A take anywhere, use anytime notebook: The T1000LE - complete portability from Toshiba

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A year after Toshiba released the world's first fully compatible notebook computer, the company has now announced a model which could become the new benchmark in 80C86 notebook computers. The T1000LE neatly combines the two qualities most needed in a notebook: full functionality and the highest portability. Full functionality comes with a floppy disk drive, a 20MB hard disk drive, up to 8 MB of RAM, a high quality screen and a full keyboard missing none of the extra keys needed for fast, easy data entry. In terms of mobility its extended battery life of up to five hours on two batteries ensures the highest portability and brings the T1000LE into a class of its own where notebooks are concerned. Amazingly, Toshiba has packed all this into the standard notebook format with a weight of just 3.0 kg.

This combination of low weight and full functionality will make the T1000LE the ideal take anywhere, use anytime standard notebook. Despite prophecies of obsolescence for 80C86 PCs, Toshiba clearly reckons that there is a strong market for this type of notebook computer. According to user research, 80C86 based notebooks are considered ideal as light-weight information platforms. They are enhanced by proven CMOS technology and there is a comprehensive supply of software for these machines at very reasonable prices. The T1000LE is very persuasive representative of this class of notebook and seems certain to take off as the industry standard 80C86 notebook computer.

As regards the shape of the T1000LE, it is the same as the previous T1000SE and T1000XE models from Toshiba, but it comes with some quality refinements which clearly make it a major step forward in notebook computing. As usual from Toshiba the screen is one of the major plus points for this machine. Toshiba believes that the screen is the most important of the human interfaces on a computer and has therefore equipped the T1000LE with the latest sidelit technology to bring high contrast and clear legibility in all lighting conditions. Like its namesakes, the T1000SE and T1000XE, the T1000LE also features Toshiba mode graphics, providing the higher resolution 640 x 400 pixels. With double the number of pixels compared to CGA mode, circles appear really round on Toshiba notebooks. A further aid to visibility is the reversible shading. Over a simple keyboard instruction this can be switched between blue on white or white on blue, an option which also aids legibility in certain lighting conditions.

In terms of memory, Toshiba's new model is also well above the basics. It is equipped with one megabyte standard RAM which can be simply upgraded to a maximum 9 MB with cards the customer can easily install. Few battery powered laptops can match this level of memory and Toshiba has cleverly also made the memory configurable as HardRAM, a battery backed very fast electronic storage medium. Toshiba HardRAM saves data on microchips and uses no moving parts, unlike hard or floppy disks. Saving data on HardRAM whilst a file is being worked on is therefore very helpful in saving battery power. Alternatively the extra memory can be used as expanded memory. These advances are also proof of the logic of Toshiba's substantial investments in chip technology. The memory expansion cards utilise home-made Toshiba 4 Mbit chips.

The cleverest innovation on the T1000LE is probably the second battery option. Long hours away from electricity sources are, for many people, what notebook computing is about, and Toshiba has recognised this need with a second battery which can be fitted into the modem slot on the T1000LE. This gives a total battery life of around five hours depending on program and hard disk usage. Better still this is not an either/or option. The second battery does not have to be permanently installed, so long distance communications are not restricted in any way. The only restriction is that the second battery and modem cannot be used simultaneously. To change over, just remove the second battery, reinsert the modem and reboot for instant connectivity. Where there is a modem socket there is almost always a mains source of power and so battery supply is not necessary.

To enhance battery life even further (Toshiba's advertised battery life is always without using power saving systems) Toshiba have added a range of special features which show a dedication to helping users get the most out of this product. These are grouped under the name MaxTime™ Power Management. On the T1000LE this switches the display off and closes the hard disk down after a specified number of minutes of non-use in order to save power. These time intervals can be set by the user to match his or her working rhythm.

MaxTime also monitors battery life which can be graphically viewed at any time using a small pop up window direct from the keyboard. Another way of saving power on the new T1000LE is to use the Toshiba HardRAM described above whilst working on data. With no mechanical parts this is not just faster but conserves a lot of battery life otherwise exhausted by frequent access to the hard disk.

Even if power does run out though, Toshiba's AutoResume™ mode ensures that no data is ever lost. AutoResumeTM is made up of two separate but very useful functions. The AutoSave function automatically saves all data being worked on when battery power runs out. It then switches the Toshiba T1000LE into Resume mode ready to return to the exact place of work when power is restored.

The Resume function of AutoResumeTM mode can additionally be activated at any time by the user by using a small pop-up menu accessible at any time. It has now become a standard feature on Toshiba's battery powered machines, but this doesn't detract from its elegant simplicity and high degree of usefulness. Resume™ mode can be likened to a super accurate electronic bookmark which allows the user to switch off anywhere in a program and later to switch back on to return immediately to exactly the same place of work. No booting is needed, no program loading and no data file loading.

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Product Specifications/Options

Processor
Intel 80C86
9.54/4.77 MHz clock speed (switchable by keyboard operation)
Reset switch
Auto Resume

Memory
Standard 1 MB RAM
Expandable to 9 MB (with 1MB, 2 MB, 4 MB or 8 MB card)
LIM EMS 4.0 supported

Hard Disk
                    20 MB (25 ms access time)

Diskette Drive
                    Built-in 3.5" 1.44 MB/720 KB, media type checking

Display
High Resolution FL sidelit LC-Display
640 x 400 dot resolution

Graphics Adapter
CGA compatible
Toshiba Graphics Mode (640 x 400 pixel) supported

Interfaces
25-pin bi-directional (Centronics compatible) parallel /
                    external FDD interface port
9-pin RS-232C serial interface
Built-in modem slot
100-pin expansion connector for Desk Station

Keyboard
84-key keyboard

Clock/Calendar
Battery backed-up

Operating System
MS-DOS 3.3 or MS-DOS 4.01 option

Size
310 x 254 x 44 mm (12.5" x 10" x 1.8") (W x D x H)

Weight
3.0 kg (6.6 lb.)

Power Supply
Autosensing 100-240 VAC for world-wide usage

Battery
NiCd battery pack (rechargeable)

Additional battery pack optional in the built-in modem slot

LED's

Caps Lock
Overlay
NumLock
Power/Speed
DC in indicator
Disk in use C:
Disk in use A:
Battery in use L
Battery in use R

Options
Memory Kit containing 1 MB, 2 MB, 4 MB or 8 MB respectively
                2 MB Memory
                Desk Station III
                Built-in modem (where approved), T1200-type
                Battery pack for built-in modem slot
External Diskette Drive 5 1/4" supporting 360 KB disks
                            Battery Recharger
                            Universal AC-Adapter
                            Car Adapter