IBM Personal System/2 Model 95 XP 486 series

Putting the full range of 486 power within reach

IBM turns the latest Intel486™ SX and DX microprocessor technology into a series of fast and flexible solutions: the Model 95 XP 486 series from Personal System/2.® Providing a range of choices in processing speed, memory and storage, the series makes it possible to get 486™ power at precisely the right level for you.

Whether you select a 20 MHz, 25 MHz or 33 MHz system, you benefit from balanced Micro Channel®-based performance. That means you get the most from the 95 XP 486's resources– from processor to ports to XGA graphics to SCSI fixed disks to opti- mized memory. So you realize the full potential of 486 power through the advanced technology of PS/2.®

There's future potential in Model 95 XP 486 systems. Upgradable processor complexes make it easy to move from 20 MHz to 25 MHz to 33 MHz–over time, even beyond.

You can also expand your Model 95 XP 486 to handle larger and larger workloads. Six available 32-bit expan- sion slots, SCSI busmaster technology, space for five internal disk drives, and support for as much as 32MB of memory on the system board give you lots of room to grow.
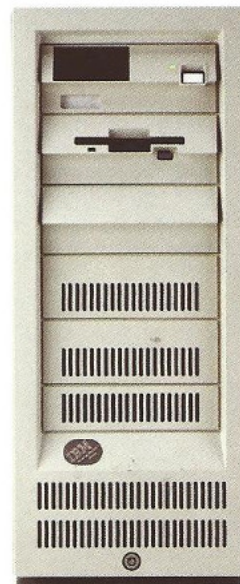
High-speed 4MB or 8MB memory, and from 160 million to 400 million bytes of disk storage are yours from the beginning. So with this series, you start powerful and stay powerful every step of the way.

Model 95 XP 486 series at work
Here are some of the ways you can put the Model 95 XP 486 series to work for you:
- Manage a large common database for multiple users on a local area network–i486™ SX processor models are particularly cost-effective
- Connect your enterprise by turning any 95 XP 486 into a communications gateway and/or bridge
- Run desktop publishing and other high-resolution graphics applications– systems with i486 DX processors are ideal for engineering and CAD/CAM
- Increase user productivity and boost the performance of power and/or windowing applications in DOS, OS/2® or AIX® PS/2 environments
- Capture and manipulate pictures, data and sound for exciting multimedia training packages and marketing presentations
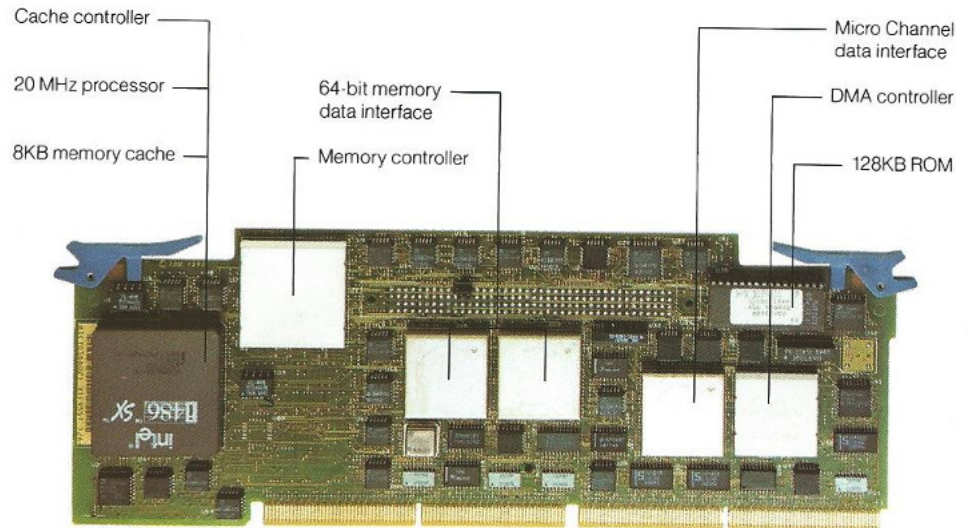
IBM

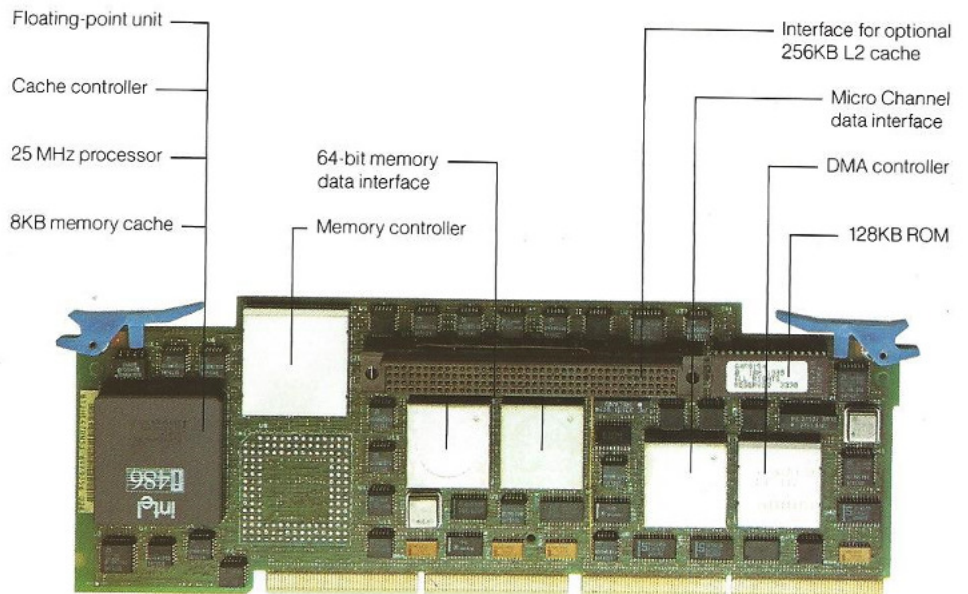## A close look at i486 processing complexes

i486 SX, 20 MHz

- Entry-level 486 processor providing the equivalent of 386™ 33 MHz performance
- High-power processing, affordably priced
- Integrated 8KB memory cache for "no-wait" processing
- 20 MHz 80487 SX coprocessor upgrade for extra-fast completion of numeric-intensive tasks
- Easy upgrade to 25 MHz or 33 MHz to keep pace with changing needs

Cache controller
20 MHz processor
8KB memory cache
64-bit memory data interface
Memory controller
Micro Channel data interface
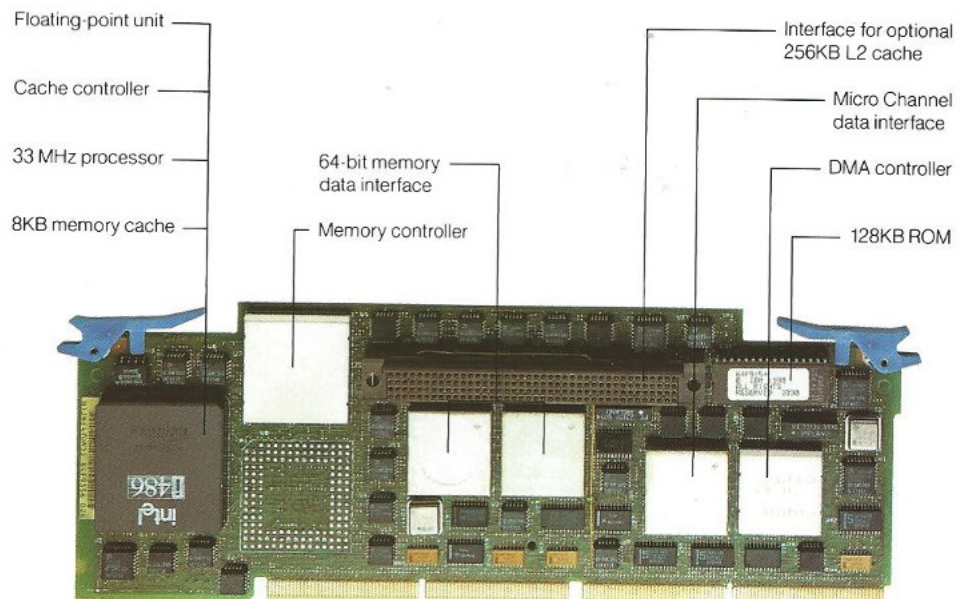DMA controller
128KB ROM

i486 DX, 25 MHz

- High-speed 486 processor with full complement of integrated components
- On-chip floating-point unit for extra calculating speed
- Integrated 8KB memory cache for "no-wait" processing
- On-board interface for optional 256KB L2 cache
- Easy upgrade to 33 MHz when you want to work even faster

Floating-point unit
Cache controller
25 MHz processor
8KB memory cache
64-bit memory data interface
Memory controller
Interface for optional 256KB L2 cache
Micro Channel data interface
DMA controller
128KB ROM

i486 DX, 33 MHz

- The fastest 486 processor available today–for applications where every nanosecond counts
- Full complement of integrated components–including 8KB memory cache and floating-point unit–for maximum performance and speed
- On-board interface for optional 256KB L2 cache
- Upgradability to future technology–higher-speed processors are soon to come

Floating-point unit
Cache controller
33 MHz processor
8KB memory cache
64-bit memory data interface
Memory controller
Interface for optional 256KB L2 cache
Micro Channel data interface
DMA controller
128KB ROM

intel™ inside

Wide range of options[3]

	Part no.
Coprocessors/processor upgrades	
• Wizard Adapter	34F3062
• Math Co-Processor 487 SX/20 MHz (0G9 and 0GF only)	6451230
• 486/25 MHz Processor Upgrade (0G9 and 0GF only)	6450755
• 486/33 MHz Processor Upgrade (0G9, 0GF, 0J9, 0JD and 0JF only)	6451094
• 256KB Cache Option (0J9, 0JD, 0JF, 0KD and 0KF only)	6451095
Storage devices	
• 3.5" 1.44MB 1-inch High Diskette Drive	6451072
• 5.25" 360KB External Diskette Drive	4869001
• 5.25" 1.2MB External Diskette Drive	4869002
• 5.25" Slim High Diskette Drive	6451066
• 60MB SCSI Fixed Disk Drive	6451049
• 80MB SCSI Fixed Disk Drive	6451045
• 120MB SCSI Fixed Disk Drive	6451050
• 160MB SCSI Fixed Disk Drive	6451046
• 320MB SCSI Fixed Disk Drive	6451108
• 400MB SCSI Fixed Disk Drive	6451081
• CD-ROM Drive (internal)	6451113
• External CD-ROM Drive	3510001
• 6157 Streaming Tape Drive (60MB, 150MB)	6157001/6157002
• Internal Tape Backup Unit	30F5279
• External Storage Enclosure for SCSI Devices	3511003
• SCSI Storage Enclosure	35100V0
Scanners	
• 3119 PageScanner	94X2410
Connectivity/communications	
• Token-Ring Network Adapter/A	69X8138
• Token-Ring Network 16/4 Adapter/A	16F1133
• Adapter/A for Ethernet Networks	6451091
• PC Network Baseband Adapter/A	1501223
• PC Network Broadband Adapter II/A	1501222
• PC Network Adapter II/A–Frequency 2	96X5647
• PC Network Adapter II/A–Frequency 3	96X5648
• Realtime Interface Co-Processor Multiport/2 and related features	09F1897[4]
• Realtime Interface Co-Processor Portmaster Adapter/A and related features	53F2601[4]
• X.25 Interface Co-Processor/2	16F1858
• Multi-Protocol Adapter/A	6451114
• 3270 Connection	74F3465
• 300/1200/2400 Internal Modem/A	94X1755
• Leased Line Modem	26F1862
• System 36/38 W/S Emulation Adapter/A	69X6279
• Display Station Emulation Adapter/A	92X0743
• System/370™ Channel Emulation Adapter/A	06F3160
• Fax Concentrator Adapter/A	94X2530
Graphics and multimedia	
• XGA Display Adapter/A	75X5887
• Audio Capture/Playback Adapter/A	34F2784
• Video Capture Adapter/A	34F2785
• M-Motion Video Adapter/A	34F3087
• Image Adapter/A Series	44F9914[4]
Other features	
• Micro Channel SCSI Adapter	6451109
• Micro Channel SCSI Adapter with Cache	6451110
• Mouse	6450350

Memory matrix table

Memory on system board	486 SX models	486 DX models
Standard memory	4MB (70ns)	8MB (70ns)
Maximum memory	32MB*	32MB
System board memory expansion kits**	2MB: 70ns (6450902)	2MB: 70ns (6450902)
	4MB: 70ns (6450128)	4MB: 70ns (6450128)
Number of memory kits that can be added on system board	6**	6**
Memory configurations possible on system board	4, 8, 12, 16, 20, 24, 28 and 32MB*	8, 12, 16, 20, 24, 28 and 32MB

*32MB maximum configuration requires replacing two standard 2MB SIMMs with two 4MB kits.
**Kits must be added in matched pairs. 4MB of memory are provided via two 2MB memory kits. 8MB of memory are provided via two 4MB memory kits. Six memory sockets are available for adding kit pairs. 80ns and 85ns memory kits are also supported.

IBM Personal System/2 Model 95 XP 486 series at a glance

Machine numbers	8595-0G9	8595-0GF	8595-0J9	8595-0JD	8595-0JF	8595-0KD	8595-0KF
Microprocessor							
Standard	80486 SX	80486 SX	80486 DX	80486 DX	80486 DX	80486 DX	80486 DX
Clock speed	20 MHz	20 MHz	25 MHz	25 MHz	25 MHz	33 MHz	33 MHz
Wait states	0	0	0	0	0	0	0
Memory cache	8KB	8KB	8KB	8KB	8KB	8KB	8KB
Other functions	Data parity; parity memory reliability checking		Internal floating-point processing unit; data parity; parity memory reliability checking				
Optional	80487 SX/20 MHz	80487 SX/20 MHz	256KB cache	256KB cache	256KB cache	256KB cache	256KB cache
Processor upgrades	25 MHz, 33 MHz	25 MHz, 33 MHz	33 MHz	33 MHz	33 MHz	–	–
Bus architecture	Micro Channel	Micro Channel	Micro Channel	Micro Channel	Micro Channel	Micro Channel	Micro Channel
Data path	32-bit	32-bit	32-bit	32-bit	32-bit	32-bit	32-bit
Memory (RAM)							
Standard	4MB (70ns)	4MB (70ns)	8MB (70ns)	8MB (70ns)	8MB (70ns)	8MB (70ns)	8MB (70ns)
Maximum on system board	32MB	32MB	32MB	32MB	32MB	32MB	32MB
System maximum	32MB	32MB	32MB	32MB	32MB	32MB	32MB
Integrated functions	Extended Graphics Array (XGA) Adapter with display port, DMA serial port, DMA parallel port, pointing device port, keyboard port, diskette controller support for three drives, SCSI Adapter with Cache						
Available expansion slots	Six 32-bit	Six 32-bit	Six 32-bit	Six 32-bit	Six 32-bit	Six 32-bit	Six 32-bit
Diskette storage (internal)							
Standard (3.5-inch)	1.44MB	1.44MB	1.44MB	1.44MB	1.44MB	1.44MB	1.44MB
Optional (3.5-inch)	1.44MB	1.44MB	1.44MB	1.44MB	1.44MB	1.44MB	1.44MB
Optional (5.25-inch)	1.2MB	1.2MB	1.2MB	1.2MB	1.2MB	1.2MB	1.2MB
Fixed disk storage (internal)							
Standard	160MB (16ms)	400MB (11.5ms)	160MB (16ms)	320MB (12.5ms)	400MB (11.5ms)	320MB (12.5ms)	400MB (11.5ms)
Optional SCSI	Up to four additional 60MB, 80MB, 120MB, 160MB, 320MB or 400MB internal SCSI drives						
Display modes	XGA (includes all VGA modes)						
APA modes	640 x 480 x 256 colors/64 gray shades; 1,024 x 768 x 16 colors/gray shades; hardware support for 132-column text mode; 16-bit direct color mode at 640 x 480 x 64K colors						
Optional graphics	With additional video memory expansion feature, 1,024 x 768 x 256 colors or 64 gray shades; higher resolution modes, up to 1,600 x 1,200, are supported by the IBM PS/2 Image Adapter/A family of adapters						
Supported displays	IBM Personal System/2 Color Displays 8512, 8513, 8514 and 8515; IBM Personal System/2 Monochrome Displays 8503, 8506,[1] 8507 and 8508[1]						
Supported printers/ plotters	IBM Proprinter® family, IBM LaserPrinter family, IBM ExecJet™ Printer, IBM Quietwriter® III, IBM Page Printer 3812/3816, IBM Quickwriter,® IBM 618X and 737X Color Plotters						
Keyboard	101 keys, including 12 function keys, 3 lighted mode indicators; 6-foot coiled cable						
Power supply	329-watt worldwide						
Operating system	DOS 3.3 or higher, IBM Operating System/2® Standard or Extended Edition 1.2 or 1.3, AIX Personal System/2[2]						
Size	Approx. 19.75"H x 8"W x 20"D (501mm x 203mm x 508mm); 50 lbs. (22.7 kg)						
Warranty	One-year limited warranty						

Feature	Benefit
Advanced i486 SX and DX processor complexes	• Offer flexibility in choosing the right performance for the right price • Come with built-in memory cache–DX complexes also provide an integrated floating-point unit plus room for an optional 256KB cache • Handle network, numeric-intensive business, and technical tasks at top speeds • Enable easy upgrades from 20 MHz to 25 MHz to 33 MHz to protect your investment
Enhanced memory design	• Utilizes interleaved memory technique for added performance • Performs parity checking for improved reliability and data integrity • Optimizes to allow memory SIMM pairs of different speeds to be used on the system board
SCSI Adapter with Cache	• Enables attachment of up to seven SCSI devices, including high-performance fixed disks, without using another expansion slot • Works with Micro Channel and multiple SCSI devices to enhance overall system performance
Seven storage bays (five available)	• Allow flexibility in configuring data storage with various combinations of diskette, disk, tape and CD-ROM drives • Make room for up to five fixed disk drives providing maximum internal storage up to 2GB
Micro Channel	• Provides efficient data paths for fast, reliable, balanced performance • Supports multiple tasks and concurrent I/O operations • Protects investment by providing a platform for future expansion and growth
Six available 32-bit expansion slots	• Let you customize the Model 95 XP 486 series to suit your environment • Provide growth capability to allow future technologies to be added as they are developed
4MB or 8MB memory, expandable to 32MB on planar	• Offers plenty of space for advanced programs and large amounts of data • Makes the Model 95 XP 486 series ideal for OS/2 and UNIX®-based operating environments
XGA graphics adapter	• Delivers faster performance for existing VGA applications • Supplies 1,024 x 768 addressability for high-quality, high-detail graphics and text
Initial Machine Load (IML)	• Provides system references on hard file, eliminating the need for separate diskettes • Simplifies implementation of future system program upgrades
Selectable boot	• Lets you "boot" from any diskette or disk drive so you can easily use different operating systems

Diagnostic panel
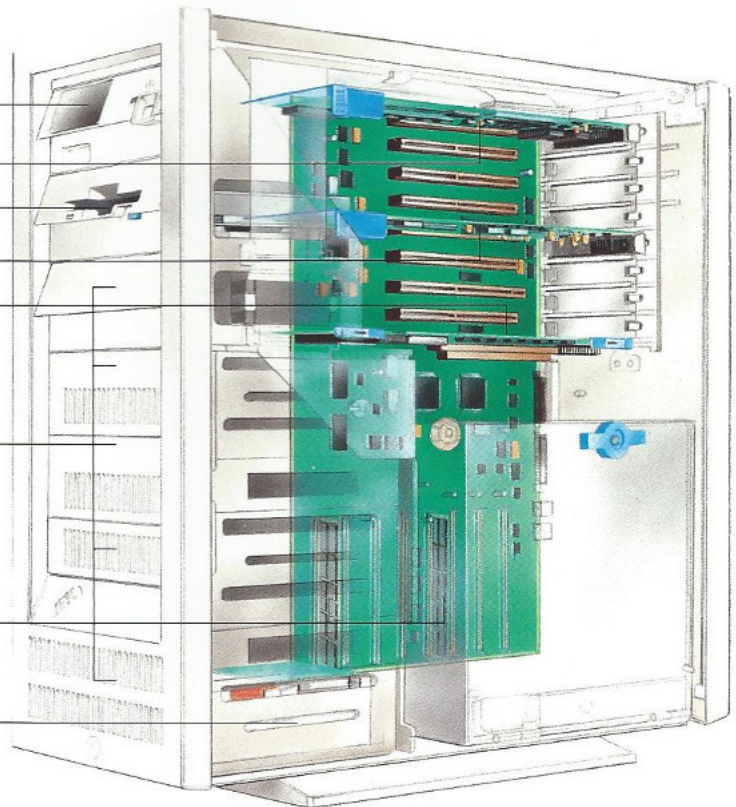
SCSI Adapter with Cache

3.5" 1.44MB diskette drive

XGA Adapter/A (with display port)

i486 processor complex

Five available storage bays

4MB or 8MB (70ns) memory (standard)

SCSI fixed disk
(160MB, 320MB or 400MB)

Why PS/2?

Here are some of the reasons why PS/2 stands out as the best solution for your business needs.

Technological leadership through Micro Channel architecture, integrated construction and advanced design (by combining Very Large-Scale Integration and Surface Mount Technology), and SCSI support for large data storage.

Extensive communications capabilities – through a wide range of connectivity options – provide concurrent support for intelligent communications adapters and coprocessors, thanks to Micro Channel architecture.

Compatibility and expandability to protect your investment since the PS/2s you have today work with existing products and programs and with those you'll need tomorrow.

Service and support that provide you with everything from fast parts delivery to onsite services to system planning to 24-hour phone support–all at a competitive price.

Business Partners who enhance PS/2 capabilities by helping customers choose, customize and configure hardware and software to meet a range of needs.

Quality and reliability that ensure PS/2s are built to perform smoothly and dependably year after year.

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