

Panasonic recommends Windows® 7.

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## TOUGHBOOK CF-31 VALUE MODEL

### THE FULLY RUGGED, FULL-SIZE NOTEBOOK WITH BALANCED-LIGHT SPECIFICATION.

Specifically designed for field-based professionals who work in challenging environments and need business entry-level specification, the new Toughbook CF-31 Value Model makes the legendary durability of fully rugged Toughbooks more accessible than ever.

Whether working in adverse weather, wet conditions, underground or where space restrictions would usually hamper productivity, the CF-31 ensures that mobile workers perform to their optimum at all times.

- Intel® Core™ i3-350M with Intel HD graphics
- Genuine Windows® 7 Professional
- 13.1" high brightness display
- Certified by MIL-STD 810G\* and IP65\*
- Backwards compatible with CF-30 docking stations and carmounters\*\*

\* Tested by an independent third-party lab following IEC 60529, sections 13.4, 13.6.2, 14.2.5, 14.3  
\*\* Limited functionality



**TOUGHBOOK** When it's worth doing better.

[www.toughbook.eu](http://www.toughbook.eu)

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# MOBILE BUSINESS EXCELLENCE



FOR FIELD PROFESSIONALS LOOKING FOR A BALANCE BETWEEN FULLY RUGGEDNESS AND ENTRY-LEVEL SPECIFICATION.

The CF-31's business-class performance is provided by the latest Intel® Core™ i3 processor architecture, whilst a 1.100cd/m2 (typical), 13.1" LED backlit display (4:3) also means the CF-31 can be viewed on the move.



|                           |                                                                                                                                                                                                                                                                                                                                                                     |                                                                           |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Mobile Computing Platform | - Intel® Core™ i3-350M processor (2.26GHz, Intel® Smart Cache 3 MB) - Mobile Intel® 5 HM55 Express Chipset                                                                                                                                                                                                                                                          |                                                                           |
| Operating System          | Genuine Windows® 7 Professional                                                                                                                                                                                                                                                                                                                                     |                                                                           |
| RAM                       | 2GB DDR3 SDRAM (max. 4GB)                                                                                                                                                                                                                                                                                                                                           |                                                                           |
| Graphic Chip              | Intel® HD Media, UMA (Windows 7 max. 763MB, Windows XP max. 1024MB)                                                                                                                                                                                                                                                                                                 |                                                                           |
| Storage                   | 160GB HDD (SATA)                                                                                                                                                                                                                                                                                                                                                    |                                                                           |
| LCD                       | 13.1" Active Matrix (TFT) colour LCD (up to 1.100cd/m2 typical) 1024 x 768 pixels (XGA); 16 million colours, concealed mode                                                                                                                                                                                                                                         |                                                                           |
| Cabinet                   | Full magnesium alloy with integrated carrying handle                                                                                                                                                                                                                                                                                                                |                                                                           |
| Bluetooth™                | Version 2.1 + EDR; slide on/off switch                                                                                                                                                                                                                                                                                                                              |                                                                           |
| WLAN                      | IEEE 802.11 b/g/n compliant; slide on/off switch                                                                                                                                                                                                                                                                                                                    |                                                                           |
| LAN                       | IEEE 802.3 10 Base-T, IEEE 802.3u 100 Base-TX, IEEE 802.3ab 1000 Base-T                                                                                                                                                                                                                                                                                             |                                                                           |
| Audio                     | WAVE and MIDI playback, Intel® High Definition Audio subsystem support                                                                                                                                                                                                                                                                                              |                                                                           |
| Input Devices             | Touchscreen, Touchpad and Keyboard with 88 keys                                                                                                                                                                                                                                                                                                                     |                                                                           |
| Interfaces                | Serial (16550A compatible)                                                                                                                                                                                                                                                                                                                                          | D-sub, 9-pin                                                              |
|                           | External display (VGA port)                                                                                                                                                                                                                                                                                                                                         | Mini D-sub, 15-pin                                                        |
|                           | HDMI                                                                                                                                                                                                                                                                                                                                                                |                                                                           |
|                           | Headphone                                                                                                                                                                                                                                                                                                                                                           | Mini-jack, 3.5 DIA                                                        |
|                           | Microphone                                                                                                                                                                                                                                                                                                                                                          | Mini-jack, 3.5 DIA, stereo                                                |
|                           | DC-In                                                                                                                                                                                                                                                                                                                                                               | Jack                                                                      |
|                           | USB 2.0                                                                                                                                                                                                                                                                                                                                                             | 4x 4-pin                                                                  |
|                           | Modem (optional)                                                                                                                                                                                                                                                                                                                                                    | RJ-11                                                                     |
|                           | LAN                                                                                                                                                                                                                                                                                                                                                                 | RJ-45                                                                     |
|                           | External Antenna                                                                                                                                                                                                                                                                                                                                                    | 1x (Dedicated 50 Ohm coaxial connector)                                   |
| Expansion Slots           | Port Replicator                                                                                                                                                                                                                                                                                                                                                     | 80-pin                                                                    |
|                           | PC Card                                                                                                                                                                                                                                                                                                                                                             | 1x Type I or 1x Type II                                                   |
|                           | Express Card                                                                                                                                                                                                                                                                                                                                                        | 1x /34 or /54                                                             |
|                           | SD/SDHC Memory Card                                                                                                                                                                                                                                                                                                                                                 | 1x                                                                        |
| Power                     | RAM Module                                                                                                                                                                                                                                                                                                                                                          | 1x DDR3 SDRAM, 204 Pins SO-DIMM (1.5V, SO-DIMM, PC3-8500 compliant)       |
|                           | AC Adapter                                                                                                                                                                                                                                                                                                                                                          | Input: 100 – 240V AC, 50Hz/60Hz; Output: 15.6V DC, 7.05A, 110W            |
|                           | Battery                                                                                                                                                                                                                                                                                                                                                             | Li-ion (11.1V, 5.2Ah typical)                                             |
|                           | Battery Life                                                                                                                                                                                                                                                                                                                                                        | Approx. 7h (Windows® 7 model, Mobile Mark™ 2007, LCD brightness: 60cd/m2) |
|                           | Charging time                                                                                                                                                                                                                                                                                                                                                       | Approx. 4h (Power on), 3h (Power off), depends on situation               |
|                           | Power Consumption                                                                                                                                                                                                                                                                                                                                                   | Approx. 100W (maximum when recharging)                                    |
| Power Management          | Standby function, Hibernation function, ACPI BIOS                                                                                                                                                                                                                                                                                                                   |                                                                           |
| Software                  | Adobe Reader, PC Information Viewer, Loupe Utility, Bluetooth™ Stack for Windows® by TOSHIBA, Wireless Switch Utility, Wireless Connection Disable Utility, Hotkey Settings, Battery Recalibration Utility, Infineon TPM Professional Package, Protector Suite QL, Aptio Setup Utility, Hard Disk Data Erase Utility, PC Diagnostic Utility, Concealed mode Utility |                                                                           |
| Security Features         | Integrated hardware security lock slot, Password security (supervisor password, user password, HDD lock)                                                                                                                                                                                                                                                            |                                                                           |
| Dimensions (WxHxD)        | 302mm x 73.5mm x 292mm {11.9" x 2.9" x 11.5"} (excluding protrusions)                                                                                                                                                                                                                                                                                               |                                                                           |
| Weight                    | Approx. 3.6kg {Approx. 7.9lb.}                                                                                                                                                                                                                                                                                                                                      |                                                                           |
| Integrated Options        | GPS, Fingerprint Reader, Smart Card Reader, 3G Mobile Broadband (HSPA, up to 7.2Mbps), Firewire (on Project Base)                                                                                                                                                                                                                                                   |                                                                           |
| Testing Standards         | Water resistance test                                                                                                                                                                                                                                                                                                                                               | IEC529 (JIS C0920) IP-X5*, MIL-STD 810G 506.5-1 & III*                    |
|                           | Dust resistance test                                                                                                                                                                                                                                                                                                                                                | IEC529 (JIS C0920) IP-6X*, MIL-STD 810G 510.5-1 & II*                     |
|                           | Gravity drop resistance test                                                                                                                                                                                                                                                                                                                                        | MIL-STD 810G 516.6 IV* (180cm drop)                                       |
|                           | Vibration resistance test                                                                                                                                                                                                                                                                                                                                           | MIL-STD 810G 514.6-1 & II*                                                |
|                           |                                                                                                                                                                                                                                                                                                                                                                     |                                                                           |
| Accessories               | Desktop Port Replicator                                                                                                                                                                                                                                                                                                                                             | CF-VEB311                                                                 |
|                           | Car Mounter Kit                                                                                                                                                                                                                                                                                                                                                     | CF-WEB301                                                                 |
|                           | AC Adapter                                                                                                                                                                                                                                                                                                                                                          | CF-AA5713A                                                                |
|                           | Battery                                                                                                                                                                                                                                                                                                                                                             | CF-VZSU65U                                                                |
|                           | DVD Multi Drive (Multimedia Bay)                                                                                                                                                                                                                                                                                                                                    | CF-VDM311U                                                                |
|                           | Stylus Pen                                                                                                                                                                                                                                                                                                                                                          | CF-VNP009U                                                                |

As an ENERGY STAR® Partner, Panasonic Corporation has determined that this product meets the ENERGY STAR® guidelines for energy efficiency. Active Matrix colour display conforms to industry standards. Some displays may contain isolated illuminated or dark pixels as an artefact of the manufacturing process (effective pixels: minimum 99.998%). RAM capacity calculated as follows: 1MB = 1,048,576 bytes. HDD capacity calculated as follows: 1GB = 1,000,000,000 bytes. Toughbook is a brand name and registered trademark of Panasonic Corporation. Acrobat® is a registered trademark of Adobe® Systems Incorporated. Intel, the Intel logo, Intel Core, Intel vPro, Core Inside and vPro Inside are trademarks of Intel Corporation in the U.S. and other countries. Microsoft® and Windows® are registered trademarks of Microsoft® Corporation of the United States and/or other countries. All other brand names shown are the registered trademarks of the relevant companies. All rights reserved. All working conditions, times and figures quoted are optimum or ideal levels and may differ as a result of individual and local circumstances. \* Tested by an independent third-party lab following IEC 60529, sections 13.4, 13.6.2, 14.2.5, 14.3 Panasonic Marketing Europe GmbH, Panasonic Computer Products Europe Headquarters, Hagenauer Straße 43, 65203 Wiesbaden (Germany).

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