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# Portégé 3xxx Series

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Choose freedom.

**TOSHIBA**

## Technical specification

### Processor

Model	Processor	Clock speeds
Portégé 3480CT	Intel® Mobile Pentium® III processor 600 MHz, 256 KB 2nd level cache	600 MHz internally (power mode) 500 MHz internally (battery saving mode) 100 MHz Front Side Bus
Portégé 3440CT	Intel® Mobile Pentium® III processor 500 MHz, 256 KB 2nd level cache	500 MHz internally 100 MHz Front Side Bus
Portégé 3410CT	Intel® Mobile Celeron™ processor 400 MHz, 128 KB 2nd level cache	400 MHz internally 100 MHz Front Side Bus

### BIOS

Plug and Play Support	Yes
Advanced Power Management	Yes (Version 1.2)
ACPI enabled	Yes (Version 1.0b)
SM BIOS Support	Yes (Version 2.3)
DPMS Support	Yes
Vesa Support	Yes (Version 2.0)

### System memory

Memory type	Amount	Access speed	Data bus width
SDRAM	64 MB	9 nanoseconds	64-bit
Maximum memory expansion (SDRAM)	192 MB	9 nanoseconds	64-bit
BIOS Flash EPROM	512 KB	100 nanoseconds	8-bit
Video RAM (EDO)	8 MB		64-bit

### Memory

Technology	Synchronous DRAM (3.3 volt)
No. of memory expansion slots	1
Expansion module sizes	64 and 128 MB

### External diskette drive

Specification	High setting	Low setting
Media supported	3.5 inch 2HD	3.5 inch 2DD
Storage capacity	1.44 MB	720 KB
Rotation	300 1/min	300 1/min
Transfer rate	500 kbit per second	250 kbit per second
Bytes per sector	512	512
Sectors per track	18	9
Dimensions	103 x 140 x 17.6 mm	
Weight	220 gr.	
Connection	Via USB	

### Hard disk

Portégé 3480C	
Formatted capacity (billion byte)	12.0*
Max. data transfer to media	Up to 153 Mbps
Average seek time	13 ms read/write
Track-to-track seek time	3 ms
Drive rotation	4200 1/min
No. of disks	2 (physical)
No. of read/write heads	4 (logical)
Bytes per sector	512
Interleave	1:1
Interface	Ultra ATA (Enhanced IDE)
Height	9.5 mm

## Hard disk (cont.)

<b>Portégé 3410CT/3440CT</b>	
Formatted capacity (billion byte)	6.0*
Max. data transfer to media	Up to 153 Mbps
Average seek time	12 ms/13 ms read
Track-to-track seek time	3 ms
Drive rotation	4200 1/min
No. of disks	1 (physical)
No. of read/write heads	2 (logical)
Bytes per sector	512
Interleave	1:1
Interface	Ultra ATA (Enhanced IDE)
Height	9.5 mm

## Interfaces

External monitor
Universal Serial Bus (USB)
Fast Infrared Port
RJ 11 modem jack
Headphone
External microphone
DC-in
<b>Network I/O Adapter (bundled with Portégé 3440CT / 3480CT) :</b>
External monitor
Parallel (ECP)
Serial (RS-232C Compatible / 16550 UART)
PS/2 mouse/keyboard
Universal Serial Bus (USB)
RJ45 (Ethernet port) including on/off switch
DC-in (Power connector)
<b>I/O Adapter (bundled with Portégé 3410CT) :</b>
External monitor
Parallel (ECP)
Serial (RS-232C Compatible / 16550 UART)
PS/2 mouse/keyboard
Universal Serial Bus (USB)
DC-in (Power connector)
Line-out (Audio out)

## Display

<b>Portégé 3410CT/3440CT</b>	
Screen type	11.3" TFT Colour Poly-silicon LCD
Number of dots	1024 x 768
Dot pitch	0.225 x 0.225 mm
Diagonal	11.3 inch (28.7 cm)
Contrast ratio	100 : 1 (typical)
Colour palette	up to 256000 (16.7 million with dithering)
Response rise/fall	30 ms / 50 ms
LCD brightness (Super Bright /AC)	120 cd/m <sup>2</sup>
LCD brightness (Super Bright / battery)	100 cd/m <sup>2</sup>
<b>Portégé 3410 CT</b>	
Screen type	10.4" TFT Colour Poly-silicon LCD
Number of dots	800 x 600
Dot pitch	0.264 x 0.264 mm
Diagonal	10.4 inch (26.4 cm)
Contrast ratio	100 : 1 (typical)
Colour palette	up to 256000 (16.7 million with dithering)
LCD brightness (Super Bright / battery)	100 cd/m <sup>2</sup>

## Graphics adaptor

S3 Savage IX	
Memory size	8 MB VRAM
BitBIT	128-bit
Connected bus	AGP x2 bus
Bus clock speed	66 MHz
2 D graphics accelerator	Yes
3 D graphics accelerator	3D assist for Z-Buffer
Open GL support	Yes
Direct 3D support	Yes
Motion compensation	Yes
Integrated TV Encoder	NTSC/PAL
Reduce TV out Flicker	3Tap
Multiple display support	Yes

## Video modes

Video display	Resolution	Max. number of colours	Max. refresh rate
<b>Internal display SVGA</b>	640 x 480	Up to 16.7 million colours	
	800 x 600	Up to 16.7 million colours	
	1024 x 768 (virtual with Portégé 3410CT)	Up to 16.7 million colours	
	1280 x 1024 (virtual display)	Up to 64 K colours	
	1600 x 1200	Up to 64 K colours	
<b>External display SVGA</b>	640 x 480	Up to 16.7 million colours	Up to 85 Hz
	800 x 600	Up to 16.7 million colours	Up to 85 Hz
	1024 x 768	Up to 16.7 million colours	Up to 85 Hz
	1280 x 1024	Up to 64 K colours	Up to 75 Hz
	1600 x 1200	Up to 64 K colours	Up to 60 Hz

## Communication

Modem**	Integrated international
Support Protocol	V.90, K56flex, V1.1, V17, 14.4Kbps Fax, 56 Kbps data
Ring Wake-up Resume	Yes
Ports	RJ-11

## Size and Weight

Weight	1.55 kg
Size (W x L x H)	262 x 231 x 22* mm (*average thickness)

## Battery types

<b>Main</b>	<b>RTC</b>
Lithium-ion	NiH
10.8 V x 3000 mAh	2.4 V x 11 mAh
<b>Optional high capacity battery</b>	
10.8 V x 5600 mAh	

## Resume battery

<b>Main</b>	4 days (typical)
<b>RTC</b>	1 month (typical)

## Battery life

Maximum battery life with main battery	Up to 3 hrs
Maximum battery life with optional high capacity battery and main battery	8.5 hrs

## AC adaptor

Input voltage	100 – 240 V AC, self-adjusting for world wide usage
Frequency	50 – 60 Hz
Output voltage	15 V
Output current	3.0 A
Power dissipation	45 W
Weight	300 g
DC-in on system unit and on Network I/O Adaptor or I/O Adaptor	

<b>Expansion</b>	PC Card slot for 2 Type II cards or 1 Type III card, CardBus 1 memory expansion slot		
<b>Sound system</b>	16-bit, SoundBlaster Pro compatible Integrated speaker Internal microphone which is disabled when an external microphone is connected MIDI & 3 D sound support Volume control by dial		
<b>Bundled software</b>	Pre-installed operating system: Microsoft® Windows® 95 and Windows® 98 selectable installation or Windows® NT 4.0 and Windows® 2000 selectable installation on request for an additional charge (limited language versions available) Toshiba utilities and drivers PC Card Management software Toshiba Hibernation Utility On-line help (User's Manual) and modem Manual		
<b>Bundled Hardware</b>	AC adapter External FDD (via USB) Network I/O Adapter with Portégé 3440CT / 3480CT I/O Adapter with Portégé 3410CT		
<b>Keyboard</b>	Key pitch	18 mm	
	Key stroke	2 mm	
	Keyboard standard	IBM PS/2 102 keys	
	No. of keys	86	
	Special features	Also operational if external device connected Euro symbol on keyboard	
<b>Environmental conditions</b>			
		<b>Operating</b>	
		<b>Non-operating</b>	
	Temperature	5 °C to 35 °C	-20 °C to 65 °C
	Max. thermal gradient	15 °C/hour	20 °C/ hour
	Relative humidity	20 % to 80 % non-condensing	10 % to 90 % non-condensing
	Altitude (relative to sea level)	-60 to 3,000 m * (-200 to 10,000 feet) *	-60 to 10,000 m (-200 to 30,000 feet)
	Shock	10 G	60 G
	Vibration	0.5 G	1 G
	* Aeroplane cabin pressures simulate low altitudes, so there are no restrictions on flying higher.		
<b>Certificates</b>	Toshiba declares that these products comply with the following directives / standards to be observed for CE marking. CE marking is the responsibility of Toshiba Europe, Hammfelddamm 8, 41460 Neuss, Germany, Tel. +49-2131-15801. For detailed information regarding CE conformity (EU Declaration of Conformity), contact you local dealer or Toshiba Europe.		
	93/68/EEC	CE marking directive	
	89/336/EEC	EMC directive	
	73/23/EEC	Low voltage directive	
	EN 60950	Electrical safety	
	EN 55022	EMC / Radio disturbance	
	EN 50082-1	EMC / Immunity	
	EN 61000-3-2, -3-3	Disturbances in supply systems	
	These products are approved for electrical safety and/or electromagnetic compatibility (EMC) by the following associations:		
	TÜV		
	DIN GOST TÜV		
	UL		
	CSA		
	FCC		

## Features & Benefits

### Processor

Feature	Benefit
Intel® Mobile Pentium® III at 600 MHz featuring SpeedStep™ technology with Portégé 3480CT	<p>The Intel® Mobile Pentium® III at 600 MHz featuring SpeedStep™ is optimized for this thin and light product.</p> <p>It offers two performance modes, which switch automatically depended on the power supply you use.</p> <p>Maximum performance mode provides all the power performance hungry applications need</p> <p>Battery optimised mode provides the best balance between performance and battery life. The clock speed is reduced to 500 MHz then.</p>
Intel® Mobile Pentium® III processor 500 MHz with Portégé 3440CT	The advanced Intel® Mobile Pentium® III at 500 MHz processor enables your PC to handle multiple tasks simultaneously and offers enough power even for advanced business and graphics applications
Intel® Mobile Celeron™ processor 400 MHz with Portégé 3410CT	<p>The Intel® Mobile Celeron™ processor offers enough resources for all current office applications and business to business presentations</p> <p>This processor features optimised price / performance ratio</p>

### Memory

Feature	Benefit
Standard 64 MB SDRAM	64 MB S DRAM are ideal for Windows to run powerful, memory intensive software at a comfortable speed, protecting you from future memory-intensive tasks
1 free memory slot Expandable to 192 MB	A larger amount of memory improves the operating speed Enough expansion room for demanding user
512 KB Flash EPROM	Flash EPROMs allow user to quickly update BIOS if necessary without returning machine to supplier - just by updating via software
64 MB or 128 MB memory modules (optional)	Faster manipulation of software and data stored in memory User can easily upgrade memory when need arises

### Hard disk drive

Feature	Benefit
12 GB* hard disk drive with Portégé 3480CT	Huge storage capacity for demanding users 12 GB offers enormous storage capacity for all kind of data
6 GB* hard disk drive with Portégé 3410CT / 3440CT	Provides large storage capacity for multiple programs and data 6 GB* offers enough storage capacity for applications, graphics, audio files or large presentations
12 ms average access time and 1:1 interleave	Fast access to programs and data stored on hard disk A fast access to the hard disk ensures an improved overall system performance
Low-power modes	Longer battery operating life User can choose the settings via software
S.M.A.R.T hard disk technology	Hard disk with integrated self-testing functionality: The hard disk is capable to send out a report when failure occurs if manageability software is installed

## External diskette drive

Feature	Benefit
3.5" diskette drive via USB	Provides small, durable, industry-standard media for portable environment
	Reads from and writes to 3.5" 720 KB and 1.44 MB diskettes

## Display

Feature	Benefit
TFT Poly-silicon colour screen	Extremely bright, sharp and fast screen with high contrast and wide view angle
	Up to 16.7 million colours on the TFT screen
Poly-silicon Technology	Thinner and lighter display with less connectors to the LCD giving better protection against mechanical damage
	Higher light transmission allows to use more efficient back light units with very low power consumption
11.3" TFT Poly-silicon colour screen on Portégé 3440CT / 3480CT	Bright and non-flickering enhances working condition and reduces eye strain
	Internal screen resolution of 1024 x 768 with 24-bit colour depth (16.7 million colours)
10.4" TFT Poly-silicon colour screen on Portégé 3410CT	Bright and non-flickering enhances working condition and reduces eye strain
	Internal screen resolution of 800 x 600 with 24-bit colour depth (16.7 million colours)

## Graphics sub-system

Feature	Benefit
S3 Savage IX/8	Offers the highest performance and boasts superior graphics with a 64-bit architecture
Advanced video controller with SVGA resolutions	Ideal for presentations on large monitors or data projectors or for work with design or DTP programs in the office or on the road.
Resolution	1024 x 768 x 16.7 million colours internal resolution (3440CT) 800 x 600 x 16.7 million colours internal resolution (3410CT) 1600 x 1200 x 65.536 colours external resolution
8 MB video RAM	Provides leading edge performance along with the highest image quality
Video graphics accelerator	Ensures that graphics are generated quickly on screens to take advantage of Graphical User Interfaces such as Windows
Dual display mode	Allows user to show data and presentations to colleagues or customers on an external monitor or beamer while controlling the procedure from the internal screen and keyboard
Multiple monitor mode	Work with different resolutions on different devices – allows high resolution internally and lower resolution on external devices unable to support higher resolutions (depending on OS support – may require extra hardware)

## Keyboard

Feature	Benefit
Full-function keyboard	Long travel ensures faster, more comfortable data entry
Windows® keys	Significantly enhances Windows® 95 or 98 ease of use
Euro sign	The Euro currency sign is printed on the keyboard
8 cursor keys	Allow fast, convenient cursor positioning
12 function keys and embedded keypad	Provide desktop keyboard functionality and greater productivity
8 hot keys	Allow users to change set-up features and HotLock security direct from the keyboard
Palm-rest for hands	Allows easy comfortable typing, even where there is no flat surface

## Pointing device

Feature	Benefit
AccuPoint™ II	User friendly pointing device for precise control of cursor
	Two additional programmable scroll buttons for convenient scrolling through large documents or web sites
	No protruding extras when travelling

## Interfaces

Feature	Benefit
Microphone	Enables connection of a microphone for audio input
Headphone	Enables connection of a stereo headphone for audio output
Fast infrared port	Wireless bi-directional transmission of files between many types of devices incl. PCs, printers, PDAs, modems, telephones
	Up to 4 Mbps transfer rate
	Supports multiple connections and IR networking
	Low power consumption
	IrDA compliant industry-standard
External monitor port	Provides high-resolution (up to 1600 x 1200 dots) display of colour and graphics on external monitor for sharp images
USB port	Enables connection of USB-based mobile and desktop expansion devices
	Allows connecting the bundled USB floppy disk drive
Network I/O Adapter with Portégé 3440CT / 3480CT	Allows you to leave unnecessary ports at home
	Adds a serial, parallel, external monitor, PS/2 mouse/keyboard port, RJ45 (Ethernet port) including on/off switch, line-out, DC-in and USB port to your system
	Allows hot docking, providing an one touch solution
I/O Adapter with Portégé 3410CT	Allows you to leave unnecessary ports at home
	Adds a serial, parallel, external monitor, PS/2 mouse/keyboard port, line-out, DC-in and USB port to your system
	Allows hot docking, providing an one touch solution



## Expansion slots

Feature	Benefit
2 Type II or 1 Type III PC Card (PCMCIA) slot	Provides mobile communication and expansion in a credit-card-sized format  Can be used for a wide range of communication and expansion modules such as modems, network adaptors, flash memory cards and removable hard disks
CardBus support	Allows access to all the latest, high performance PC Card expansion devices

## Design

Feature	Benefit
B5 format notebook design	Especially designed for the highly mobile user.
Magnesium casing	Very robust casing for the heavy mobile user.  Superior stylish design with silver lid.
	Ensures that clip-on devices are anchored securely

## Power system

Feature	Benefit
Lightweight removable, rechargeable lithium-ion battery pack	Higher capacity than other battery types, hardly any memory effect  Low environmental impact  Offers an extended battery life
Toshiba Power Extensions	Allows user to specify when power-hungry components should be shut down to make most efficient use of available battery power
Toshiba Hibernation utility	Allows you turn off the power without exiting from your software  The contents of main memory is saved to the hard disk, when you turn on the power again, you can continue working right where you left off
Intelligent power supply	Provides easy access for monitoring battery life with battery "gas gauge," invoked through pop-up menu
System reset button	Allows rebooting without cycling power and without keyboard use (functions even when keyboard is locked)

## Multiple security system

Feature	Benefit
Two system password security levels	Stops unauthorised access to data and software when power is switched on  Allows supervisors to control which options users work with
Hard disk password	Hard disk password utility allows only authorised users to access data on the hard disk, even if the hard disk is removed and used in another computer  This utility is supplied only on request
Secure Sleep security	Instant security with a screen blank and keyboard/mouse lock-out using the F1 hot key
Kensington MicroSaver provision	Hardware-based theft prevention. The computer can be physically secured to an immovable object
Power on button lock	Prevents from powering on/off the machine by mistake

## Special features

Feature	Benefit
Hardware Setup	Allows to customise your hardware settings according to the way you work with your computer and the peripherals you use
Built-in sound system	Provides audio support to visuals 16-bit Sound Blaster Pro compatible sound card
Hot keys	Allow users to change various system configuration options any time, at the press of a key
LED icons	Users can see the status of the machine with lid closed

## Toshiba support

Feature	Benefit
1-year International Warranty	Repair without costs for registered users at any authorised Toshiba service point

## Options

Feature	Benefit
64 MB and 128 MB SDRAM memory modules	Permits convenient, easy-to-install memory expansion for memory-intensive software applications
Optional high capacity battery	Increases battery life while on the road up to 8.5 hrs This give one full working day without the need of an AC adaptor
Quick battery charger	One battery can be charged using the quick battery charger while the other is in use to extend overall operating time
MultiMedia Port Replicator	Features a SelectBay tray, network chip, and all ports, which are needed Allows to use CD, DVD, secondary HDD SelectBay modules, which are also used by Tecra 8100
DVD SelectBay module***	It allows to play DVD's in combination with the MultiMedia Port Replicator Reads both standard CD's and next generation DVD-ROM's DVExpress software is bundled
CD SelectBay module	Reads all modern CD-ROM formats

\* One GB means one billion bytes

\*\* To be used in countries where approved

\*\*\* Please note: Playing DVD videos on Windows® NT 4.0 is not possible

## Options

### Memory

PA Number	Article
PA3033U-1M06	64 MB memory kit
PA3034U-1M12	128 MB memory kit

### Power

PA Number	Article
PA3035E-1ACA	Universal AC adapter
PA3038U-1BRL	Battery pack (as bundled)
PA3039U-1BRL	High capacity pack
PA2513UE	Battery charger

### Connectivity

PA Number	Article
PA3040U-1PRP	Network I/O Adapter
PA3043U-1FDD	Additional USB diskette drive
PA3041U-1PRP	I/O Adapter
PA3042E-1DST	MultiMedia Port Replicator

### SelectBay modules for MultiMedia Port Replicator

PA Number	Article
PA3012U-1H06	6 GB* Hard Disk drive Kit II
PA3027U-1H12	12 GB* Hard Disk drive Kit II
PA3029U-1H18	18 GB* Hard Disk drive Kit II
PA3020U-1OTR	SelectBay Hard Disk drive Adapter II
PA3014E-1DVD	DVD-ROM drive
PA3015U-1CDD	CD-ROM drive
2793009	CD-RM drive
2793006	LS 120 SuperDisk drive
2793004	Zip drive