

Panasonic

NOT ALL RUGGED IS CREATED EQUAL

Toughbook 55 14" Semi-Rugged Laptop:
Prepared for Mission Readiness

**CUSTOMIZABLE.
LONG BATTERY LIFE.
ADVANCED
PERFORMANCE.
VERSATILE.
BACKWARDS
COMPATIBLE.**



The Toughbook Advantage

Today, given the global pandemic that the world is facing now, it is paramount to provide the federal government and U.S. military with equipment that has been factory tested and certified to be compatible with common forms of germicidal wipes that are listed by the U.S. Centers of Disease Control and Prevention as effective to kill germs on surfaces and further lower the risk of spreading infection.

When the federal government and U.S. military are deployed various pandemic hot zones, it is critical that the front-line personnel keep their equipment clean and sanitized to reduce or eliminate the spread of bacteria and germs. The same rule also applies to a computer or tablet, as these devices are also in routine contact with users' hands and can potentially become contaminated.

Risk of infection is an ongoing concern for military safety infection protocols. The Panasonic Toughbook 55 laptop is one of the only semi-rugged mobile computing platforms that is designed to reduce the risk of cross contamination with the full four-sided magnesium alloy case and magnesium alloy pull-out handle.

Cleaning & Sanitization Panasonic Toughbook Computers and Tablets

Panasonic has tested a number of common disinfectant wipes for usability on Toughbook mobile computers and tablets, going above and beyond typical testing procedures to simulate worst-case scenarios.

TEST RESULTS						
	55	31	33	20	G1	M1
Sani-Cloth® Plus Germicidal Disposal Cloth	OK	OK	OK	OK	OK	OK
Alcohol Prep Swabs	OK	OK	OK	OK	OK	OK
CaviWipes™	OK	OK	OK	OK	OK	OK
Total Solutions™ Disinfectant Wipes	OK	OK	OK	OK	OK	OK
Clorox Healthcare® Bleach Germicidal Wipes	OK	-	OK	OK	OK	OK

Our goal is to ensure that any disinfectant solutions we have approved on our devices will not compromise the performance of Toughbook computers and tablets. Panasonic recommends disinfectant wipes to avoid prolonged exposure to chemicals that can cause oxidation and paint discoloration and break down the rubber that seals the devices. If the wipe form of these disinfectants is used and the surface is dried soon after application, the computer will be protected for years to come.

Sanitizing a Toughbook is quick and easy, especially compared to other device types. Wiping a Toughbook computer off or sterilizing it with soap or other liquid won't harm the system, so cleanup is easy. Front line personnel can still be thorough but will not have to wait hours for their Toughbook computer to be completely clean again.

Application and Testing Procedure

The Panasonic Toughbook 55 laptop is one of the only semi-rugged mobile computing platforms in the world that has been rigorously tested to see how many times it could be disinfected. The test procedure was to wipe each area on the device with the liquid solution with a pressure of 1 kg/cm² for 10,000 times.

Wipe Test: Wipe human-touch area (ex. Keyboard, touchpad, buttons, display) by a $\Phi 8$ object with disinfectant liquid by pressure 1kgf/cm² until number of wipes becomes 10,000.

Test Area



	①Car Wash	②Air-Clan Plus Chemical Thermal Cloth	③Total Solutions Disinfectant Wipes	④Wash Chemical Wipes	⑤Alcohol Prep Pads	⑥Clorox To Wipes
A. Palm Rest (10)						
B. Touchpad	No corrosion	No corrosion	No corrosion	No corrosion	No corrosion	No corrosion
C. Buttons (10)						
D. Key Top (10)						
E. LCD Display	No corrosion	No corrosion	No corrosion	No corrosion	No corrosion	No corrosion
F. Front Cover (10)						
G. Antenna Cover	No corrosion	No corrosion	No corrosion	No corrosion	No corrosion	No corrosion
H. Rear Cover						
J. CN Cover	No corrosion	No corrosion	No corrosion	No corrosion	No corrosion	No corrosion
K. Bottom Cover						
L. Config Area Cover						



Wrap Test: Put cloth with disinfectant liquid on some part of the unit, wrap tightly to not let liquid evaporate and keep unit under 140°F for 72 hours.

Test Area



A. Palm Rest D. Key Top G. LCD Display K. Rear Cover L. CN Cover P. Config Area Cover
 B. Touchpad E. Battery Pack H. Front Cover M. User Upgrade Pocket Cover N. Bottom Cover
 C. Buttons F. Handle J. Antenna Cover

	Clear Wipe	Clear Cloth Plus Disinfectant Wipe	Clear Disinfectant Wipe	Wash Disinfectant Wipe	Disinfectant Paste	Disinfectant Wipe
1. Top Case (Top)						
2. Touchpad						
3. Keyboard Frame						
4. Key Top Board						
5. Battery Pack Mount						
6. Front Edge						
7. LCD Display						
8. Front Cover (Top)						
9. Rear Cover (Top)						
10. Bottom Cover (Top)						
11. Bottom Cover (Bottom)						
12. Bottom Cover (Middle)						
13. Bottom Cover (Right)						
14. Bottom Cover (Left)						
15. Bottom Cover (Center)						
16. Bottom Cover (Bottom)						
17. Bottom Cover (Right)						
18. Bottom Cover (Left)						
19. Bottom Cover (Center)						
20. Bottom Cover (Bottom)						



Clorox Healthcare Equipment Compatibility Guide

Panasonic is committed to providing the most durable, reliable mobile computing solutions and the most comprehensive product support. Our goal is to ensure that any disinfectant solutions we have approved on our devices will not compromise the performance of Toughbook computers and tablets. Panasonic is very proud to be recognized as the only rugged mobile computing manufacturer notated on Clorox Healthcare Equipment Compatibility Guide:

Healthcare IT		Bleach					Hydrogen Peroxide	Quat Alcohol
								
Manufacturer	Product							
Enovate Medical	Computer Carts (EMC)							
RICOH USA	Interactive Whiteboard							
Panasonic	ToughBook® 20, 33, EX/X1, G1, Q2, M1							
GETT	Cleankeys® (wired and wireless), InduSense®							
Onyx Healthcare	Mobile Cart Computing Solution Venus: 243/223/222/192 Fanless Slim HIT Panel PC Solution ONYX- BE182/1723/1731/1531/1222/10 22							
	Patient Monitor & Smart View Medical Solution ZEUS- 248/228/198							
	Medical All-in-One Solution AIO-MATE-2403/2203/1903							
	Healthcare Infotainment Solution ONYX-BE321/BE182/1531/1222 MedPC- 2100/1600							
	Mobile Medical Assistant MD116/MD101							
	Medical Display Series Solution MEDDP- 524/522/519/518/517/515							

<https://www.cloroxpro.com/wp-content/uploads/2018/09/Healthcare-IT.pdf>

Infection Control & Prevention - Gloved & Pen TouchScreen Functionality

Many Toughbook computers, including the Toughbook 55 semi-rugged laptop, offer an optional FHD 10-point capacitive touchscreen that supports glove and stylus pen touch modes for frontline personnel who use protective gloves in the field for infection control and prevention.



Mode	Detect Sensitivity
Pen	High (About 2mm conductive)
Pen / Touch	High (About 2-10mm conductive)
Touch	Medium (About 5-10mm conductive)
Touch(Glove)	High (About 2-10mm Conductive)