



MODULAR DESIGN DRIVES UNRIVALED FLEXIBILITY, REDEFINING MOBILITY

Since the introduction of the first TOUGHBOOK® laptop more than 25 years ago, Panasonic has continued to make innovation an integral part of its engineering and design. We build and enhance our mobile devices in direct response to customer needs. As a result, we pioneered the magnesium chassis and introduced the first professional-level, fully rugged laptop in 1996, which became the blueprint for future TOUGHBOOK devices. Since then, Panasonic has introduced advances like ergonomic design, an integrated thermal camera and the first fully rugged 2-in-1 laptop.

Panasonic's latest innovation is a modular design that offers unrivaled flexibility even in the most demanding and unpredictable environments. The TOUGHBOOK 55 is a semirugged laptop and the first rugged mobile device in the industry with a modular design.

Versatility and unprecedented modularity

The powerful TOUGHBOOK 55 semirugged laptop is built on the latest 11th Gen Intel vPro® processors and is the first in its class to offer an inspired modular design. This design enables organizations to customize a base model with the features and accessories that address the needs of their specific applications. If (and when) those needs change, the TOUGHBOOK 55 can be reconfigured by the user with different components to provide a wider range of functionality and capabilities.

This unprecedented modularity enables mobile workers to get their jobs done more efficiently, but it also helps organizations to future-proof their mobile investment. Need additional functionality? Simply add new expansion

packs (xPAKs) to your existing TOUGHBOOK 55, and it's ready for new challenges.

The TOUGHBOOK 55 laptop goes way beyond basic configuration options to provide easy and entirely new customizations with a minimum of effort and investment, while continuing to live up to the high performance and durability standards TOUGHBOOK is known for.

No other manufacturer has this level of flexibility in a rugged laptop.

How the TOUGHBOOK 55 modular design works

The TOUGHBOOK 55 modular design offers six expansion areas, allowing users to upgrade the memory (RAM), SSD storage (up to 3TB of storage—up to 2TB in primary storage, and up to 1TB in secondary xPAK storage), keyboard and three different expansion pack (xPak) areas with options for a barcode reader, additional I/O, optical drives, a second battery (for up to 38 hours of power), authentication readers and more.

What is an xPAK area?

xPAKs are modular accessories that can be purchased at the time of the initial sale or post-sale to fit into the three areas on the TOUGHBOOK 55. Traditionally these components would be built in and hardwired to the design of a computer without the ability to easily retrofit the functionality. In contrast, Panasonic engineered the xPAKs to be user-installable and user-changeable, so that units can be reconfigured on the fly as required.

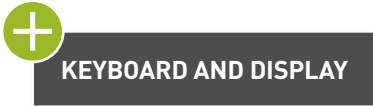
Most xPAKs have a quick-release lever, making them easy to insert or remove. The xPAKs for the Rear Expansion Area—dedicated graphics (dGPU) and fingerprint reader—require a screwdriver and a few screws. (IT can also lock down any xPAK area with a screw.)

Available xPAKs and options for each area include:

- **Rear expansion area:** VGA + True Serial and either USB-A, LAN or Fischer USB
- **Front right expansion area:** Fingerprint reader, contactless or insertable smartcard, and second battery
- **Universal bay expansion area:** Barcode reader, insertable smartcard, Blu-ray drive, DVD drive and second OPAL SSD

More TOUGHBOOK 55 features

The TOUGHBOOK 55 offers additional state-of-the-art technology, including options for even more customizations:



Smartcard



Stylus



Fingerprint Reader



DVD Drive



Rear I/O Module



Rear Open



Side Open

The TOUGHBOOK 55 is backward compatible with the previous generation of docks, protecting customers' investments while saving time and resources.



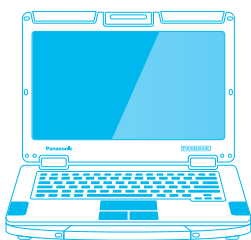
What industry expert reviewers say about the TOUGHBOOK 55

*“With 11th Gen Intel, 4G LTE built in and the ability to do on-the-fly changes, the TOUGHBOOK 55 is easily the best semirugged laptop right now and likely for the next few years.”*¹ —Daniel Rubino, executive editor of Windows Central

*“Panasonic’s TOUGHBOOK 55 rugged laptop has an ingenious modular design, making it possible to remove and replace most of its key components in seconds. It’s got a startlingly bright display, a built-in stylus and a cutting-edge CPU, too. It’s also quite durable, tested to survive 3-foot drops, water spray and some dust ingress.”*² —Tom Brant, hardware analyst for PC Labs

*“A semitough classic that’s supremely customizable.”*³ —Tom Brant, hardware analyst for PC Labs

How three versatile expansion areas make it easy to adapt: Four use cases



Let’s explore how various enterprise, public sector and government organizations are taking advantage of the versatility of the TOUGHBOOK 55 laptop’s modular design to get the unique capabilities they need.

UTILITIES | MANUFACTURING | LAW ENFORCEMENT | FEDERAL DEFENSE

UTILITIES: Managing utility assets for operational excellence in the field.

Challenge: Field service teams inspecting and repairing utility and gas lines need accurate, up-to-date data to help them pinpoint the work that needs to be done and minimize customer service interruptions. With the TOUGHBOOK 55, workers can easily transition between the field and office.

Solution: Modular xPAK customizations offer utility workers specific capabilities for their work, such as:

- Second battery that can last across multiple shifts (up to 38 hours of power)

- Fingerprint reader for authorized access
- Serial ports in the rear expansion area to make it simple to plug into diagnostic equipment

Additional TOUGHBOOK 55 options for utility worker devices include:

- Increased CPU speed for faster processing of more complex apps and reporting, including charts, orders and mapping
- A 1000-nit touchscreen with antireflective and antiglare treatments
- Thermal camera to simplify diagnostics



- Intel Iris Xe graphics card to improve the display of maps and other graphics, which combined with dedicated GPS, can help locate equipment that needs maintenance or repair
- Four tetra-array microphones for unparalleled speech recognition and 92dB dual speakers for clarity in noisy environments that improve ease of documentation and consultation from the field
- Pass-through antennae for utilities vehicles to enhance connectivity in remote areas
- Optional vehicle mount to enhance the user's experience and help protect the device and data.

Outcomes: Field workers can leverage real-time data and better connect with their customers and the grid to achieve:

- More efficient inspections of assets in the field
- Faster service repair and restoration reporting
- More efficient communication with the home office
- Greater operational efficiency

MANUFACTURING: Keeping equipment operating in peak condition and reducing downtime.

Challenge: Unplanned equipment downtime drags down profitability. Manufacturing teams can work faster, share real-time information and move from emergency repairs to predictive maintenance aimed at keeping equipment in peak running condition.

Solution: The TOUGHBOOK 55 connected to cloud-based applications becomes the conduit through which plant management and workers access and act on real-time

information for predictive maintenance, machine diagnostics and repairs.

Modular xPAK customizations for manufacturing can include:

- Second battery for up to 38 hours of battery life
- Fingerprint reader for authorized access
- Serial ports in the rear expansion area to make it simple to plug into diagnostic equipment

Additional TOUGHBOOK 55 features and options ideal for manufacturing include:

- Increased CPU speed for faster processing
- A 1000-nit touchscreen for easy viewing
- Thermal camera to simplify equipment diagnostics
- The Intel Iris Xe graphics card to display complex graphics like repair schematics and digital twin views
- Four tetra-array microphones with unparalleled speech recognition and 92dB dual speakers for clarity in noisy environments that improve ease of documentation and consultation from the field

Outcomes: Maintenance workers can leverage data to better understand equipment needs to get:

- Less unplanned downtime
- Greater visibility into inventory for needed replacement parts
- Increased lifetime of manufacturing equipment
- Improved operational efficiency



LAW ENFORCEMENT: Streamlining communications and reporting to improve situational awareness and efficiency during stakeouts and traffic stops.

Challenge: With administrative workloads and officer burnout on the rise, law enforcement officers need access to modern tools and apps to help them quickly respond to calls, run license plates and create incident reports in or out of the squad car.

Solution: TOUGHBOOK mobile solutions can be configured to support officers from the moment a call comes in to when the officer arrives on scene. Modular xPAK customizations can include:

- Second battery for up to 38 hours of power
- A barcode reader to scan drivers' licenses/IDs
- Fingerprint or contactless smartcard reader for authorized access

Additional TOUGHBOOK 55 features and options ideal for law enforcement include:

- FirstNet® Band 14 for access to the dedicated FirstNet core network in emergencies
- Programmable F11 key to connect instantly with computer-aided dispatch (CAD)
- Color-selectable backlit keyboard and night mode to reduce eyestrain
- Four tetra-array integrated microphones for unparalleled speech recognition and 92dB dual speakers for clarity in noisy environments that improve ease of communication and reporting from the field
- Powerful pass-through antenna in the squad car to help enhance connectivity even in remote areas

- Optional vehicle mount to keep device securely in place
- Backward compatibility to previous docks, cradles and adaptors

In addition, Panasonic offers the TOUGHBOOK and Nuance® Dragon Law Enforcement (NDLE) solution. This solution combines TOUGHBOOK rugged Windows®-based devices with industry-standard talk-to-text capabilities that can help officers communicate quickly, file reports and collect witness interviews with greater speed and efficiency.

Outcomes: Increased visibility and access to information helps officers work more effectively

- Real-time access to information, including CJIS databases
- Improved situational awareness that keeps officers' eyes focused on their environment
- Reliable, seamless connectivity even when crossing networks
- Improved productivity with advanced tools for task automation and reporting

FEDERAL DEFENSE: Improving situational awareness for a tactical operations center (TOC).

Challenge: In a TOC, up-to-the minute communication is needed for situational awareness day and night.

Solution: Thin and light, the durable 14" TOUGHBOOK 55 can be customized with three of these modular xPAK options:

- Smartcard or fingerprint readers for authorized access
- Second battery for up to 38 hours of battery life to last throughout the mission



- Second removable OPAL-encrypted SSD drive for added security for your stored data
- Blu-ray drive for reimaging

Additional TOUGHBOOK 55 features and options ideal for military use include:

- Removable main hard drive
- Increased CPU speed for faster processing
- A 1000-nit touchscreen for easy viewing
- Intel Iris Xe graphics card to render graphics for advanced mapping capabilities
- Color-selectable backlit keyboard to reduce eyestrain and night mode provide for easier night viewing while in the field

- Standard desktop configuration (SDC) for Air Force users to upload map data per mission without saving to the device hard drive

Outcomes: Real-time access to military apps and up-to-date information guides members of a tactical element during the mission and maintains communication to improve critical performance and effectiveness:

- Reliable performance in a mission-critical environment
- Improved coordination and agility and more seamless communications
- Improved situational awareness with access to real-time information
- Enhanced end-point security

The future of modular design

The groundbreaking modular design of the TOUGHBOOK 55 laptop continues the Panasonic core mission to redefine mobility through innovation. Modularity takes versatility to a new level for rugged mobile devices. Organizations get more control over the functionality of their devices as needs change and more value from their mobile investment.

And as the first modular rugged mobile device from Panasonic, the TOUGHBOOK 55 laptop is just the beginning. Our TOUGHBOOK G2 rugged 2-in-1 tablet features three expansion areas that enable 36 different device combinations, providing even more versatility and customization to meet your mobile workers' needs.

Our ProServices team has you covered

Panasonic offers industry-leading, U.S.-based services that can help you plan, test, deploy and maintain your TOUGHBOOK 55 throughout the life cycle of your device. The Panasonic ProServices team offers a tailored package of hardware and software solutions to best fit your specific circumstances. Services include development and integration for Windows and Android™ environments, vehicle installation and mounting, deployment, kitting, engineering services, and device and battery monitoring via TOUGHBOOK Smart Essentials. Find out how [ProServices](#) can help you select the right solution, deploy quickly and maintain your devices over their life cycle.



TOUGHBOOK Configurator

Find your TOUGHBOOK 55 with the specific features you need by using our Panasonic TOUGHBOOK Configurator.

Discover which solution is the best match for your workflow needs, find the right components, and learn about specific details and features.

1. [Open the Panasonic TOUGHBOOK Configurator](#) ▶
2. Choose “Customize a Base Model.”
3. Select “TOUGHBOOK 55” and then “Configure.”
4. Customize the base model by adding new capabilities.

**GET MORE INFORMATION ABOUT HOW YOU CAN
CUSTOMIZE PANASONIC TOUGHBOOK DEVICES
FOR YOUR SPECIFIC NEEDS ▶**

TOUGHBOOK.com | toughbook@us.panasonic.com | 1.888.245.6344

1. Daniel Rubino, “Panasonic Toughbook 55 MK2 Review: The Ultimate Semi-Rugged Laptop Gets Even Better for 2021,” Windows Central, August 10, 2021.

2. Tom Brant, “Panasonic Toughbook 55 Review,” PCMag, September 9, 2019.

3. Tom Brant, “Panasonic Toughbook 55 MK2 (2021) Review,” PCMag, September 1, 2021.