Product Support Bulletin

Subject: Common Questions and Answers for the Epson Equity 4SX/25, 4DX/33 and 4DX2/50 Computers

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GENERAL

Q1.   ***What an? the Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers?***

A.   The Epson 4SX/25, 4DX/33 and 4DX2/50 represent Epson's new family of entry-level computer products. Along with an affordable price, the new Equity 4 series offers Intel™ i486™ processing power and upgrade solutions for a wide range of computing applications. In addition to the performance that these systems offer, users will appreciate the convenience of a small footprint, complete system integration and pre-loaded software. Key features include:

- Choice of Intel 486SX/25, 486DX/33 or 486DX2/50 processor

- Built-in math coprocessor (40X/33 and 4DX2/50); math coprocessor support in the 4SX/25 model

- Intel OverDrive™ Support (4SX/25 and 4DX/33)

- Zero Insertion Force (ZIF) socket for easy processor upgrades

- 8KB internal cache (built-in CPU)

- Small-footprint case incorporates
  - four ISA 16-bit option slots
  - two externally accessible drive bays and one internal drive bay
  - built-in Super VGA video adapter
  - built-in serial, bi-directional parallel, mouse and keyboard ports
  - built-in floppy and IDE hard drive controller/interface

- Choice of 120MB or 240MB hard disk drive

- 4MB of RAM; upgradeable to 32MB via SIMMs

Q1. ***What an? the Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers?***
(continued)

A.
- 512KB video memory; upgradeable to 1MB providing True Color support

- Alternate VGA feature connector for additional graphics capabilities

- System and video BIOS can be relocated in shadow RAM for increased system performance

- ROM based system SETUP

- Password security

- Virus warning abilities included in BIOS

- Bundled with MS-DOS® 5.0*, Microsoft® Windows™ 3.1 and a mouse (MS-DOS and Windows are pre-loaded on hard drive models)

    . **MS-DOS 6.0 will be included when available**

Q2. ***what is the target market for this computer?***

A. The Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers are targeted at the following markets.

- Home office and small-business users seeking maximum performance at today's low prices.

- Work at home users who need an efficient and cost-effective system that's compatible with all their business software.

- Businesses in search of a low-cost network node that can handle current and future applications.

Q3. ***What interfaces and controllers are integrated on the motherboard?***

A. The Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers come standard with a built-in IDE hard disk drive interface, a floppy disk drive controller, a super VGA video adapter, two serial interfaces, a bi-directional parallel interface, a PS/2 style mouse port and a PS/2 style keyboard port all integrated on the main system board (motherboard).

Q4.   ***What levels of password security are provided with the Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers?***

A.   The Equity 4 series of computers offer two levels of password security to insure that unauthorized users do not change the system's SETUP configuration or obtain access to the system.

   - Password security to obtain system access
   - Password security to access SETUP menus

CPU

Q5.   ***What microprocessors are being offered with the Epson Equity 4 series computers?***

A.   The Epson Equity 4SX/25 comes standard with an Intel i486SX microprocessor (CPU) running at 25MHz. The Epson 4DX/33 comes standard with an Intel i486DX CPU running at 33MHz. The Epson Equity 4DX2/50 comes standard with an Intel DX2/50 CPU running at 50MHz. Common features of the different microprocessors include backward compatibility with the 8088, 8086, 80286, and 80386 CPUs and a built-in 8KB cache. For system flexibility, the built-in CPU cache can be disabled via SETUP.

The i486DX and DX2/50 CPUs contains an on-chip numeric coprocessor to increase the speed of floating point operations. This coprocessor is backward compatible with the 387DX and 387SX math coprocessors and complies to ANSI/IEEE standard 754-1985.

Q6.   ***What processor upgrades are available in the Epson Equity 4SX/25, 4DX,33 and 4DX2/50 computers?***

A.   The Epson Equity 4SX/25 computer can be upgraded by installing an Intel i487SX or Intel Overdrive CPU in the processor socket. Both of these CPUs improve system performance by adding a numeric coprocessor to speed up floating point calculations. The Intel Overdrive CPU doubles the processor's internal speed to further increase system performance.

The Epson Equity 4DX/33 computer can be upgraded by installing an Intel Overdrive CPU in the processor socket. Like the Intel Overdrive CPU for the 4SX/25, the Intel Overdrive CPU for the 4DX/33 also doubles the processor's internal speed to further increase system performance.

Please note that the Equity 4SX/25, 4DX/33 and 4DX2/50 computers do not support the Weitek math co-processor.

BIOS

Q7. ***What B/OS comes with the Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers?***

A. The Equity 4 series computers incorporate an AWARD BIOS that contains both the system and video BIOS. The AWARD BIOS is contained in a single EPROM device that is installed in a pluggable socket on the main system board.

Q8. How is SETUP accessed and what information is contained in Setup?

A. To access SETUP, press the "DEL" key after POST (Power On Self-Test) completes the memory test but before the computer loads the operating system. There are two pages of setup information.

STATUS PAGE
- System Date and Time
- Floppy Drive Type Selection A: B: (360K, 1.2M, 720K, 1.44M and None)
- Video Type (EGA/VGA, CGA40, CGA80 and Mono)
- Halt on Error selection
   (All Errors, No Errors, Keyboard, Diskette or Diskette/Keyboard)
- Cache (Enable/Disable)
- Shadow (System, Video or System/Video)
- Security (Setup Access, System access or Disabled)
- Boot Sequence (Drive A,C or C,A)
- Virus Warning (Enabled/Disabled)
- NumLock Boot Status (On/Off)
- HDD Drive Type Selection C: D: (Type Number or User-Defined)

OPTIONS PAGE
- ISA Command Delay (Normal/Extended)
- ISA Wait State (Normal/Extended)
- I/O Recovery Time (Enabled/Disabled)
- Extended ALE (Enabled/Disabled)
- Decouple Refresh (Enabled/Disabled)
- COM 1 Select (Enabled/Disabled)
- COM2 Select (Enabled/Disabled)
- Parallel Port Address
   (03BCH, 0378H, 0278H or Disabled)
- IDE Select (Enabled/Disabled)
- FDC Select (Enabled/Disabled)
- 256K/384K Relocation (Enabled/Disabled)
- DRAM Timing (Fast/Normal)
- Video Cacheable (Enabled/Disabled)
- System Cacheable (Enabled/Disabled)

VIDEO

Q9.   What video adapter comes standard built-in) with the Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers?

A.   The Equity 4 series computers utilize a Cirrus GD5422 VGA graphics controller as its built-in video adapter. These computers include 512KB of video memory which may be upgraded to a full 1MB of memory by installing pluggable memory chips.

The Cirrus VGA graphics controller is 100% hardware and BIOS-compatible with IBM® VGA display standards.

Q10.   What type of RAM chips are used to upgrade the video memory to a full 1MB on the Equity 4SX/25, 4DX/33 and 4DX2/50 computers?

A.   To increase the Epson Equity 4 series computer's video memory requires four pieces of a 256K x 4 bit, 70ns, 20-pin DRAM (Dual In-line Package) chip. These chips install on the computer's main logic board in sockets M5, M6, M7 and M8.

To insure compatibility, we have tested the following DRAM chips and confirmed that they operate properly when upgrading the video memory:

MANUFACTURER	PART NUMBER
Mitsubishi®	M5M44256BP-7
Toshiba®	TC514256AP-70
Micron®	MT4C4256-70

Q11. What video modes are supported by the Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers?

List below is a table that shows the Epson Equity 4 series computer's supported video modes and the memory requirements to obtain each mode:

Mode	Resolution	Colors	Memory Required
VGA	640 x 480	16	512KB
	640 x 480	256	512KB
	640 x 480	32,768*	1MB
	640 x 480	65,536*	1MB
	640 x 480	16,777,216**	1MB
	800 x 600	16	512KB
	800 x 600	256	512KB
	800 x 600	32,768*	1MB
	800 x 600	65,536*	1MB
	1024 x 768	16	512KB
	1024 x 768	256	1MB

Note: An "*" indicates a Hi-Color mode and an "**" indicates True Color mode.

Q12. What software video drivers are provided with the Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers?

There are four diskettes included that feature video drivers for many popular software programs and also include video utilities. The key drivers included are:

Framework II and III, Gem 3.x. Lotus 1-2-3 Rel. 2.x,3.0/Lotus Symphony Rel. 2.0, Ventura Publisher 2.x and 3.0, Windows 3.0 and 3.1, WordPerfect 5.0 & 5.1, AutoShade v1.x, Autocad R9, R10 and R11, AutoCAD/386 R10, R11 and R12, PCad 4.x, VersaCAD 386/2D, Microsoft Word 5.0, and Microsoft OS/2 2.0.

The VGA video utilities included are: CLMODE and SETRES. These utilities are useful when customizing system settings such as video modes or refresh rates.

MEMORY

Q13. What is the standard memory configuration and maximum amount of system memory that can be used in the Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers?

A.   The Epson Equity 4 series computers come standard with 4MB of system memory. This memory is provided by a 4MB SIMM installed in SIMM socket 0 on the main system board.

There is a total of two SIMM sockets on the main system board. These sockets accept 1 MB, 4MB or 16MB SIMMs. Optional SIMMs may be purchased to increase the computer's memory up to a maximum of 32MB.

NOTE: The SIMMs used must be 70ns or faster, 36-bit, 72-pin, fast page mode type.

Q14. What an? the valid system memory configurations for the Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers?

A.   Listed in the table below shows all valid system memory configurations for the Epson Equity 4 series computers:

SIMM 0	SIMM 1	Total Memory
4MB		4MB*
	4MB	4MB
4MB	1MB	5MB
1MB	4MB	5MB
4MB	4MB	8MB
16MB		16MB
	16MB	16MB
16MB	1MB	17MB
1MB	16MB	17MB
16MB	4MB	20MB
4MB	16MB	20MB
16MB	16MB	32MB

Note "*' = Factory default memory configuration

MASS STORAGE

Q15. ***What factory floppy and hard disk drive configurations are offered with the Equity 4SX/25, 4DX/33 and 4DX2/50 computers?***

A. The Epson Equity 4SX/25, 4DX/33 and 4DX2/50 computers are available in three factory configurations. All three configurations come standard with a 1.44MB floppy disk drive.

Listed below are the factory configurations:

- 3.5" 1.44MB floppy disk drive
- 3.5" 1.44MB floppy disk drive/120MB IDE hard disk drive
- 3.5" 1.44MB floppy disk drive/240MB IDE hard disk drive