



Computers for the Outside World™

# toughbook 28

Powerful, Rugged and Wireless

## DURABILITY FEATURES

- Designed using MIL-STD-810F test procedures
- Full Magnesium Alloy case with carry handle
- Moisture- and Dust-resistant LCD, keyboard and touchpad
- Sealed port and connector covers
- Shock-mounted, removable HDD in stainless steel case
- Vibration and drop-shock resistant design
- Rugged hinges

## CPU

- Low Voltage Mobile Intel® Pentium® III Processor-M 1GHz or 800MHz featuring Enhanced Intel® SpeedStep™ technology
- 512KB on-die L2 cache

## STORAGE & MEMORY

- 256MB SDRAM standard, expandable to 512MB (PC133 memory is required)
- 30GB HDD
- 1.44MB FDD [also accepts Combo Drive (DVD-ROM\*/CD-RW\*\*)]

## DISPLAY

- 13.3" 1024 x 768 (XGA) transmissive, anti-reflective, outdoor-readable TFT Active Matrix Color LCD with or without Touchscreen or 12.1" 800 x 600 (SVGA) transmissive, sunlight-readable TFT Active Matrix Color LCD with Touchscreen
- External video support up to 1024 x 768 at 16 million colors (24 bit color depth)
- Intel 830MG graphic controller, UMA (Unified Memory Access) up to 32MB

## AUDIO

- SigmaTel™ 9757 audio controller
- Integrated speaker
- Convenient keyboard volume controls (Fn+F5/F6 keys)

## PC CARD SLOTS

- Type II x 2 or Type III x 1

## MULTIMEDIA POCKET

- Holds 3.5" FDD (standard)
- Accepts optional Combo Drive (DVD-ROM\*/CD-RW\*\*) (CF-VDR282U)
- Combo Drive and FDD can be used simultaneously (w/FDD cable CF-VCF271)
- Accepts optional 2nd battery pack (CF-VZSU1428)
- Accepts Telephone Line Tester Modules

## KEYBOARD & INPUT

- 87-key with dedicated Windows® key
- Enhanced pressure sensitive touchpad
- Touchscreen LCD

## INTERFACE

- Infrared 4Mbps IrDA
- Serial D-sub 9 pin
- Parallel D-sub 25 pin
- External Keyboard/Mouse Mini-DIN 6 pin
- USB 4 pin
- Port Replicator 80 pin (Reinforced)
- Headphones/Speaker Mini-jack Stereo
- Microphone/Line In Mini-jack
- Modem Integrated 56Kbps
- External Video MiniD-sub 15 pin

## POWER SUPPLY

- Lithium Ion battery pack (11.1V, 5.4Ah)
- Battery operation: up to 4 hours (with first battery), up to 10 hours (with second battery)\*\*\*
- Battery charging time: approximately 3 hours/OFF, 5.5 hours/ON\*\*\*
- AC Adapter: AC 100V-240V 50/60Hz, Auto Sensing/Switching worldwide power supply
- Quick access battery/HDD cover for easy battery replacement
- Pop-up on-screen battery status reporting

## POWER MANAGEMENT

- Suspend/Resume Function, Hibernation, ACPI BIOS

## SOFTWARE

- Microsoft® Windows® XP Professional (Microsoft® Windows® 2000 Professional also available)
- Setup, Diagnostics, DMI Viewer, On-line Reference Manual, Adobe® Acrobat® Reader, Panasonic® Battery Monitor

## SECURITY FEATURES

- Password Security: Supervisor, User
- Integrated Kensington Lock Slot

## WARRANTY

- 3 year limited warranty, parts & labor

## DIMENSIONS & WEIGHT

- 2.3"(H) x 9.5"(D) x 11.8"(W)
- 9 lbs., including battery, FDD and handle



- Full Magnesium Alloy Case with Carry Handle
- Moisture- and Dust-resistant Design
- Shock-mounted, Removable HDD
- Wireless-ready Design

## INTEGRATED OPTIONS\*\*\*\*

- Wired LAN (10/100 ethernet)\*\*\*\*\*
- 802.11b Wireless LAN\*\*\*\*\*
  - Cisco Aironet
  - Wide Area Wireless Solutions
  - CDPD
  - Mobitex (Cingular™ Wireless) (availability may vary)
  - GSM/GPRS with external SIM slot (availability may vary)
  - 1xRTT/CDMA 2000 (availability may vary)
- Global Positioning System (GPS) Receiver
- Full Travel EL Backlit Keyboard
- Sealed Rubber LED Backlit Keyboard

## ACCESSORIES\*\*\*\*\*

- Combo Drive (DVD-ROM\*/CD-RW\*\*) CF-VDR282U
- Telephone Line Tester Modules\*\*\*\*\*
- Desktop Port Replicator CF-VEB272AW
- Vehicle Mount Port Replicator CF-WEB273
- Vehicle Mount Port Replicator with Integrated High-gain Antenna Pass-thru Cable CF-WEB273CBL
- External FDD Cable CF-VCF271
- Battery Charger CF-VCBTB1U
- Lithium Ion Battery Pack CF-VZSU18AU
- 2nd Battery Pack CF-VZSU1428M
- AC Adapter (3 pin) CF-AA1653M
- Memory Cards
  - 128MB CF-WMBA91128
  - 256MB CF-WMBA91256
- 13.3" LCD Protector CF-VPF03U
- 12.1" LCD Protector CF-VPF02U
- ToughMate Sling Carrying Case CF-TM28
- ComFolio Universal Carrying Case CF-COMUNIV
- Stylus Pen with Tether Hold CF-VNP004U

\*Decoder software is required for DVD movie play. (Included)

\*\*CD authoring software is required to write CD-RW. (Included)

\*\*\*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.

\*\*\*\*Accessories and Integrated Options may vary depending on your notebook configuration.

\*\*\*\*\*Choosing both the Integrated Wired LAN and Integrated 802.11b Wireless LAN options together means that the 56Kbps Modem cannot be added as an option due to hardware space limitations.

\*\*\*\*\*Special order item

Please consult your reseller or Panasonic representative before purchasing.

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For more information call 1-800-662-3537 or visit us on the Web at [panasonic.com/toughbook](http://panasonic.com/toughbook).

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