



Panasonic recommends Windows® 7.

## TOUGHBOOK 31

- Sunlight-viewable Touchscreen with Panasonic CircuLumin™ Technology<sup>2</sup>
- Full Magnesium Alloy Case with Handle
- Desktop-class Performance
- 3G Mobile Broadband and GPS-ready Design

### Powerful, rugged and wireless.

Panasonic presents the Toughbook® 31, the reliable laptop offering the highest performance in its class along with the world's most rugged design. With drop-shock protection and a MIL-STD-810G certification, it's the undisputed leader in the fully-rugged category. Its new Intel® Core™ i5 and i3 processors, along with available discrete graphics, pack a punch to deliver desktop-class performance and improved video/3D graphics. An integrated webcam option, larger storage capacity and up to 21 hours of battery life (with optional media bay 2nd battery)<sup>1</sup> set the Toughbook 31 apart from the competition. Combine six generations of delivering rugged performance plus 13 years of consistent docking compatibility, and you have a computer that will go the distance with you anytime, anywhere.



IP65

6-FOOT  
DROP RATING

MIL-STD-  
810G

1.800.662.3537

[panasonic.com/toughbook/31](http://panasonic.com/toughbook/31)

**TOUGHBOOK®**

SOLUTIONS FOR BUSINESS

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### DURABILITY

- MIL-STD-810G certified (6' drop, shock, vibration, rain, dust, sand, altitude, freeze/thaw, high/low temperature, temperature shock, humidity, explosive atmosphere)<sup>3</sup>
- MIL-STD-461F certified
- IP65 certified sealed all-weather design<sup>3</sup>
- Hard drive heater
- Full magnesium alloy case with handle
- Shock-mounted flex-connect hard drive with quick-release
- Reinforced locking port covers
- Pre-installed replaceable screen film for touchscreen protection

### SOFTWARE

- Genuine Windows® 7 Professional 32-bit<sup>4</sup> or Genuine Windows® 7 Professional 64-bit<sup>4</sup>
- Panasonic Utilities, Recovery Partition

### CPU<sup>5</sup>

- Intel® Core™ i5-3360M vPro™ Processor
  - 2.8GHz with Turbo Boost up to 3.5GHz
  - Intel Smart Cache 3MB
- Intel® Core™ i5-3320M vPro™ Processor
  - 2.6GHz with Turbo Boost up to 3.3GHz
  - Intel Smart Cache 3MB
- Intel® Core™ i3-3110M Processor
  - 2.4GHz
  - Intel Smart Cache 3MB

### STORAGE & MEMORY

- i5 models: 4GB SDRAM (DDR3L-1333MHz), expandable to 8GB<sup>6,7</sup>
- i3 model: 2GB SDRAM (DDR3L-1333MHz), expandable to 8GB<sup>6,7</sup>
- Shock-mounted flex-connect hard drive with quick-release
  - 500GB 7200rpm (i5 models), 320GB 5400rpm (i3 model)<sup>7</sup>
  - Optional 128GB and 256GB solid state drives (SSD) with heaters<sup>7</sup>

### DISPLAY

- 13.1" XGA sunlight-viewable touchscreen LED 1024 x 768
  - Panasonic CircuLumin™ technology
  - 2-1200 nit
  - Circular polarizer<sup>2</sup>
  - Anti-reflective and anti-glare screen treatments
- 3360M CPU with switchable graphics in BIOS:
  - ATI Radeon™ HD7750, 512MB dedicated VRAM
  - Intel QM77 video controller, max. 1785MB shared VRAM with 32-bit<sup>8</sup>
- 3320M CPU:
  - Intel QM77 video controller, max. 1419MB shared VRAM with 32-bit<sup>8</sup>
- 3110M CPU:
  - Intel HM75 video controller, max. 1419MB shared VRAM with 32-bit<sup>8</sup>
- External video support up to 1280 x 1024 at 16.7 million colors
- Concealed mode

### AUDIO

- Intel® high-definition audio compliant
- Integrated front-facing speaker
- Keyboard volume and mute controls

### KEYBOARD & INPUT

- Touchscreen
- Integrated stylus holder
- 87-key with dedicated Windows® key
- Optional backlit keyboard
  - Sealed rubber or plastic emissive
- Pressure-sensitive touchpad with vertical scrolling support

### MULTIMEDIA BAY

- Optional DVD Super MULTI Drive or 2nd battery

### EXPANSION SLOTS

- PC card type II x 1
- SD card (SDXC)
- ExpressCard/54 x 1

### INTERFACE

- Docking connector 80-pin
- HDMI Type A
- VGA D-sub 15-pin
- Headphones/speaker Mini-jack stereo
- Microphone/line in Mini-jack stereo
- Serial D-sub 9-pin
- Ext. antenna conn. 50 ohm coaxial
- i5 models: USB 3.0 (x 1), USB 2.0 (x 3) 4-pin
- i3 models: USB 2.0 (x 4) 4-pin
- Optional IEEE 1394a (FireWire) 4-pin
- 10/100/1000 Ethernet RJ-45
- Optional 10/100 2nd LAN (Ethernet) RJ-45
- Optional 56K Modem RJ-11

### WIRELESS

- Optional integrated 4G LTE mobile broadband
- Optional integrated 3G Gobi™3000 mobile broadband
- Intel® Centrino® Advanced-N 6235 802.11a/b/g/n
- Bluetooth® v4.0 + EDR (Class 1)
- Security
  - Authentication: LEAP, WPA, 802.1x, EAP-TLS, EAP-FAST, PEAP
  - Encryption: CKIP, TKIP, 128-bit and 64-bit WEP, Hardware AES
- User-selectable antenna pass-through (dual standard, single optional)
- Slide on/off switch

### POWER SUPPLY

- i5 CPU:
  - Battery operation: 14.5 hours (3320M), up to 12 hours (3360M)<sup>9</sup>
  - Long life Li-Ion battery pack (10.65V, typical 8550mAh, minimum 8100mAh)
  - Battery charge time: 3.5 hours off, 4.5 hours on<sup>8</sup>
- i3 CPU:
  - Battery operation: 9 hours (with lightweight battery)<sup>9</sup>
  - Lightweight Li-Ion battery pack (10.8V, typical 4500mAh, minimum 4200mAh)
  - Battery charge time: 2 hours off, 2.5 hours on<sup>8</sup>
- Optional media bay 2nd battery: 6.5 additional hours (3320M and 3110M models)<sup>1</sup>
- AC Adapter: AC 100V-240V 50/60Hz, auto sensing/switching worldwide power supply



### POWER MANAGEMENT

- Suspend/Resume Function, Hibernation, Standby, ACPI BIOS

### SECURITY FEATURES

- Password Security: Supervisor, User, Hard Disk Lock
- Kensington cable lock slot
- Trusted platform module (TPM) security chip v.1.2<sup>2</sup>
- Computrace® theft protection agent in BIOS<sup>2</sup>
- Intel® Anti-Theft Technology<sup>2</sup>
- Optional fingerprint reader
- Optional SmartCard reader

### WARRANTY

- 3-year limited warranty, parts and labor

### DIMENSIONS & WEIGHT

- 11.5"(L) x 11.9"(W) x 2.9"(H)
- 7.9 or 8.2 lbs. (varies by battery type)

### INTEGRATED OPTIONS<sup>10</sup>

- 4G LTE mobile broadband
- 3G Gobi™3000 mobile broadband (EV-DO Rev. A, HSPA)
- Webcam<sup>2</sup>
- GPS receiver
- Backlit keyboard – sealed rubber or plastic emissive
- 2nd LAN (10/100)<sup>2</sup> or FireWire or Modem
- SmartCard reader
- Fingerprint reader
- Media bay 2nd battery<sup>1</sup>
- HDD and battery lock
- 128GB and 256GB solid state drives (SSD) with heaters

### SELECT ACCESSORIES<sup>10</sup>

- AC Adapter (3-prong) CF-AA5713AM
- Lightweight Battery Pack CF-VZSU65AU
- Long Life Ion Battery Pack CF-VZSU46AU
- Media Bay 2nd Battery<sup>1</sup> CF-VZSU1431U
- Battery Charger CF-VCBTB2W
- LIND 3-Bay Battery Charger PACH329-1857-P
- LIND Car Adapter 120W CF-LNDDC120
- LIND Car Adapter 120W Mounting Bracket CF-LNDBRK120
- LIND Shutdown Timer CF-LNLDLPT
- ToughMate Com/Universal Carrying Case (large capacity) TBCCOMUNV-P
- ToughMate Backpack TBCBPK-P
- ToughMate Sling 31 Case TBC31CASE-P
- DVD Super MULTI Drive CF-VDM312U
- Memory Cards
  - 2GB DDR3 CF-WMBA1002G
  - 4GB DDR3 CF-WMBA1104G
- Desktop Dock CF-VEB311U
- Vehicle Dock
  - no pass-through See Dealer
  - single pass-through See Dealer
  - dual pass-through See Dealer
- Touchscreen Large Stylus with Tether Hole CF-VNP009U
- Tether CF-VNT002U
- 13.1" LCD Protector Film CF-VFP15U

Please consult your reseller or Panasonic representative before purchasing.

<sup>1</sup>Not available on 3360M.

<sup>2</sup>On i5 CPU models only.

<sup>3</sup>Tested by national independent third party lab following MIL-STD-810G Method 516.6 Procedure IV for transit drop test and IEC 60529 Sections 13.4, 13.6.2, 14.2.5 and 14.3 for IP65.

<sup>4</sup>A full set of Windows XP drivers are available at [panasonic.com/toughbook/support](http://panasonic.com/toughbook/support).

<sup>5</sup>An Intel Core i7 processor is also available.

<sup>6</sup>The size of the VRAM cannot be set by the user and varies by operating system as well as size of RAM. Windows 7 64-bit max. VRAM is 1696MB with 4GB of memory.

<sup>7</sup>1GB = 1,000,000,000 bytes.

<sup>8</sup>Battery performance features such as charge time and life span can vary according to the conditions under which the computer and battery are used. Battery operation and recharge times will vary based on many factors, including screen brightness, applications, features, power management, battery conditioning and other customer preferences. Battery testing results from MobileMark 2007 running Windows 7 Professional.

<sup>9</sup>Requires software and activation to enable theft protection.

<sup>10</sup>Accessories and Integrated Options may vary depending on your notebook configuration. Visit Panasonic website for more accessories and details.

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**TOUGHBOOK**

SOLUTIONS FOR BUSINESS

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