

Press Release

Toshiba heats up 486 notebook competition with new-generation product line

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1993

Declaring that the future belongs to notebooks with 486-class CPUs as a minimum, Toshiba today announced two new Intel 486-based models. The Toshiba T4500 and T4500C are the first of a new generation of power-saving 486-based notebooks with PCMCIA 2.0 expansion and a special combination of user-friendly features and an enhanced security system.

The new T4500 Series is based on Intel's recently-announced 3.3-volt 20 MHz 486SX microprocessor. The T4500 has a 9.5-inch black-and-white LCD and the T4500C an 8.4 inch TFT colour screen. Both models have 120 MB hard disks and up to 20 MB of memory (4 MB standard).

The 486SX processor in the T4500 models is up to four times faster than comparable 386SL versions. This makes these notebooks highly attractive for those who wish to replace their desktop models with a single PC for in and out of the office. The combination of processor power, RAM size and video performance makes using graphical interfaces or multitasking environments as easy on the T4500 Series as on any desktop. Both models come with Toshiba DOS 5.0; the T4500C also has Windows 3.1 bundled.

"Toshiba believes that 1993 will be the year of the 486 notebook," explained Toshiba's press officer. "Many manufacturers, however, have only just announced their first 486-based notebook computers. Our new models, in contrast are already second-generation 486 mobile PCs. They are the first of a new Toshiba notebook generation that will put us and our resellers in a very strong position to dominate this market segment."

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New T4500 and T4500C notebooks

- BallPoint® mouse** A major new feature on the T4500 is the Microsoft BallPoint® mouse with a special, cableless connection called the "QuickPort™". To make space for this, the floppy disk drive has moved to the front. Several other user-oriented innovations on the T4500 are designed to make notebook computing on the road easier and more intuitive than ever before.
- QuickRead™ LCD Icons** The T4500 models are the first Toshiba computers to feature QuickRead™ LCD icons. At a glance, users can immediately see what the machine is doing. The 12 icon panel shows the status of a range of power-related functions such as whether the computer is operating on battery or mains power, how much battery power is left (in hours and minutes or as a percentage of the total) and which power save mode is being used as well as details like which keyboard functions are active, which disk drive is in use, and whether AutoResume mode is switched on.
- Hot Keys** Subtle but highly useful improvements have been made to the award-winning Toshiba keyboard. In addition to the standard layout with 12 F-keys and the full set of 8 cursor keys, Toshiba has added a range of "hot keys" to access various set-up options. Instant security, power conservation levels, AutoResume mode and other settings are now controlled by combining the Toshiba Fn key with the function keys F1 to F6.
- A further clever keyboard innovation is the use of the Fn key with the cursor keys to control the brightness and contrast of the internal screen. All of these hot-key functions are possible because Toshiba has been careful to avoid doubling up keys for standard data input, an option not possible on more cramped notebook keyboards. Use of the inlaid numeric keypad as a cursor pad or numeric block is also quickly activated with hot keys.

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Security

A further innovation on the T4500 models is the introduction of an enhanced multi-user security system. This allows up to four users, including a system supervisor, access to the notebook, each with a different password. Toshiba calls this new security system MultiSafe. Apart from access to the PC itself, the use of five hardware functions on the PC can be controlled via MultiSafe: the hard or floppy disk, the serial and printer ports and the PCMCIA slot can all be individually blocked. The supervisor has access to everything and can determine the access rights of other users. The system is fully compatible with Toshiba AutoResume mode.

For short breaks, instant security is offered via the hot key function **Fn+F1**. The keyboard and mouse stop responding to commands and the screen goes blank. The power stays on, however, ready for immediate use when needed. Renewed access is only possible with the password.

Power management

Power saving is an important aspect of the T4500 series. The 3.3-volt Intel processor is supported with Toshiba 3.3-volt memory and video components. Toshiba's MaxTime™ Power Management together with APM control the electricity consumption of the hard disk, screen lighting and the PCMCIA slot. This sophisticated power-saving design gives a battery life of 3 to 4 hours on the T4500 and 2.5 to 3.5 hours on the T4500C.

PCMCIA

Technological progress is demonstrated in the new PCs by the new, thicker PCMCIA 2.0 slot which is fully compatible with existing PCMCIA standards. The range of possible card sizes for this slot, 3.3 mm, 5 mm and 10.5 mm, offers users the opportunity to connect any type of PCMCIA expansion: modem, fax/modem, network card, flash data-storage card, or even a small additional removable hard-disk drive.

Advanced video

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To complete the range of innovations on the T4500, a new video controller offers various super-VGA modes. Internally the B&W T4500 uses standard VGA with 64 grey scales. Externally there is a choice of three super-VGA modes. The TFT colour T4500C also uses the high-resolution video modes externally and internally can show the 640 x 480 by 256 colour resolution Paradise mode. The external modes are the 640 x 480 with 256 colour Paradise mode, 800 x 600 dot resolution with 16 or 256 colours and 1024 x 768 dot resolution with 16 colours. Windows 3.X drivers for these modes are delivered with the T4500 series.

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Standard Specifications

Processor

- | Intel 486SX, 3.3-volt
- | 20 MHz clock speed
- | 8 KB cache on chip

Memory

- | Standard 4 MB RAM
- | Expandable to 20 MB*

Hard Disk

- | 120 MB
- | Less than 19 ms ave. access time

Diskette Drive

- | 3.5" 1.44MB/720 KB diskette drive
- | Media-type checking

Monochrome Display

- | 640 x 480 dot resolution
- | B&W STN LCD
- | 9.5" diagonal

Graphics Adaptor

- | VGA compatible
- | Dual display mode
- | Up to 64 grey shades

External Video Modes

- | 640 x 480, 256 colours
- | 800 x 600, 256 colours
- | 1024 x 768, 16 colours all from 256,000 colours

Keyboard

- | 84 sculptured keys
- | Standard layout
- | 12 function keys
- | 8 cursor keys
- | Inlaid numeric keypad
- | Up to 13 "hot keys"

Interfaces

- | Centronics compatible parallel/FDD port
- | RS-232 serial port
- | PS/2 mouse port
- | PS/2 keyboard port
- | Analogue VGA port
- | 150-pin connector for Desk Station IV

Special Features

- | AutoResume™ Mode
- | MaxTime™ Power Management
- | Advanced Power Management
- | QuickRead LCD Icons™
- | MultiSafe security system

Expansion

- | Desk Station IV option
- | Credit card format memory expansion
- | PCMCIA 2.0 "thick" slot

Power Supply

- | Autosensing 100-240 V AC adaptor for world-wide usage

Battery

- | Rechargeable and removable NiCd
- | 3-4 hours battery life
- | Recharges in 1.5 hrs

Size

- | 297 x 210 x 46 mm (11.7" x 8.3 x 1.8")

Weight

- | 2.9 kg (6.4 lb)

Software and Hardware

- | MS-DOS 5.0
- | BallPoint® mouse with QuickPort™ connection

Options

- | Carrying case
- | Desk Station IV
- | Extra battery packs
- | 4, 8 and 16 MB* memory cards
- | External 5.25" diskette drive
- | Toshiba ExpressWriter 201 portable printer

T4500C Variations

Colour Display

- | Active matrix TFT colour LCD
- | 8.4" diagonal

Size

- | 297 x 210 x 51 mm (11.8 x 8.3 x 2.0")

Graphics Adaptor

- | Up to 256 colours simultaneously from 185,193 on internal display

Weight

- | 3.1 kg (6.8 lb)

Software and Hardware

- | Windows 3.1

Battery

- | Rechargeable and removable NiH₂
- | 2.5-3.5 hours battery life

* 16 MB memory in late 1993