Panasonic

Panasonic recommends Windows 8.

TOUGHBOOK 31

- Sunlight-viewable Touchscreen with Panasonic CircuLumin™ Technology[2]

- Full Magnesium Alloy Case with Handle

- Desktop-class Performance

- Optional 4G LTE Multi Carrier Mobile Broadband with Satellite GPS

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)[1] set the Toughbook 31 apart from the competition. Combine six generations of delivering rugged performance plus 14 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

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TOUGHBOOK®

DURABILITY
- MIL-STD-810G certified (6' drop, shock, vibration, rain, dust, sand, altitude, freeze/thaw, high/low temperature, temperature shock, humidity, explosive atmosphere)[3]
- MIL-STD-461F certified
- IP65 certified sealed all-weather design[3]
- 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
- Windows® 8 Pro 64-bit (with Windows® 7 downgrade option)
- Panasonic Utilities, Recovery Partition

CPU[4]
- Intel® Core™ i5-3380M vPro™ Processor
  – 2.9GHz with Turbo Boost up to 3.6GHz
  – Intel Smart Cache 3MB
- Intel® Core™ i5-3340M vPro™ Processor
  – 2.7GHz with Turbo Boost up to 3.4GHz
  – Intel Smart Cache 3MB
- Intel® Core™ i3-3120M Processor
  – 2.5GHz
  – Intel Smart Cache 3MB

STORAGE & MEMORY
- i5 models: 4GB or 8GB SDRAM (DDR3L-1333MHz)[5,6]
- i3 model: 2GB, 4GB, 6GB or 8GB SDRAM (DDR3L-1333MHz)[5,6]
- Shock-mounted flex-connect hard drive with quick-release
  – 500GB 7200rpm (i5 models), 320GB 5400rpm (i3 model) with heater[6]
  – Optional 128GB, 256GB and 512GB solid state drives (SSD) with heaters[6]

DISPLAY
- 13.1" XGA sunlight-viewable touchscreen LED 1024 x 768
  – Panasonic CircuLumin™ technology
  – 2-1200 nit
  – Circular polarizer[2]
  – Anti-reflective and anti-glare screen treatments
- 3380M CPU with switchable graphics in BIOS:
  – ATI Radeon™ HD7750, 512MB dedicated VRAM
  – Intel QM77 video controller, max. 1785MB shared VRAM with 32-bit[5]
- 3340M CPU:
  – Intel QM77 video controller, max. 1419MB shared VRAM with 32-bit[5]
- 3120M CPU:
  – Intel HM75 video controller, max. 1419MB shared VRAM with 32-bit[5]
- External video support up to 1280 x 1024 at 16.7 million colors
- Concealed mode (configurable)

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 multi carrier mobile broadband with satellite GPS
- Optional GPS (SiRFstarIII™)
- 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 (3340M), up to 12 hours (3380M)[7]
  – Long life Li-Ion battery pack (10.65V, typical 8550mAh, minimum 8100mAh)
  – Battery charge time: 3.5 hours off, 4.5 hours on[7]
- i3 CPU:
  – Battery operation: 8 hours (with lightweight battery)[7]
  – Lightweight Li-Ion battery pack (10.8V, typical 4500mAh, minimum 4200mAh)
  – Battery charge time: 2 hours off, 2.5 hours on[7]
- Optional media bay 2nd battery: 6.5 additional hours (3320M and 3110M models)[1]
- 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[2]
- Computrace® theft protection agent in BIOS[8]
- Intel® Anti-Theft Technology
- Optional fingerprint reader
- Optional insertable 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[9]
- 4G LTE multi carrier mobile broadband with satellite GPS
- GPS (SiRFstarIII™)
- Webcam[2]
- Backlit keyboard – sealed rubber or plastic emissive
- 2nd LAN (10/100)[2] or FireWire or Modem
- Insertable SmartCard reader
- Fingerprint reader
- Media bay 2nd battery[1]
- HDD and battery lock
- 128GB, 256GB and 512GB solid state drives (SSD) with heaters

SELECT ACCESSORIES[9]

AC Adapter (3-prong)	CF-AA5713AM
Lightweight Battery Pack	CF-VZSU65AU
Long Life Battery Pack	CF-VZSU46AU
Media Bay 2nd Battery[1]	CF-VZSU1431U
Battery Charger	CF-VCBTB2W
LIND 3-Bay Battery Charger	PACH329-1857-P
LIND Car Adapter 120W	CF-LNDDC120
ToughMate ComUniversal 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-WMBA1204G
Desktop Dock	CF-VEB311U
Vehicle Docks (no pass-through)	
– Panasonic[10]	CF-WEB301M
– Gamber-Johnson with LIND power supply	7160-0318-04-P
– Havis with LIND power supply	CF-H-PAN-112-P
Vehicle Docks (single pass-through)	
– Panasonic[10]	CF-WEB301MA
– Gamber-Johnson with LIND power supply	7160-0318-05-P
– Havis with LIND power supply	CF-H-PAN-112-1-P
Vehicle Docks (dual pass-through)	
– Panasonic[10]	CF-WEB301MB
– Gamber-Johnson with LIND power supply	7160-0318-06-P
– Havis with LIND power supply	CF-H-PAN-112-2-P
Touchscreen Large Stylus with Tether Hole	CF-VNP009U
Tether	CF-VNT002U
13.1" LCD Protector Film	CF-VPF15U

Please consult your reseller or Panasonic representative before purchasing.
[1] Not available on 3380M.
[2] On i5 CPU models only.
[3] 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.
[4] An Intel Core i7 processor is also available.
[5] 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.
[6] 1GB = 1,000,000,000 bytes.
[7] 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.
[8] Requires software and activation to enable theft protection.
[9] Accessories and Integrated Options may vary depending on your notebook configuration. Visit Panasonic website for more accessories and details.
[10] i5 discrete models, when docked, will operate using Intel shared graphics.

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