Press Release

New high-end 486-based notebook PCs from Toshiba stretch the limits of notebook expansion and security

**Neuss,
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Notebook technology took a further step forward today with the announcement of new high-end 486-based notebook PCs from Toshiba. Running on the 3.3 volt, 33 MHz 486SL processor from Intel, the T4600 and T4600C notebooks feature two PCMCIA 2.0 slots and the fullest range of power saving features.

The monochrome T4600 has a 64 grey-scale, B&W LCD screen, while the T4600C sports a 9.5 inch, 256 colour, active-matrix screen, the latest in TFT technology from Toshiba/IBM's joint venture, Display Technologies Inc. Both models come with a 4 MB standard RAM, (expandable up to 20 MB) and 200 or 340 MB, 2.5 inch hard disk drives.

The two PCMCIA slots (respectively Type III and Type II) can be found on the right-hand side of the T4600. With the wide range of expansion cards based on this industry standard which are now available on the European market , two slots represents a major customer benefit. Cards such as RAM, SRAM, flash memory, miniature hard disks and network cards can be used anywhere without needing any national approval. In most countries there are also PCMCIA modems and fax/modems approved by the telecoms authorities. In addition Toshiba has an ultra-high-security PCMCIA card for the T4600 series. This makes the T4600 appealing to all users needing top security, such as in politics, government, the military or scientific research.

Toshiba backs T4600 PCMCIA expansion up with Award Software Inc.'s CardControl™ software support package. This system ensures complete compatibility between the cards, the T4600 hardware and the BIOS/ operating system in use. It also supports "hot-insertion" – removing one PC card and inserting another while the PC is running, with the system

automatically recognising the new card. A diskette with the appropriate drivers is delivered with all T4600s. Virtually all cards in widespread usage on the European market have been tested by Award.

The heart of the new models, the 486SL processor, brings all the benefits of a full 486 DX processor with integrated 8 KB cache and numeric co-processor but without the power consumption. The SL tag symbolises the power saving features which include hardware-level suspend, hibernation and resume modes, fully static logic, and an internal cache controller. Additional power is saved by using a 0.8µm construction design which allows a lower gate capacitance, and 3.3 volt technology.

Toshiba added to the SL power saving features by using 3.3 volt technology for the whole of the system memory, the video controller, and video RAM. Memory expansion cards also uses 3.3 volt chip technology. Power saving outside of the processor is controlled by both Toshiba's own MaxTime™ Power Management and the Intel/Microsoft Advanced Power Management (APM) system. The result of all this new technology is a full-length battery life for the T4600C of up to 3.5 hours, despite 486 DX processing power and 256 colour TFT screen. The monochrome T4600 has been tested up to 4.5 hours on one battery.

In style, the T4600 models are based on the highly successful and very user-friendly T4500 series which was announced in February this year. They include the same range of user-oriented, design improvements which make mobile computing so much easier than before. Chief among these is the QuickPort™ direct-connection mouse socket and the direct-connect BallPoint® mouse which is bundled with the machines.

An LCD panel shows system status icons indicating set-up options and PC component status, and a wide range of "hot keys" allow popular set-up options such as power saving and AutoResume to be activated with a

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keystroke. A choice of various, high-resolution video modes up to XGA for showing data on external monitors is also available.

The MultiSafe Security System which allows up to four users separate password controlled hardware environments is also built into the T4600 series. The MultiSafe controller-user has access to all security features and can determine the access rights of other users including system access. Five hardware functions on the T4600 can be individually blocked: the hard or floppy disk, the serial and printer ports and both PCMCIA slots.

The system access password must be entered at every cold boot or when the computer is switched on in Resume mode. Furthermore, a "hot key" function (`Fn+F1`) activates an instant security lock blocking the keyboard and blanking the screen. Access is only again possible when the password is entered. For physical security the T4600 models feature a Kensington Security Cable socket to make sure that the whole computer is not stolen.

For those who require even greater security, Toshiba's CryptCard developed jointly with InfoSys and manufactured by Toshiba qualifies under U.S. DES guidelines . It includes encryption (also on floppy disks), and options such as security based on superiority structures (hierarchical multiple access) , user tracking and individual time controlled access. Access is based on boot control using BIOS interaction.

All of this is possible because the CryptCard has its own processor and internal clock. The cipher engine for encryption is also built onto the card. On the fly encryption is completed at a rate of more than 16 MB/sec. With the CryptCard there is therefore no slow down in the processing speed of the computer.

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New T4600 and T4600C notebooks

T4600 Specifications

Processor
- Intel 486SL, 3.3-volt
- 33 MHz clock speed
- 8 KB cache on chip
- Co-processor included in SL chip

Memory
- Standard 4 MB RAM
- Expandable to 20 MB

Hard Disk
- 200 or 340 MB
- 12 ms ave. access time

Diskette Drive
- 3.5" 1.44 MB/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 scales

External Video Modes
- 640 x 480, 256 colours
- 800 x 600, 256 colours
- 1024 x 768, 16 colours all from 262,144 colours

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

Interfaces
- Centronics compatible enhanced parallel 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
- Flash BIOS

Software and Hardware
- MS-DOS 5.0
- Windows 3.1
- BallPoint® mouse with QuickPort™ connection
- CardControl™ PCMCIA software support

Expansion
- PCMCIA 2.0 type II slot
- PCMCIA 2.0 type III slot
- Desk Station IV option
- Credit card format memory expansion

Power Supply
- Auto-sensing 100-240 V AC adaptor for world-wide usage

Battery
- Rechargeable and removable NiCd
- 3-4.5 hours battery life
- Recharges in 1.2 hrs

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

Weight
- 2.9 kg (6.4 lb.)

Options
- Carrying case
- Desk Station IV
- Extra battery packs
- 4, 8 and 16 MB memory cards
- PCMCIA high-speed fax/modem (where approved)
- Toshiba ExpressWriter 201 portable printer
- CryptCard (PCMCIA data encryption card)

T4500C Variations

Colour Display
- Active matrix TFT colour LCD
- 9.5" 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
- 3.2 kg (7 lb.)

Battery
- Rechargeable and removable NiH_2
- 2-3.5 hours battery life
- Recharges in 1.5 hrs.

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