

Panasonic recommends Windows.

# Panasonic Toughbook® and Toughpad® Quick Reference Guide



	TOUHPAD4K	TOUGHBOOK C2	TOUGHBOOK 52	TOUGHBOOK 53	TOUGHBOOK 54	TOUHPAD FZ-G1	TOUHPAD FZ-M1	TOUHPADFZ-B2	TOUGHBOOK 19	TOUGHBOOK 31	TOUHPADFZ-E1	TOUHPADFZ-X1
<b>PERFORMANCE FEATURES</b>												
Operating System	Standard model: Windows 8.1 Pro Performance model: Windows 8.1 Pro, Windows 7 Professional	Windows 8.1 Pro, Windows 7 Professional	Windows 7 Professional <sup>1</sup>	Windows 8.1 Pro, Windows 7 Professional	Windows 8.1 Pro, Windows 7 Professional	Windows 8.1 Pro, Windows 7 Professional	Celeron® model: Windows 8.1 i5 model: Windows 8.1 Pro, Windows 7 Professional	Android 4.4.4	Windows 8.1 Pro, Windows 7 Professional	Windows 8.1 Pro, Windows 7 Professional	Windows Embedded 8.1 Handheld	Android 4.2.2
Convertible Laptop to Tablet	-	-	-	-	-	-	-	-	-	-	-	-
Touch Display	Multi Touch with optional Optical Pen	Multi Touch or Multi Touch + Digitizer	-	Optional Touch	Optional Gloved Multi Touch	Multi Touch + Digitizer	Multi Touch	Multi Touch	Touch or Multi Touch + Digitizer	Multi Touch	Multi Touch	Multi Touch
Supports Gloved Touch	-	-	-	Select models	Select models	-	-	-	-	-	-	-
DVD Drive	-	-	-	-	-	Optional	-	-	-	Optional	-	-
Screen Size	20" 4K+	12.5" HD	15.4" WUXGA	14" HD	14" HD (FHD 1080p Touch and Performance models)	10.1" WUXGA	7" WXGA	7" WXGA	10.1" XGA	13.1" XGA	5" HD	5" HD
CPU	Intel® Core™ i5-3437U (i7-3687U Perf. model)	Intel® Core™ i5-4300U	Intel® Core™ i5-3360M	Intel® Core™ i5-4310U	Intel® Core™ i5-5300U	Intel® Core™ i5-5300U	Intel® Core™ i5-4302Y; Intel® Celeron® N2807	Intel® Celeron® N2930	Intel® Core™ i5-3610ME	Intel® Core™ i5-5300U	Qualcomm® MSM8974A8	Qualcomm® APQ8064T
Dedicated Graphics	-	-	-	-	- (Performance model)	-	-	-	-	-	-	-
Base Drive	256GB SSD	500GB HDD (7200rpm)	500GB HDD (7200rpm)	500GB HDD 7200rpm (320GB 5400rpm Lite model)	500GB HDD 7200rpm (5400rpm Lite model)	128GB SSD	64GB Flash (128GB SSD on i5 model)	32GB Flash	500GB HDD (7200rpm)	500GB HDD (7200rpm)	32GB Flash	32GB Flash
Optional 2nd Drive	-	-	-	-	-	-	-	-	-	-	-	-
Memory	8GB (16GB Perf. model)	4-8GB	4-16GB	4-16GB	4-16GB <sup>2</sup> (8-16GB Performance model)	8GB	4GB (8GB on i5 model)	2GB	4-16GB	4-16GB	2GB	2GB
Weight (lbs.)	5.3-5.6	3.99 (4.28 with optional battery)	7.5	5.6-6.5	4.2-4.6	2.4 (3.0 with optional battery)	1.2	1.2	5.1	7.9	0.9	0.9
Battery Life <sup>3</sup>	Up to 2.5 hours	14 hours (19 hours with optional battery)	4 hours	Up to 15 hours	Up to 11 hours (up to 18 hours with optional 2nd battery)	12 hours (24 hours with optional battery)	8 hours (16 hours with optional battery)	7 hours (14 hours with optional battery)	10 hours	18 hours (27 hours with optional 2nd battery)	14 hours (Continuous use)	14 hours (Continuous use)
Hot-swappable Battery	-	-	-	-	Optional	Optional	-	-	-	-	-	-
<b>RUGGED FEATURES</b>												
HDD Heater	N/A	-	-	Optional	-	N/A	N/A	N/A	-	-	N/A	N/A
Backlit Keyboard	N/A	-	-	Optional	-	N/A	N/A	N/A	Optional	-	N/A	N/A
IP Certified <sup>4</sup>	-	-	-	-	IP51	IP65	IP65	IP65	IP65	IP65	IP68	IP68
MIL-STD-810G Certified <sup>4</sup>	-	-	-	-	-	-	-	-	-	-	-	-
Fanless or Hybrid Cooling System	-	-	-	-	-	-	-	-	-	-	-	-
Covered Ports	-	-	-	-	-	-	-	-	-	-	-	-
Quick-release Hard Drive	-	-	-	-	- (Primary drive)	-	-	-	-	-	-	-
Hand Strap/Handle	-	-	-	-	-	Optional	Optional	Optional	-	-	Optional	Optional
Flexible Hard Drive Connector	N/A	-	-	-	- (Primary drive)	N/A	N/A	N/A	-	-	N/A	N/A
Shock-mounted HDD or SSD/Flash	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium Alloy Casing or Chassis	-	-	-	-	-	-	-	-	-	-	-	-
Spill-resistant Keyboard	N/A	-	-	-	-	N/A	N/A	N/A	-	-	N/A	N/A
MIL-STD-810G Drop Rating	1 ft (2.5 ft on base)	1 ft (2.5 ft 6 sides)	1 ft (2.5 ft 6 sides)	3 ft <sup>4</sup>	3 ft <sup>4</sup>	4 ft <sup>4</sup>	5 ft <sup>4</sup>	5 ft <sup>4</sup>	6 ft <sup>4</sup>	6 ft <sup>4</sup>	10 ft <sup>4</sup>	10 ft <sup>4</sup>
3-year Warranty	-	-	-	-	-	-	-	-	-	-	-	-
Outdoor Visibility	OK	Good	OK	Good (Select models)	Good (Select models)	Good	Good	Good	Superior	Superior	Good	Good
<b>WIRELESS FEATURES</b>												
Antenna Pass Through	-	-	-	Optional <sup>3</sup>	Optional <sup>3</sup>	-	Optional	Optional	-	-	-	-
Dedicated GPS	-	-	-	Optional <sup>3</sup>	Optional <sup>3</sup>	Optional	Optional	Optional	Optional	Optional	-	-
Mobile Broadband	-	Optional 4G LTE Multi Carrier (with satellite GPS)	-	Optional 4G LTE Multi Carrier (with satellite GPS)	Optional 4G LTE Multi Carrier (with satellite GPS)	Optional 4G LTE Multi Carrier (with satellite GPS)	Optional 4G LTE Multi Carrier (with satellite GPS)	Optional 4G LTE Multi Carrier (with satellite GPS)	Optional 4G LTE Multi Carrier (with satellite GPS)	Optional 4G LTE Multi Carrier (with satellite GPS)	4G LTE AT&T/Verizon Micro SIM Slots	4G LTE AT&T/Verizon Micro SIM Slots
Field-upgradable Mobile Broadband	-	-	-	-	-	-	-	-	-	-	N/A	N/A
Wi-Fi	-	-	-	-	-	-	-	-	-	-	-	-
Bluetooth <sup>4</sup>	-	-	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> A full set of Windows® 8 drivers are available at [panasonic.com/toughbook/support](http://panasonic.com/toughbook/support).

<sup>2</sup> Battery life, unless otherwise stated, is based on MobileMark.

<sup>3</sup> Not available on Lite model.

<sup>4</sup> Tested by a national, independent, third-party lab following MIL-STD-810G Method 516.6 Procedure IV for transit drop and IEC 60529 Sections 13.4, 13.6.2, 14.2.5 and 14.3 for IP65.



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