) designs, develops, manufactures, and markets computer systems and peripherals, software, data communication products, and data storage devices. Its Cyber 910 family of workstations is designed for interactive computer-aided design/computer-aided manufacturing applications. The Cyber 920 series of network servers provides compute and file serving capabilities for work groups that function in distributed, multivendor environments.

All Cyber 910 workstations are binary code compatible and software compatible at the object code level with all Cyber 920 network servers. Models within the 910 series include five 910-400 3-D graphics workstations, the 910-590 graphics super-workstation, five 910-600 near-supercomputer graphics workstations, and five 910-700 super graphics workstations.

Three types of Cyber 920 network servers are available: deskside, twin tower, and 19-inch rack. Several models of 920B twin towers and

920C racks are available. Workstations and servers operate under the IRIX operating system, a multiprocessor version of UNIX System V Release 3.

Vendor

Control Data Corp.
8100 34th Avenue S.
Minneapolis, MN 55440-4700
(612) 853-8100
In Canada:
Control Data Canada, Ltd.
50 Hallcrown Place
Willowdale, ON MZJ 1P7
(416) 495-2800

Price

Base configurations for CDC's 910 series are priced between \$10,000 and \$179,900. Cyber 920B servers range between \$5,900 and \$114,305, and Cyber 920C servers between \$42,500 and \$202,500.

GSA Schedule

Yes.

Competition

CDC competes with IBM, Digital Equipment, Hewlett-Packard, Unisys, and Bull.

—By *Marlene H. Schulke*
Associate Editor/Analyst

Characteristics

Entry-level, intermediate, and large system descriptions are highlighted in Equipment Prices.

Peripherals

Peripherals communicate with Cyber systems through a Small Computer Systems Interface (SCSI), an RS-232 controller, a Centronics interface, or an Ethernet controller.

Mass Storage

Specifications and pricing for the available mass storage devices are included in Equipment Prices.

Tape Drives

The Cyber 910 workstations or 920 servers may be configured with a variety of tape drives including 1/4-inch cartridge, 8-mm. cartridge, and 1/2-inch 9-track reel-to-reel.

Terminals/Workstations

The Cyber 910-400 workstations rely on the VLSI technology of the Geometry Engine to provide high-performance 3-D graphics. The workstations support both 14-inch and 19-inch color monitors with an entry level of eight color bitplanes, two overlay/underlay bitplanes, and two system bitplanes as standard on base graphics models. Super graphics models provide 24 color bitplanes, four overlay/underlay bitplanes, four system bitplanes, and a 24-bit Z-buffer. Optional graphics upgrades are available to increase total bitplanes and performance.

The Cyber 910-590 superworkstation is designed around the GT/GTX graphics subsystem. Supporting a 19-inch color monitor, the 910-590 produces 90,000 Gouraud-shaded, full 24-bit color, Z-buffered polygons per second.

The Cyber 910-600 and 910-700 superworkstations offer a resolution of 1,280 by 1,024 on 19-inch RGB color monitors. An alphanumeric terminal with a 14-inch tilt and swivel monitor is available for the Cyber 920 series.

Communications

Protocols Supported: TTY, X.25, TCP/IP.

Network Applications Supported: DECnet, 3270, 5080.

LANS Supported: 802.3 Ethernet.

Operating Environment

CDC's Cyber 910-400 workstations operate within temperatures of 55.4 and 95 degrees Fahrenheit. The 910-590 requires an environment between 50 and 104 degrees. The 910-600 and 910-700 superworkstations and the 920 network servers operate within temperatures of 50 and 95 degrees. All Cyber 910 and 920 series systems require a humidity range between 10 degrees and 80 degrees noncondensing. All utilize 115-V line voltage. Physical specifications for the Cyber 910 and 920 series, without displays, follow.

Physical Specifications
 Base Cabinet Dimensions

Model	Height (in.)	Width (in.)	Depth (in.)	Weight (lb.)
910A-590	26	21	29	180
910B-430 through -470	21.5	9.1	17.7	68
910B-621 through -734	26	26	27	185
Twin Tower 920B-252 through -334	26	26	27	185
Deskside 920B-450	21.5	9.1	17.7	68
Rackmount 920C-251 through -338	62.5	27	41	400

Physical Specifications
 Expansion Cabinet Dimensions

Model	Height (in.)	Width (in.)	Depth (in.)	Weight (lb.)
910-400 910P-4CE through -4CF	21.5	9.1	17.7	Not specified
910-600 910P-5TG	30.4	25	37.25	150

Software

Operating System

Cyber 910 and 920 series run IRIX, a multiprocessing implementation of the UNIX System V Release 3-based operating system. It offers symmetric parallel processing, realtime UNIX extensions, POSIX/ANSII compatibility, BSD 4.3 System call compatibility, disk striping, logical volumes, dynamic disk data (buffer) cache, and virtual memory performance enhancements.

Other Software

Standard software bundled with Cyber 910 workstations and Cyber 920 servers includes the IRIX operating system, TCP/IP, Graphics Library (GL), 4Sight Windowing System (NeWS, GL Windows, X Windows), Extent File System, and the C Compiler and Development Environment. Various other software packages, such as Network File System or AME Text Editor, are included with certain models in each series.

Optional software is available from a large software library. Fortran or Fortran-77, Pascal, and Ada compilers are available for all systems. PC/AT-DOS Emulation is available for all workstations. All systems support Oracle and Informix database management packages.

Pricing

Cyber 910 and 920 Series systems are available for purchase only. Basic system software, such as the IRIX operating system, TCP/IP, GL, and 4Sight Windowing System, are bundled with the hardware purchase price.

Equipment Prices

		Purchase Price (\$)
Base Systems		
Cyber 910-430 3-D Graphics Workstation		
910B-430	Entry-level system with 1 MIPS R2000 CPU, 1 R2010 Floating Point Co-processor, 8M-byte Main Memory, 24K-byte Cache Memory, 2 RS-232 I/O Ports, SCSI Disk Controller, 170M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Color Workstation Display, 10 MIPS, 12.5MHz, and IRIX Operating System	13,500
Cyber 910-440 3-D Graphics Workstation		
910B-440	Intermediate-level system with 1 MIPS R2000 CPU, 1 R2010 Floating Point Co-processor, 8M-byte Main Memory, 24K-byte Cache Memory, 2 RS-232 I/O Ports, SCSI Disk Controller, 327M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Color Workstation Display, 10 MIPS, 12.5MHz, and IRIX Operating System	21,000
Cyber 910-460 3-D Graphics Workstation		
910B-460	Intermediate-level system with 1 MIPS R3000 CPU, 1 R3010 Floating Point Co-processor, 8M-byte Main Memory, 96K-byte Cache Memory, 2 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Color Workstation Display, 16 MIPS, 20MHz, and IRIX Operating System	21,000
Cyber 910-470 3-D Graphics Workstation		
910B-470	Large system with 1 MIPS R3000 CPU, 1 R3010 Floating Point Co-processor, 8M-byte Main Memory, 96K-byte Cache Memory, 2 RS-232 I/O Ports, SCSI Disk Controller, 1,040M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Color Workstation Display, 16 MIPS, 20MHz, and IRIX Operating System	30,500

		Purchase Price (\$)
Cyber 910-590 Graphics Superworkstation		
910A-590	Entry-level system with 1 MIPS R2000 CPU, 1 R2010 Floating Point Co-Processor, 8M-byte Main Memory, 96K-byte Cache Memory, 5 RS-232 I/O Ports, SCSI Disk Controller, 340M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 19-inch Color Workstation Display, 13 MIPS, 16.7MHz, IRIX Operating System, and C Language	54,900
Cyber 910-621 Near-supercomputer Graphics Workstation		
910B-621	Entry-level system with 1 MIPS R3000 CPU, 1 R3010 Floating Point Co-Processor, 8M-byte Main Memory, 192K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 340M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 19-inch Color Workstation Display, 20.9 MIPS, 25MHz, IRIX Operating System, and C Language	80,400
Cyber 910-622 Near-supercomputer Graphics Workstation		
910B-622	Intermediate-level system with 2 MIPS R3000 CPUs, 2 R3010 Floating Point Co-Processors, 8M-byte Main Memory, 384K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 19-inch Color Workstation Display, 42.2 MIPS, 25MHz, IRIX Operating System, and C Language	113,400
Cyber 910-624 Near-supercomputer Graphics Workstation		
910B-624	Intermediate-level system with 4 MIPS R3000 CPUs, 4 R3010 Floating Point Co-Processor, 8M-byte Main Memory, 768K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 19-inch Color Workstation Display, 84.8 MIPS, 25MHz, IRIX Operating System, and C Language	143,400
Cyber 910-632 Near-supercomputer Graphics Workstation		
910B-632	Intermediate-level system with 2 MIPS R3000 CPUs, 2 R3010 Floating Point Co-Processors, 8M-byte Main Memory, 384K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 19-inch Color Workstation Display, 59.2 MIPS, 33MHz, IRIX Operating System, and C Language	123,400
Cyber 910-634 Near-supercomputer Graphics Workstation		
910B-634	Large system with 4 MIPS R3000 CPUs, 4 R3010 Floating Point Co-Processors, 8M-byte Main Memory, 768K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 833M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 19-inch Color Workstation Display, 117 MIPS, 33MHz, IRIX Operating System, and C Language	188,400
Cyber 910-721 Super Graphics Workstation		
910B-721	Entry-level system with 1 MIPS R3000 CPU, 1 R3010 Floating Point Co-Processor, 8M-byte Main Memory, 192K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 340M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 19-inch Color Workstation Display, 20.9 MIPS, 25MHz, IRIX Operating System, and C Language	105,400
Cyber 910-722 Super Graphics Workstation		
910B-722	Intermediate-level system with 2 MIPS R3000 CPUs, 2 R3010 Floating Point Co-Processors, 8M-byte Main Memory, 384K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 19-inch Color Workstation Display, 42.2 MIPS, 25MHz, IRIX Operating System, and C Language	138,400
Cyber 910-724 Super Graphics Workstation		
910B-724	Intermediate-level system with 4 MIPS R3000 CPUs, 4 R3010 Floating Point Co-Processor, 8M-byte Main Memory, 768K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 19-inch Color Workstation Display, 84.8 MIPS, 25MHz, IRIX Operating System, and C Language	168,400
Cyber 910-732 Super Graphics Workstation		
910B-732	Intermediate-level system with 2 MIPS R3000 CPUs, 2 R3010 Floating Point Co-Processors, 8M-byte Main Memory, 384K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 19-inch Color Workstation Display, 59.2 MIPS, 33MHz, IRIX Operating System, and C Language	148,400

		Purchase Price (\$)
Cyber 910-734 Super Graphics Workstation		
910B-734	Large system with 4 MIPS R3000 CPUs, 4 R3010 Floating Point Co-Processors, 8M-byte Main Memory, 768K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 833M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 19-inch Color Workstation Display, 117 MIPS, 33MHz, IRIX Operating System, and C Language	213,400
Cyber 920-450 Twin Tower Network Server		
920B-450	Entry-level system with 1 MIPS R3000 CPU, 1 R3010 Floating Point Co-Processor, 8M-byte Main Memory, 96K-byte Cache Memory, 1 RS-232 I/O Ports, SCSI Disk Controller, 340M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Monochrome Console, 16 MIPS, 20MHz, IRIX Operating System, and C Language	12,650
Cyber 920-252 Twin Tower Network Server		
920B-252	Intermediate-level system with 2 MIPS R3000 CPUs, 2 R3010 Floating Point Co-Processors, 8M-byte Main Memory, 384K-byte Cache Memory, 1 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Monochrome Console, 42.2 MIPS, 25MHz, IRIX Operating System, and C Language	74,055
Cyber 920-254 Twin Tower Network Server		
920B-254	Intermediate-level system with 4 MIPS R3000 CPUs, 4 R3010 Floating Point Co-Processor, 8M-byte Main Memory, 768K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Monochrome Console, 84.8 MIPS, 25MHz, IRIX Operating System, and C Language	104,055
Cyber 920-332 Twin Tower Network Server		
920B-332	Intermediate-level system with 2 MIPS R3000 CPUs, 2 R3010 Floating Point Co-Processors, 8M-byte Main Memory, 384K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Monochrome Console, 59.2 MIPS, 33MHz, IRIX Operating System, and C Language	84,055
Cyber 920-334 Twin Tower Network Server		
920B-334	Large system with 4 MIPS R3000 CPUs, 4 R3010 Floating Point Co-Processors, 8M-byte Main Memory, 768K-byte Cache Memory, 4 RS-232 I/O Ports, SCSI Disk Controller, 833M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Monochrome Console, 117 MIPS, 33MHz, IRIX Operating System, and C Language	124,055
Cyber 920-251 Rack Network Server		
920C-251	Entry-level system with 1 MIPS R3000 CPU, 1 R3010 Floating Point Co-Processor, 8M-byte Main Memory, 192K-byte Cache Memory, 1 RS-232 I/O Ports, SCSI Disk Controller, 340M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Monochrome Console, 20.9 MIPS, 25MHz, IRIX Operating System, and C Language	49,250
Cyber 920-254 Rack Network Server		
920C-254	Intermediate-level system with 4 MIPS R3000 CPUs, 4 R3010 Floating Point Co-Processor, 8M-byte Main Memory, 768K-byte Cache Memory, 10 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Monochrome Console, 84.8 MIPS, 25MHz, IRIX Operating System, and C Language	112,250
Cyber 920-258 Rack Network Server		
920C-258	Intermediate-level system with 8 MIPS R3000 CPUs, 8 R3010 Floating Point Co-Processor, 8M-byte Main Memory, 1,536K-byte Cache Memory, 10 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Monochrome Console, 168.3 MIPS, 25MHz, IRIX Operating System, and C Language	172,250
Cyber 920-332 Rack Network Server		
920C-332	Intermediate-level system with 2 MIPS R3000 CPUs, 2 R3010 Floating Point Co-Processors, 8M-byte Main Memory, 384K-byte Cache Memory, 10 RS-232 I/O Ports, SCSI Disk Controller, 660M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Monochrome Console, 59.2MIPS, 33MHz, IRIX Operating System, and C Language	92,250
Cyber 920-338 Rack Network Server		
920C-338	Large system with 8 MIPS R3000 CPUs, 8 R3010 Floating Point Co-Processors, 8M-byte Main Memory, 1,536K-byte Cache Memory, 10 RS-232 I/O Ports, SCSI Disk Controller, 833M-byte Disk Drive, SCSI Tape Controller, 150M-byte Tape Drive, 14-inch Monochrome Console, 234MIPS, 33MHz, IRIX Operating System, and C Language	237,250

		Purchase Price (\$)
Mass Storage Devices		
For Cyber 910-400 3-D Graphics Workstations		
910D-420, 910P-4AJ	Fixed Disk, 5.25 inches, 170M-byte Formatted Capacity, SCSI Interface, 18-ms. Average Access Time, 1.5 bps Data Transfer Rate	2,000
910D-43H, 910P-43H	Fixed Disk, 5.25 inches, 327M-byte Formatted Capacity, SCSI Interface, 14-ms. Average Access Time, 2.3 bps Data Transfer Rate	3,500
910D-47H, 910P-47H	Fixed Disk, 5.25 inches, 660M-byte Formatted Capacity, SCSI Interface, 11.9-ms. Average Access Time, 2.3 bps Data Transfer Rate	5,000
910D-41S, 910P-4TM	Fixed Disk, 5.25 inches, 1,040M-byte Formatted Capacity, SCSI Interface, 15-ms. Average Access Time, 2.3 bps Data Transfer Rate	7,000
For Cyber 910A-590 Graphics Superworkstation		
910P-AAF, 910D-A38	Fixed Disk, 5.25 inches, 340M-byte Formatted Capacity, SCSI Interface, 14-ms. Average Access Time, 2.3 bps Data Transfer Rate	3,500
910P-AAG, 910D-A76	Fixed Disk, 5.25 inches, 660M-byte Formatted Capacity, SCSI Interface, 11.9-ms. Average Access Time, 2.3 bps Data Transfer Rate	5,000
For Cyber Near-supercomputer Graphics Workstations, Super Graphics Workstations and Twin Tower Network Servers		
910P-5AF, 910D-380	Fixed Disk, 5.25 inches, 340M-byte Formatted Capacity, SCSI Interface, 14-ms. Average Access Time, 2.3 bps Data Transfer Rate	4,000
910P-5AG, 910D-780	Fixed Disk, 5.25 inches, 660M-byte Formatted Capacity, SCSI Interface, 11.9-ms. Average Access Time, 2.3 bps Data Transfer Rate	7,000
910P-5TH, 910D-12P	Fixed Disk, 8 inches, 833M-byte Formatted Capacity, SCSI Interface, 15-ms. Average Access Time, 6 bps Data Transfer Rate	32,000
For Cyber Rack Network Servers		
910P-5TH, 920D-C1P	Fixed Disk, 8 inches, 833M-byte Formatted Capacity, SCSI Interface, 15-ms. Average Access Time, 6 bps Data Transfer Rate	32,000
920P-CAF, 920D-C38	Fixed Disk, 5.25 inches, 340M-byte Formatted Capacity, SCSI Interface, 14-ms. Average Access Time, 2.3 bps Data Transfer Rate	4,000
920P-CAG, 920D-C78	Fixed Disk, 5.25 inches, 660M-byte Formatted Capacity, SCSI Interface, 11.9-ms. Average Access Time, 2.3 bps Data Transfer Rate	7,000
Cyber 910-400 3-D Graphics Workstations		
910P-4AF	Diskette, 5.25 inches, 1.2M-byte Formatted Capacity, SCSI Interface	1,000
910P-4BF	Diskette, 3.5 inches, SCSI Interface	1,000
Magnetic Tape Devices		
For Cyber 910-400 3-D Graphics Workstations		
910P-4AC	Cartridge Tape, 0.25 Inches, 150M-byte Formatted Capacity, SCSI Interface	1,500
910P-4BE	9 Track Tape, 0.5 Inches, 270M-byte Formatted Capacity, SCSI Interface	12,500
For Cyber 910A-590 Graphics Superworkstation		
910P-AAC	Cartridge Tape, 0.25 Inches, 150M-byte Formatted Capacity, SCSI Interface	1,500
910P-AAF	8-mm. Cartridge Tape, 2G-byte Formatted Capacity, SCSI Interface	8,950
For Cyber Near-supercomputer Graphics Workstations, Super Graphics Workstations and Twin Tower Network Servers		
910P-5AE	Cartridge Tape, 0.25 Inches, 150M-byte Formatted Capacity, SCSI Interface	1,500
910P-5FC	Reel to Reel, 0.5 Inches, SCSI Interface	20,000
910P-5FE	Reel to Reel, 0.5 Inches, SCSI Interface	23,000
910P-5FF	8-mm. Cartridge Tape, 2G-byte Formatted Capacity, SCSI Interface	8,950
For Cyber Rack Network Servers		
920P-CAC	Cartridge Tape, 0.25 Inches, 150M-byte Formatted Capacity, SCSI Interface	1,500
920P-CFE	Reel to Reel, 0.5 Inches, SCSI Interface	23,000
920P-CFF	8-mm. Cartridge Tape, 2G-byte Formatted Capacity, SCSI Interface	8,950

Note: Annual maintenance charges for each system equal approximately 10 percent of the purchase price. ■