

CF-19

Field Rugged Series



Main Features

Tested to MIL-STD-810F.
IP54 Rated.
Shock-resistant body survives a 90-cm free-fall test.*1

Operates with the standard battery for up to 8 hours.*2

Screen turns 180° for tablet PC style use.

High-brightness LCD with Circular Polarising Touch Screen and anti-reflection (AR) coating for easy viewing under direct sunlight.

Integrated Bluetooth™ as standard.

Various options can be built-in: GPS, Wide Area Network, Fingerprint Scanner.

- Touch Screen model: The touch panel and touchpad can be operated even while wearing gloves.
- Easy hard disk removal and security functions for hard disk protection.
- Serial and IEEE 1394a connectors as standard.

A Ruggedised, Swivel-Screen Mobile Notebook with Shock-, Spill-, and Dust-Resistance



Functions as a usual notebook PC.



Functions as a tablet PC with the monitor screen flipped over.

The screen turns 180°

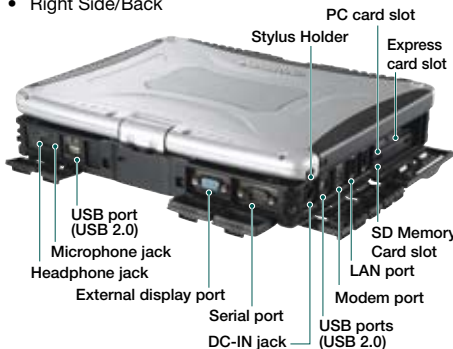
Ruggedised 2D hinge used.



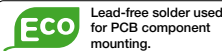
Screen rotation button allows the choice of screen display orientation.

Interface

- Right Side/Back



- Left Side/Front



Touchscreen Version

- Genuine Microsoft® Windows® XP Professional
- Genuine Microsoft® Windows® XP Tablet PC Edition 2005

Tablet PC Version

- Intel® Centrino® Duo Mobile Technology
- Intel® Core™ Duo Processor (Ultra Low Voltage version U2400): 2-MB L2 cache, 1.06 GHz, 533-MHz FSB
- Intel® PRO/Wireless 3945 ABG (IEEE 802.11 a/b/g)
- Security-Authentication: LEAP, WPA, 802.1X, EAP-TLS, EAP-FAST, PEAP
- Encryption: CKIP, TKIP, 128-bit and 64-bit WEP, Hardware AES
- HDD: Approximately 80 GB³
- RAM: Standard 512 MB⁴ (4 GB max.⁵)⁶
- TFT color LCD: 10.4" supporting XGA resolution



*1 Test conducted in non-operating condition. The shock resistance, vibration resistance, dust-proof, and splash-proof specifications do not guarantee that the product can be operated without damage or malfunction. *2 The period of battery operation time varies according to the operating environment, LCD brightness, and system settings. Measured using BatteryMark™ Ver.4.0.1 (LCD brightness Minimum). *3 GB = (1,000,000,000 bytes) in capacity. The actual capacity may be less than displayed, depending on the OS and application software. *4 1 MB = 1,048,576 bytes in capacity. *5 When the existing 512-MB DIMM is replaced with a 2-GB DIMM. *6 1 GB = 1,000,000,000 bytes. Operating system or some application software will report as fewer GB.

TOUGHBOOK

CF-19	CF-19CHBAXBM Touchscreen Model	CF-19CDBAXVM Digitiser Model
CPU	Intel® Core Duo Processor U2400 (1.06 GHz, 2 MB ¹ L2 cache, 533 MHz FSB)	
Chipset	Intel® 945GM	
Memory ¹	512 MB (4096 MB Max.)	
Video Memory ^{1,2}	UMA (128 MB Max.)	
Hard Disk Drive ³	80 GB	
Display Method	10.4 XGA type (TFT) 460cd/m2 w/Low Reflection	10.4 XGA type (TFT) 550cd/m2
Wireless LAN	Intel PRO / Wireless 3945 ABG (802.11 a + b + g) PCI Ex. 1/4	
Bluetooth	Version 2.0+EDR	
LAN	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX	
Modem	Data: 56 kbps (V.92) FAX: 14.4 kbps	
Sound	WAVE and MIDI playback, Monaural speaker, Intel® High Definition Audio subsystem support	
Security Chip	TPM (TCG V1.2 compliant) ⁹	
Card Slot	PC Card ExpressCard SD Memory Card ⁹	Type I or Type II x 1 (3.3 V: 400 mA, 5 V: 400 mA) ExpressCard/34 ²⁰ or ExpressCard/54 x 1 x 1, Data transfer rate = 8 MB per second ¹⁰
RAM Module Slot	200-pin, 1.8 V, SO-DIMM, DDR2 SDRAM, PC2-4200 Compliant	
Interface	USB port (4-pin, USB 2.0) x 2, Serial Port (Dsub 9-pin male), Modem port (RJ-11), LAN port (RJ-45), External display port (Mini Dsub 15-pin female), Expansion Bus Connector (Dedicated 100-pin female), External Antenna Connector (Dedicated 50 Ω coaxial connector) x 2, IEEE 1394a Interface Connector (4-pin x 1), Microphone Jack (Miniature jack, 3.5 DIA, Monaural), Headphone Jack (Miniature jack, 3.5 DIA, Impedance 32 Ω, Output Power 4 mW x 2)	
Keyboard / Pointing Device	82 keys / Touch Pad / Touchscreen (Anti-Reflection, Stylus (included) touch capable)	82 keys / Touch Pad / Digitizer (Anti-Reflection)
Power Supply	AC adaptor or Battery pack	
AC Adaptor ¹¹	Input: 100 V to 240 V AC, 50 Hz/60 Hz, Output: 16.0 V DC, 3.75 A	
Battery Pack	Li-ion 10.65 V, 5.7 Ah	
Operating Time ¹²	Approx. 4.5 hours to 8.0 hours ¹³ (Approx. 7.0 hours ¹⁴)	
Charging Time ¹² (Power off)	Approx. 4.5 Hours	
Power Consumption ¹⁵	Approx. 26 W ¹⁶ / Approx. 55 W (Maximum when recharging in the ON state)	
Physical Dimensions (W x H x D) (excluding the hand strap/shoulder strap)	271 mm x 49 mm x 216 mm	
Weight (excluding the hand strap/shoulder strap)	Approx. 2.25 kg	Approx. 2.30 kg
Operating Environment	Temperature: 5°C to 35°C Humidity: 30% to 80% RH (No condensation)	
Storage Environment	Temperature: -20°C to 60°C Humidity: 30% to 90% RH (No condensation)	
Operating System	Microsoft® Windows® XP Professional Service Pack 2 with Advanced Security Technologies (NTFS File System)	Microsoft® Windows® XP Tablet PC Edition 2005
Utility Programs	DMI Viewer, Microsoft® Windows® Media Player 10, Adobe Reader, PC Information Viewer, SD Utility, Icon Enlarger, Loupe Utility, Intel® Matrix Storage Manager, Intel® PROSet/Wireless Software, Bluetooth Stack for Windows® by TOSHIBA, Wireless Switch Utility, Hotkey Settings, Battery Recalibration Utility, Panasonic Hand Writing ¹⁷ , Software Keyboard ¹⁷ , Display Rotation Tool, Infineon TPM Professional Package ¹⁸ , Recover ProTM6 ¹⁸ Setup Utility, Hard Disk Data Erase Utility ¹⁹ , PC-Diagnostic Utility	

*1 1 MB = 1,048,576 bytes

*2 A segment of the main memory is allotted automatically depending on the computer's operating status. The size of the Video Memory cannot be set by the user.

*3 1 GB = 1,000,000,000 bytes. Your operating system or some application software will report as fewer GB.

*4 A 16,777,216 color display is achieved by using the dithering function.

*5 Maximum resolution depends on the specifications of the external display.

*8 For information on TPM, click [start] - [Run] and input "c:\util\drivers\tpm\README.pdf", and refer to the Installation Manual of "Trusted Platform Module (TPM)".

*9 Operation has been tested and confirmed using Panasonic SD Memory Cards with a capacity of up to 2 GB.

The transfer rate using the SD Memory Card slot on this computer is 8 MB per second. (This is a theoretical value, and differs from actual speeds.)

The transfer rate is 8 MB per second even if you use an SD Memory Card that supports high-speed transfer rates.

Operation on other SD equipment is not guaranteed.

This computer is not compatible with MultiMediaCards or SDHC Memory Cards. Do not insert these kinds of cards.

*10 Theoretical value and not the actual speed. The transfer rate does not become higher even if you use a card that supports the higher transfer rate.

*11 The AC adaptor is compatible with power sources up to 240 V AC adaptor. The computer is supplied with a 125 V AC compatible AC cord. 20-M-2-1

*12 Varies depending on the usage conditions.

*13 Measured using BatteryMark. Version 4.0.1 (LCD brightness: Maximum - Minimum)

*14 Measured using MobileMark. 2005 (LCD brightness: 60 cd/m2)

*15 Approx. 26 W when the battery pack is fully charged (or not being charged) and the computer is OFF.

Approx. 1.2 W when the Wake up from LAN has been enabled.

*16 Rated power consumption 23-E-1

*17 Only for model with Windows XP Professional

*18 You need to install to use the feature.

*19 The Product Recovery DVD-ROM is required.

*20 When using ExpressCard/34, the card slot cover can not be closed.