IBM Server 85

IBM [®] PS/2 [®] :	Server 85 433	Server 85 466	
Type Models Disk - individual size Disk - speed Price (retail USD) Available date	9585-xKx 0KG 0KT 540 MB 1 GB 8.7 ms 8.6 ms \$ 4,260 ♣ \$ 4,725 ♣ Nov 93 Nov 93	9585-xNx ONG ONT 540M 1 GB 8.7 ms 8.6 ms \$ 4,925 ★ \$ 5,390 ★ Nov 93 Nov 93	ALL MODEL 85's diskette 3.5" HH (access) 3.5" HH (access) 5.25" HH (access)
Processor / MHz Processor upgrade(s)	486DX - 33 MHz <i>All:</i> ① 486DX2 at 66/33 MHz ② P24T (Intel [®] Pentium [™] O expected in 1994)	486DX2 - 66/33 MHz verDrive™ processor	5.25" HH (access) or 5.25" HH (access) HH (access) or Full Height
Upgrade method	All: Remove standard CPU from 2	238 pin ZIF or LIF socket	5.25" HH (no access) or Full
L2 cache - std / max L2 cache - write policy L2 cache - method	128 KB / 256 KB <i>All:</i> Write-back (organization: 2 w <i>All:</i> One SIMM socket (already or		std disk5.25" HH (no access)HeightFH:Full Height bay (up to 3.2")HH:Half Height bay (up to 1.6")
Memory - std / max Memory - speed / pins Mem - supported SIMMs Mem - total sockets / avail Memory - type	All: 8 / 256 MB / 64 bit path to memory All: 70 ns / 72 pin All: 70 ns speed only (supports 2, 4, 8, 16, 32 MB parity SIMMs; does NOT support ECC SIMMs) All: 8 sockets / 6 available (so two 4 MB parity SIMMs are standard) All: ECC-P / parity memory with Error Checking and Correction memory controller (see explanation below)		
Disk controller Controller transfer rates Raid levels in controller Controller implementation Controller channels Cntrllr cache - std / max	All: SCSI-2 Fast/Wide (with streaming) All: Maximum disk capacity: All: 40 MB/sec to MCA (32 bit); 20 MB/sec on SCSI bus (16 bit) Internal: 10 GB with five 2 GB SCSI-2 disks All: 32 bit busmaster controller on planar Internal and external: 56 GB All: None (use software) Internal and external: 56 GB All: No (one channel internal for 5 devices since 5 SCSI bays; one channel external. Maximum of 7 SCSI devices All: None / none total either mixed on both channels or on one channel.		
Architecture Architecture features	All: Micro Channel [®] All: 40 MB/sec streaming data transfer / 32 bit, 16.5 MHz DMA / Subsystem Control Block enabled / Synchronous Channel Check support		
32 bit slots / available Bays / available	All: 8 slots (all 32 bit) / 7 slots available (SVGA adapter in one slot) All: 7 bays / 5 available (one used for diskette; one used for disk; see diagram above)		
Diskette drive Serial port Parallel port	<i>All:</i> 2.88 MB 3.5" diskette drive / dust cover / media sense to correctly format, read, write 1, 2, and 4 MB diskettes <i>All:</i> One 9 pin serial port / DMA support / UART 16550A / 345.6 KBps maximum supported speed <i>All:</i> One parallel port / DMA support / bidirectional / supports 100 KBps maximum supported speed		
Video - controller / vendor Video - arch / data path Video - memory std/max	All: SVGA / IBM (adapter is a dumb frame buffer) All: Vital Product Data (VPD) enabled for unique ID (model/ submodel); Type/model/serial number; Planar serial number; All: 512 KB / 512 KB (DRAM memory) All: Vital Product Data (VPD) enabled for unique ID (model/ submodel); Type/model/serial number; Planar serial number;		
Security Tamper evident cover Privileged-access passwd Power-on password Cover key lock U Bolt support Security options	All: C2 security enabled with LogicLock™ (LogicLock is a term for all security features) All: Yes Tamper evident cover: an attempted All: Yes break in or attempting to short out All: Yes power-on password without cover key prevents booting until privileged-access access to system after a POST error also restricting All: Yes prevents booting until privileged-access All: Yes password is entered. All: Cable Cover 4 / Enhanced 2.88 MB diskette drive with electronic eject and removable media security		
3 MB System Partition Preloaded software BIOS Keyboard Power supply Systems management	 All: Yes (diagnostics, Reference Diskette on disk) All: None (no operating system or mouse ships standard) / fast startup mode / selectable boot All: 256 KB in Flash EEPROM on the planar board (SurePath™ BIOS) / upgrades free of charge (via diskette) All: Choice of three keyboards (Enhanced 101 key, 84 key, host 122 key) All: 288 watt / universal / manual switch setting / built in overload, surge protection / remote and timed power on All: Optional PS/2 ServerGuard™ (a Micro Channel adapter) to locally or remotely control, tune, and recover a NetWare 3.11 server; works on system console, any LAN PC, or modem anywhere in world 		
	MODEL 85 MEMORY CONTROL		SVGA ADAPTER VIDEO MODES
 This automatically cor bit); all 2 bit errors are 	correcting (ECC) memory controller in rrects any single bit errors on the fly a found which halt system; some 3 a prs are not logged (call provided for it	(98% of memory errors are single	ResolutionFrame Rate (Hz)Max colors/ gray shades640 x 48060, 72, 75 (NI)256 / 256
but multiple bit errors are logged in Non Volatile Random Access Memory (NVRAM). Uses normal parity SIMMs; hence in ECC-P, the "P" means Parity. So the additional cost of ECC memory SIMMs is not needed.			
 ECC-P detection and correction takes place in the memory controller rather than in the memory SIMM as on the Base 3 and 4 Processor Complex of the Model 95. If the ECC is enabled, it will cause up to a 14% performance degradation compared to the more efficient Base 3 and 4 Processor Complex (Model 95) which is only 3%. This performance degradation is only for the memory subsystem, not for the total throughput. ECC capability can be turned on or off without changing any hardware, memory, switches, 		PS/2 WARRANTY SERVICE SUPPORT	
or opening the cover; enabled or disabled via menus on the System Partition (Ref Diskette). • 64 bit memory transfer (Two Way Banked Memory Interleave) for increased performance			

 64 bit memory transfer (Two Way Banked Memory Interleave) for increased performance (when SIMMs installed in pairs); 32 bits go into the 486 and 32 bits go into memory buffer latch. The 64 bit path uses 8 bit correction information for ECC function.

Memory SIMMs must be installed in pairs of the same size, speed and type. (Older Model 85 with 486SX allowed use of single SIMM).

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♣, Price decrease effective June 13, 1994 No warranties are expressed or implied in this summary (85) Compiled by Roger Dodson, IBM. June 1994

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