WINMATE
www.winmate.com

MISSION CRITICAL

Marine/ Defence

BUILT TO SURVIVE
EXTREME WORKING CONDITIONS

Q1 - 2024

About Winmate

Founded in 1996, Winmate Inc. is a pioneer in rugged computing technology. Winmate has provided business leaders worldwide with reliable, robust solutions for the most challenging industrial conditions for over two decades. From R&D to manufacturing to in-house testing, Winmate Inc. manages the entire product development process with ready-made products available for quick deployment. Today Winmate's innovative approach has helped countless enterprises at every level with equipment automation and seamless Industrial Internet of Things (IIoT) integration.

From the industrial display, panel PC, HMI, embedded systems to rugged mobile devices, Winmate caters to industries ranging from transportation and logistics to marine and military, railway, oil, and gas, and provides customization services to create a unique solution for specific customer requirements.

The Winmate Difference

Innovation and Ruggedness

With innovation and ruggedness, our products are designed to meet the requirements of vertical markets' environmental standards.

Engineering Intelligence

We are committed to maintaining the highest standards in engineering excellence to ensure our products deliver reliability, durability, and optimized performance.

Quality Commitment

Quality assurance and entire engineering processes are conducted in-house. It is why we invested significantly in our state-of-the-art testing facility with additional global support.

> "INNOVATIVE TECHNOLOGY FOR OPERATIONAL EXCELLENCE."

Efficiency

Our team is committed to efficiency and maintaining the shortest possible development cycles. The whole development process is conducted in-house to achieve the market advantage in speed and quality from design to testing.

Reliability

Reliability, service, and support are part of our foundation. Every product scrutinizes industrial standards testing to verify electrical, mechanical, thermal, and firmware design performance.

Customized Solutions

Years of experience allow Winmate to offer customized solutions for different applications.

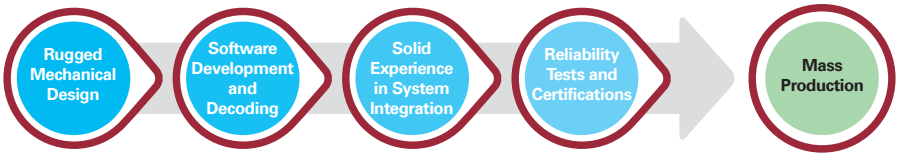
From product design to accessories, our engineering team designs and support the system integration process.

- CUSTOMIZED CONFIGURATION
- CUSTOM OS IMAGE
- CUSTOM BIOS
- ENCLOSURE DESIGN
- PERIPHERALS AND OPTIONS
- CUSTOM-DESIGNED ACCESSORIES

Technical Know-How

We understand that access to cutting-edge solutions purposely built for their applications is imperative for enterprises operating in rugged or potentially hazardous environments. As a result, Winmate locates its resources from project research and design, software development and customization, product verification and validation, and in-house testing to research and implement the latest technologies available.

The latest technologies we deploy for our rugged products:



- Dry and wet optical bonding
- Panel enhancement for sunlight readability
- Anti-reflection (AR) and anti-glare (AG) glass protection coating
- Light sensor
- Hyper dimming
- Electronic potting
- Touch screen integration: projected capacitive, resistive, or SAW touch
- Waterproof enclosure
- Military EMI and mesh coating
- Wireless capabilities
- Data capture devices integration
- Defroster for ultra-low temperature environments
- Stainless steel SUS 316/ AISI 316
- Shock and vibration resistance
- Wide-range operation temperature

Marine

Overview

Winmate understands the marine industry's needs and provides solutions to the unique challenges that the industry faces.

- Ruggedness: Winmate reliability tests ensure optimal performance in harsh environments, including exposure to humidity, shock, and vibration.
- Panel Options: Transflective screen or a high brightness display.
- Viewability: Numerous display and touch technologies and backlight intensities help enable sunlight viewability.
- Design and Electronics: Powder-coated aluminum housings feature anti-corrosion protection.

Industrial Challenges

To meet the marine industry's regulatory requirements, Winmate offers certified solutions for shipping navigation, monitoring and surveillance, and ship automation systems. Winmate understands the needs of the marine industry and provides solutions to industrial challenges:

- Extreme environments
  Marine equipment faces extreme temperature changes, strong vibration, water drops.
- Accurate chart depiction
  An accurate chart displaying is crucial in maritime applications.
- Day, night, and dusk
  On-board computers must provide viewability in a day, night, and dusk conditions.

Technology

ECDIS Color Calibration

Winmate Marine Displays and Panel PCs can be adjusted to a day, dusk, or night mode to accommodate any lighting situation. Color settings are calibrated at the factory for accurate color reproduction according to the IEC 61174 ECDIS Standard.

Certificate

Winmate marine products are built and tested according to the DNV GL, IEC60945, and IACS-E10.

	DNV GL is an independent foundation to safeguard life, property, and the environment at sea and onshore. DNV certification pertains to the quality of ships, offshore units, and installations of the system and components. DNV requirements are harmonized with IACS Unified Requirements E10 and IEC publication 60945.
	The International Association of Classification Societies (IACS) is a technology-based non-governmental organization that currently consists of twelve member marine classification societies. More than 90% of the world's cargo-carrying ships' tonnage is covered by the classification standards set by member societies of IACS. Marine classification is a system for promoting the safety of life, property, and the environment primarily through establishing and verifying compliance with technical and engineering standards for the design, construction, and life-cycle maintenance of ships, offshore units, and other marine-related facilities.
	Equipment wished to be used in navigation and radio communication systems comply with IEC 60945, "Maritime navigation and radio communication equipment and systems – General Requirements- Method of testing and required test results."

Innovative Solutions

All Winmate marine products are built and tested according to DNV GL, IEC60945, and IACS-E10.

- Winmate reliability test ensures optimal performance in harsh maritime environments
- Powder-coated aluminum housing feature anti-corrosion protection, handle significant vibration and shock, and operation in high humidity
- Enhanced panel viewability and backlight intensity
- Transflective screen or a high brightness display
- ECDIS color calibration to accurately display navigational charts

Application Story

Bridge Workstation

Background

Winmate's marine panel PC was installed as a part of a navigational bridge system designed to plot and monitor a vessel's position. The system features the Automatic Identification System (AIS) Class B transport and electronic chart system. The updates of charting material are distributed to the craft through a WIFI router installed onboard.

Core Products

- 10"~26" ECDIS Panel PC

Main Challenges

- Customized software settings

Application Diagram: Bridge System

Why Winmate

- Certified DNV GL for marine applications
- ECDIS calibrated display with multitouch
- NMEA 0183 and DIDO interfaces for marine devices communication
- Vibration, shock, corrosion resistance

Winmate's DNV GL Certified Panel PC

Application Story

Command Center

Background

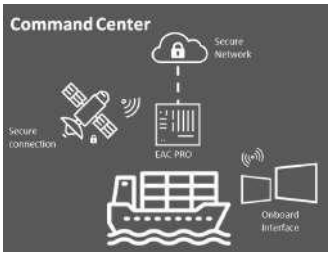
Modern ships has several advanced navigation equipment systems which give accurate data for the voyage. Winmate's panel PC and HMI feature brilliant display with projected capacitive touch screen and several features tailored for marine applications. Convenient user interface and functionality of application-focused marine panel PC and HMI give ship navigation officer precise location information and details of the journey. The use of the electronic chart system, allow ship's navigating crew to pinpoint locations, and attaining directions much easier than before.

Core Products

- 10.4~26" Marine Panel PC
- Marine EAC Box PC I330EAC-ITW

Main Challenges

- Customized software
- Local language support



Navigation and dashboard visualization for your safe voyage at the sea

Why Winmate

- Multiple panel PC sizes for dashboard visualization
- Customizability and ability to work with SW provider for best product result
- Maritime certified devices

Marine Embedded Computing

IM30SB3-101

Custom Configuration

Up to 4 GB Memory

Up to 32 GB Storage

FC CE

“ENHANCED CONNECTIVITY, BUILT TO LAST”

- ARM A53 Quad Core 2.0GHz CPU
- Android 11 (Upgradeable to Android 13), Linux Yocto (Optional), Linux Ubuntu (Optional)

4GB LPDDR4, 32GB eMMC

Supports 1xCOM, 2xUSB 2.0, 1xMicro USB, 1xLAN ,1xSD slot

Elegant and slim mechanical design

Application

Maritime Communication Solution

PRODUCTIVE MARITIME HARDWARE INTERACTION

Elevate your Vessel Communication Solution with our sleek and powerful box PC. Featuring an ARM A53 Quad Core 2.0GHz CPU, it's designed for seamless performance. Its elegant, slim mechanical design ensures it not only functions flawlessly but also looks great on board.

Marine Embedded Computing

EACIEK20

NEW PRODUCT

aws qualified device | FC CE | Azure Certified Device

“ELEVATE MARINE CONNECTIVITY FOR OCEANIC CHALLENGES”

- Intel® Celeron® Elkhart Lake N6211 Processor EAC Mini IoT Gateway
- Windows 10 IoT Enterprise (Optional), Linux Ubuntu 22.04 (Optional)
- AWS IoT Greengrass Certified

Fanless cooling system
Compact size 100 x 70 x 31 mm (w/o mounting bracket)
Expansion module design
Various mounting options: Desk, Wall, VESA, DIN-Rail

Custom Configuration

Up to 8 GB — Memory

Up to 512 GB — Storage

VESA Mounting

WLAN

WWAN

Application

Reliable Vessel Connections

BOOSTING MARITIME PERFORMANCE

Winmate's EACIEK20 supports both Windows and Linux operating system, a fanless cooling system, designed demanding marine environment, and delivering reliability. Elevate your maritime operations with seamless computing power.

Marine Embedded Computing

I330EAC-ITWE

Custom Configuration

Up to 32 GB

Memory

Up to 512 GB

Storage

HDMI Output

“ABUNDANT INTERFACES AND RUGGED CONSTRUCTION.”

- Intel® Tiger Lake Celeron® 6305
- RAM 4G DDR4L (Up to 32G)
- Removable 2.5” SSD drive bay

Multi Video Output, DVI/ HDMI/ Display Port
Isolation Power Protection 1.5KV
4 x Digital Input/ 4 x Digital Output
8 x NMEA Port 0183

Application

Vessel Communication Solution

EFFECTIVE MARINE DEVICES COMMUNICATION

High-performance embedded system that feature an NMEA 0183 interface and digital input/ output for effective marine device communication.

Marine Embedded Computing

I330EAC-IE3

FC CE

“SEAMLESS CONNECTIVITY FOR MARINE SYSTEMS.”

- Intel® Elkhart Lake Pentium® N6415 Processor Dash panel PC
- 9~36V DC Power input acceptable
- M.2 2242 B-key SSD 256GB

USB3.2/ RS232/ RS232 or Isolation RS422/485(Optional)

Custom Configuration

Up to 32 GB — Memory

Up to 512 GB — Storage

HDMI Output

Application

Vessel Communication Solution

EFFECTIVE MARINE DEVICES COMMUNICATION

High-performance embedded system that feature an NMEA 0183 interface and digital input/ output for effective marine device communication.

Marine Embedded Computer

I330EAC-ITW-6L

Custom Configuration

Up to 32 GB

Memory

Up to 512 GB

Storage

HDMI Output

“COMPACT MARINE EMBEDDED PC.”

- Intel® Tiger Lake Core™ i5-1135G7
- RAM 4G DDR4L (Up to 32G)
- Removable 2.5” SSD drive bay

6 x LAN port

Isolation Power Protection 1.5KV

DNVGL-CG-0339, IEC60945 Certificate

Application

Marine Embedded PC

FANLESS COOLING SYSTEM

The I330EAC-ITW-6l marine embedded PC is designed with a wide operating temperature range, supports 24V DC power input or 9 to 36 V DC in, and comes with a fanless minimalistic enclosure.

Marine Embedded Computer

EACIL20-MR

“COMMUNICATION WITH ISOLATIN PROTECTION.”

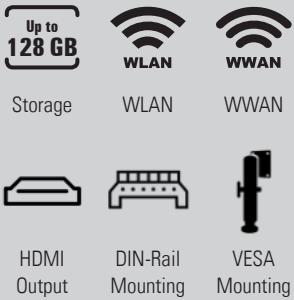
- Intel® Apollo Lake N4200 Marine Embedded Computer
- Fanless cooling system

Compact size 100 x 70 x 31 mm (without mounting bracket)

Expansion module design

Various mounting options: desk, wall, VESA, DIN-Rail

Custom Configuration



Storage WLAN WWAN

HDMI Output DIN-Rail Mounting VESA Mounting

Application

Bridge System

EASY MOUNTING

Winmate marine embedded computers is a plug & play IoT gateway to simplify your deployment with multi-connectivity, optimized thermal solution, and easy mounting with various universal mounting options.

Marine Industrial Box pc

I330EAC-IK3

Custom Configuration

Up to 16 GB — Memory

Up to 512 GB — Storage

WLAN

HDMI Output

Application

Boat Command Center

FANLESS COOLING DESIGN

Winmate use well-defined thermal analysis procedures to verify IPC systems to meet the harsh environment applications.

“INDUSTRIAL IOT EMBEDDED COMPUTERS.”

- Design for M2M application
- 7th Generation (kaby Lake) Intel® Core™ i5-7200U 2.5GHz (turbo to 3.1GHz)

1 x SODIMM DDR4 2133 MHz (max, 16GB)
3 x RS422/485 serial ports with isolation protection
1 x RS232 serial ports
2 x Giga LAN, 2 x USB, 1x HDMI, 1 x VGA
Fanless, High efficiency thermal design with sealed construction
1500V DC power isolation resistance

Marine computer

I330EAC-ID3

“DESIGN FOR INDUSTRIAL AUTOMATION.”

- Design for industrial automation, M2M application, marine computer
- Onboard Intel® Atom® N2600 1.6GHz

1 x DDR3 SODIMM, max. 4GB
3 x RS422/485 communication with isolation protection
Support 8 x GPIO with Phoenix type terminal block
2x Giga LAN, 2x USB, 1x VGA, Line in, Line out, Micro In
Fanless, high efficiency thermal design with sealed construction
1500V DC power isolation resistance

Custom Configuration

Up to 512 GB

Storage

Application

Isolation Protection

MARINE CERTIFIED FOR HEAVY-DUTY APPLICATING

Marine Grade Computers are becoming very important in applications ranging from basic monitor to surveillance navigation and complex ship automation.

Custom Configuration

Up to 512 GB
Storage

AR Glass

Color Calibration

NMEA 0183

DI/DO

Application

Bridge System

ECDIS COMPLIANCE TO REPRODUCE ACCURATE CHART DISPLAY

Marine panel PC featuring a flat edge-to-edge surface and PCAP touchscreen was installed in a bridge system. A large screen and responsive touch allow for intuitive user controls of the bridge system.

10.1”~ 26” Marine Panel PC
ECDIS Series

“PROCESSING POWER AND USER-FRIENDLY INTERFACE.”

- 10.1”/15”/19”/24”/26”, PCAP touchscreen
- IEC 60945, DNVGL, IACS E10
- Windows 10 IoT Enterprise (Optional), Linux Ubuntu 20.04 (Optional)

Capacitive touch keys for display controls
Day, dusk, and night mode
0%~100% backlight brightness dimming control
Panel mount, support VESA mount
Vibration resistant DNVGL CG-0339 (Class A)
Front IP66 waterproof and dustproof (front side)

10.4”~24” Marine Panel PC

Marine Panel PC Series

“ **BRIGHTNESS CONTROL WITH DIMMING KNOB.** ”

- 10.4”~24”, resistive touchscreen
- IEC 60945, DNV 2.4, IACS-E10 certified

Dimming knob control backlight brightness from nearly 0% to 100%

Transflective film technology enhances visibility

Panel (flush) mount IP66 aluminum housing with powder coating design (IP54 rear)

9~36V DC power input acceptable

Custom Configuration

Up to 512 GB

Storage

AG Glass

Application

Navigation Simulator

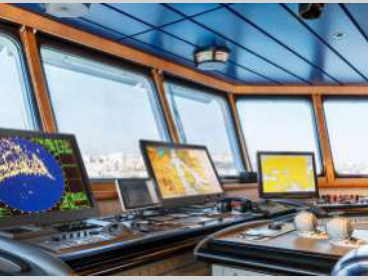
FAST DEPLOYMENT WITH EXISTING NAVIGATION SYSTEM

Winmate 24-inch marine monitor with the resistive touchscreen was installed in a navigation system of a maritime training center. Transmission of RGB and composite video signal was required to integrate with existing systems.

Custom Configuration

AR
Glass

Application



Navigation System

ECDIS RELIABILITY FOR THE REAL MARINE COLORS REPRESENTATION

On Winmate ECDIS, Marine display users can adjust to a day, dusk, or night mode through the capacitive touch key to accommodate any lighting situation.

15″~26″ ECDIS Marine Display

ECDIS Series

“ ECDIS COMPLIANCE. ”

- Projective capacitive multi-touch screen ECDIS Marine Display
- Edge-to-edge narrow bezel design

Fanless cooling system

Color calibrated for ECDIS compliance (Optional)

Capacitive touch keys for quick function access and display control (Support DAY, DUSK, and NIGHT mode switching)

Meet the requirements of industrial marine standards, including IEC60945 4th Edition, DNVGL-CG-0339, IACS E10

10.4”~32” Marine Display

Marine Display Series

“ **SLEEK DESIGN.** ”

- 32”4K with projective capacitive multi-touch screen
- Multi video output ,VGA+DVI+HDMI+DP(M320TF-MR)
- 24V DC power input

Fanless cooling system

Reliable computing certified for marine applications

Sleek design for modern bridge workstations

Video input consists of DVI-D, HDMI, and VGA connectors.

Custom Configuration

AG
Glass

Application

Color Calibrated for ECDIS

SLEEK DESIGN FOR MODERN BRIDGE WORKSTATIONS

Easy to maintain and clean. The glass cover lens provides excellent protection from scratch and reduces the gap for a possible accumulation of dust and liquid.

ECDIS Series

10.1″~ 26″ Marine Panel PC


WINMATE

Defence

Overview

Winmate's rugged computing devices for military applications are designed to be tough and durable and undergo rigorous testing to ensure safety and performance, going beyond military standard compliance.

Winmate understands the needs of the military industry and provides solutions that can overcome these industrial challenges:

- MIL-STD 810-G Testing: For MIL-STD 810G compliance, Winmate tests the product against extreme environmental conditions (temperature, shock, vibration, humidity).
- MIL-STD 461-E/F/G Testing: For MIL-STD 461E/F/G compliance, detailed testing specification ensures that the product meets the requirements for controlling electromagnetic interference.

Built to survive drops, shocks, liquid spills, vibrations, dust, salt, and extreme temperatures, our specially designed military line of products has been tested for compliance to military MIL-STD-810G environmental and MIL-STD 461F EMC standards.

Technology

Military Certifications

All Winmate military products are built and tested according to military standards MIL-STD-810 and MIL-STD-461. Some of the selected products meet MIL-STD-3009 compliance of Type 1 (Direct View Image) Class B NVIS requirements.

MIL-STD-461G

MIL-STD-461G is the primary military testing standard for electromagnetic compatibility (EMC) in devices used by the U.S. Department of Defense (DoD). It outlines specific test procedures for EMC, covering radiated and conducted emissions, as well as radiated and conducted susceptibility. The DoD established the Electromagnetic Compatibility Program to address the importance of detecting illicit signals and electromagnetic interference in military operations.

Notable changes from MIL-STD-461F to MIL-STD-461G include the removal of CS106 and the introduction of CS117 and CS118, representing significant advancements in EMC testing and standards.

MIL-STD-461E/F

MIL-STD-461 is a United States Military Standard that describes testing equipment for electromagnetic compatibility.

Specifically, MIL-STD-461G details testing specifications to ensure the conducted emissions (CE), showed susceptibility (CS), radiated emissions (RE), and radiated susceptibility (RS) of a system can meet the requirements for the control of electromagnetic interference.

- MIL-STD-461 Method - CE101/CE102: Conducted Emissions
- MIL-STD-461 Method - RE101/RE102: Radiated Emissions
- MIL-STD-461 Method - CS101/CS106/CS109/CS114/CS115/CS116: Conducted Susceptibility
- MIL-STD-461 Method - RS101/RS103: Radiated Susceptibility

MIL-STD-810H

The "H" in MIL-STD-810H indicates that it is the eighth revision of the standard. Each revision of MIL-STD-810 incorporates updates and improvements based on advancements in technology and lessons learned from field experience.

MIL-STD-810H covers a broad range of environmental conditions, including temperature, humidity, altitude, vibration, shock, acceleration, rain, sand and dust exposure, solar radiation, fungus, and more. The standard provides detailed testing procedures and performance criteria for each environmental condition, allowing manufacturers to assess and demonstrate the durability and reliability of their equipment.

MIL-STD-810G

The MIL-STD-810 test series are approved for use by all departments and agencies of the United States Department of Defense (DoD).

The standard describes environmental management and engineering processes that can enormously value to generate confidence in a system's environmental worthiness and overall durability.

- MIL-STD-810 Method 501.4: High Temperature
- MIL-STD-810 Method 502.4: Low Temperature
- MIL-STD-810 Method 507.4: Humidity
- MIL-STD-810 Method 514.5: Vibration
- MIL-STD-810 Method 516.5: Shock

Military Connectors

Winmate military Panel PC and Display come with MIL-DTL-38999 type I and III connectors – high-performance cylindrical connectors for cable-to-panel applications in military, air traffic control, or other mission-critical situations.

MIL-DTL-38999/I Power Connector	MIL-DTL-38999/III VGA/RS232/USB-A/LAN
	

Military Standard 1275 Power Supplies

Winmate defense products are equipped with MIL-STD-1275, a standard for 28V DC power attributes in military ground vehicles, ensuring consistency in electrical and electronic equipment connected to the vehicle's power network. Power system designers must adhere to these criteria, while equipment designers are responsible for ensuring their products seamlessly integrate with this power source.

Application Story

Military Vehicle Computer

Background

Precise navigation and robust communications are essential for safe tactic operations in modern military vehicles. Winmate provides rugged, vibration, and shock-resistant computing solutions that are designed to be mounted inside military vehicles.

Core Products

- G-WIN Military Panel PC/ Disptay
- Military Console Rack Panel PC/ Disptay
- 4K UHD Military Display
- Military Tablet

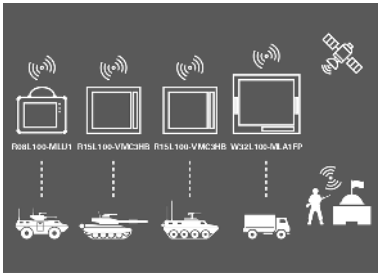
Tank Navigation

Main Challenges

- Strong vibration
- Mounting solution in confined space

Why Winmate

- Wireless communications WWAN, WLAN, and GPS
- Tested for vibration, shock resistance MIL-STD-810G
- Tested for EMI MIL-STD-461



Application Diagram: Military Vehicle

Application Story

Military Rugged Laptop

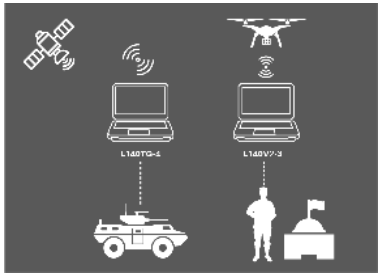
Background

Warfighters also need mobile computing to work basically in the middle of nowhere, which maintains connectivity in remote locations. The better the technology the soldier, airman, marine, or sailor has in the field, the better their decision making and effectiveness. When deciding the right products for military and defense, you should be armed with the right information that leads to better choices.

Winmate L140V2 series pass the drop test from a meter high and impact resistance with performance assurance according to the US Military Standard MIL-STD-810G and certified by IP65 ingress protection to ensure no environment is too hazardous for these fully rugged notebooks.

Core Products

- Flexible storage:
- Versatile performance:
- Long battery life
- Sunlight readable



Application Diagram: Military laptop

Main Challenges

- Strong vibration
- Mounting solution in confined space

Why Winmate

- Winmate help to design and manufacture your unique armed forces and defense solutions

Custom Configuration

Up to 32 GB — Memory

Up to 2 TB — Storage 2nd SSD

Rear Camera

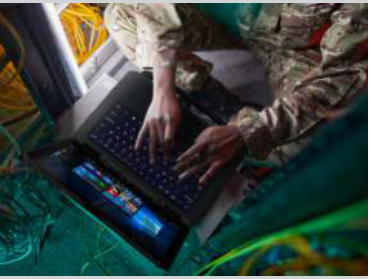
Fingerprint Scanner

HF RFID Reader

WWAN

Expansion Module

Application



Built On Advanced Hybrid Architecture

SUPPORTING FUTURE BEST-IN-CLASS PERIPHERALS

Winmate 14" Rugged Laptap with 12th Gen Intel® Core™ Processors provide support for PCIe 4.0 and DDR5 memory, as well as security and manageability features workload optimization, enhanced graphics and enhanced peripheral, connectivity, and fast memory access capabilities.

13.3"/14" Defense Rugged Laptop

L140AD-3/ L140AD-4

MIL-STD 810H · IP65 · IC · FC · CE

"INTELLIGENT WORKLOAD OPTIMIZATION."

- 13.3 / 14" , 1920 x 1080 LED panel with direct optical bonding
- 12th Gen. Intel® Processor Family – Alder Lake Processor
- Windows 10 IoT Enterprise

Anti-glare technology for sunlight readability
Projective capacitive touch supporting switchable rain/ glove/ stylus modes
Flip design for quick switching between rugged laptop and rugged tablet modes
Magnesium alloy enclosure with double injection for drop protection
IP65 waterproof and dustproof
WLAN & WWAN 4G/5G (Optional)
Dual battery with hot-swappable design for whole-day-work

13.3”/14” Defense Rugged Laptop

L140TG-3/ L140TG-4

“EMPOWER THE PUBLIC SECTOR WITH POWERFUL, RUGGED LAPTOPS.”

- 13.3”, 1920 x 1080, PCAP touchscreen (L140TG-3)
- 14”, 1920 x 1080, PCAP touchscreen (L140TG-4)
- 11th Gen. Intel® Processor Family – Tiger Lake Processor
- Fanless cooling system
- Full-scale QWERTY layout keyboard

Anti-glare technology for sunlight readability

Flip design for quick switching between laptop and tablet modes

Dual battery with hot-swappable design for whole-day-work

Expansion slot supporting optional 2nd removable SSD and smart card reader

IP65 rating and MIL-STD-810H suitable for public safety, vehicle diagnostic and military application

Custom Configuration

Up to 32 GB — Memory

Up to 2 TB — Storage

Camera

Smart Card Reader

Fingerprint Scanner

HF RFID Reader

Application

Rugged Military Laptop

PLANNING AND PRODUCTION DEMAND

With Winmate rugged laptop, the use of armed forces in Europe - can be adapted to a motherboard, dimensions, screen, internal interfaces and accessories.

15.6" Defense Rugged Laptop

L156AD Series

NEW PRODUCT

Custom Configuration

- Up to 64 GB — Memory
- Up to 2 TB — Storage 2nd SSD
- WWAN — WWAN
- Fingerprint Scanner
- RFID — HF RFID Reader
- Brightness
- 4K Ultra HD — HDMI 4K Output
- NVIDIA — NVIDIA Graphic Card

Application

Crank up the Resolution for an Even Better Visual Experience

PLANNING AND PRODUCTION DEMAND

Winmate 15.6" rugged laptop is upgraded with the latest 13th generation Intel® Processor, growing 35% in performance from the previous generations, reaching the highest clock rate of 5.0GHz – achieving premium multitasking performance.

"BOOST PERFORMANCE WITH AI."

- 13th Gen. Intel® Processor Family – Raptor Lake Processor
- Optional discrete NVIDIA Graphic Card
- Windows 10 IoT Enterprise

15.6" FHD and 4K Panel resolution options to fulfill diverse applications

Anti-glare technology for sunlight readability

Projective capacitive touch supporting switchable rain/ glove/ stylus modes

Magnesium alloy enclosure with double injection for drop protection

IP65 waterproof and dustproof

WLAN & optional WWAN 4G/5G (Optional)

Dual battery with hot-swappable design for whole-day-work

10.1”GCS Rugged Handheld Controller

G101M9/ G101TG

NEW PRODUCT

FC CE

“BASED ON THE BEST RUGGED TABLETS.”

- Intel® Tiger Lake Rugged Ground Control Station (G101TG)
- ARM A73 + A53 Rugged Handheld Controller (G101M9)

Low Latency video SW decoder for real-time high-resolution video viewing

All-weather, dust, and water-resistant design (IP65). MIL-grade drop, Shock and vibration

Supports optional WIFI, BT and 4G/5G

With dual antennas, providing improved wireless connectivity and stability

With a removable second battery and a battery life of over 10 hours is a must-have tool for serious UAV pilots

Custom Configuration

WWAN GLONASS Camera

Application

Enhances Security Efficiency

RUGGED GROUND CONTROL STATION FOR TELECOM DRONE FLEET CONTROL

The customer adopted Winmate UAV GCS, a comprehensive ground control station software designed specifically for managing and controlling drone fleets. This cutting-edge solution allowed them to remotely operate their drones, monitor their status, and optimize their flight paths.

Defense Grade Rugged Tablet

M101AD/ M116AD

Custom Configuration

- Up to 32 GB — Memory
- Up to 2 TB — Storage 2nd SSD
- WWAN — WWAN
- Barcode Reader
- RFID — HF RFID Reader
- GigaLAN Port

Application

Empowering Tactical Edge Computing

ROBUST TOOLS FOR REAL-TIME DECISION-MAKING

Tactical Edge Computing is a game-changer. It involves real-time data processing with rugged tablets at the forefront, empowering personnel to make informed decisions in the harshest conditions, revolutionizing situational awareness and mission execution

“BUILT TOUGH, STANDS STRONG”

- 10.1" / 11.6", 1920 x 1200 IPS LED Panel with direct optical bonding
- Intel® Core™ i5-1235U Alder Lake (Up to 4.40GHz)
- Windows 10 IoT Enterprise

IP65 waterproof
Dustproof, MIL-STD-810H shock, vibration and drop resistance
Sunlight readable with anti¬glare solution
Hot-swappable battery design
USB Type-C port support power delivery 20V-in
WLAN & optional WWAN 4G/5G (Optional)
Dual battery with hot-swappable design for whole-day-work

5” Rugged Handheld Computer

E500QK-ML

NEW PRODUCT

“RUGGED DESIGN BUILT TO SURVIVE.”

- 5”, 1280 x 720, touchscreen
- Qualcomm® Snapdragon™ 660 (Octa-core 2.2 GHz)
- Android 9.0

Optical bonding for sunlight viewability
8 MP webcam, 13 MP rear camera with autofocus
WLAN, BT, GPS/ AGPS
19 keypad include power key
Military standard connector (Optional)
Ambient light sensor, E-Compass, Gyro, acceleration sensors
IP67 waterproof and dustproof
MIL-STD-810G shock, vibration and drop resistance

Custom Configuration

Docking Connector

NFC Reader

Military Connector

Expansion Port

Application

Field Training Exercises

COMPACT AND DURABLE HANDHELD COMPUTER

Rugged specifications of the compact E500QK handheld computer mean that military personnel can take photos, enter data, and take photos in any harsh environment. The latest Android operating system offers tremendous potential for developing or adapting mobile computer applications, allowing the military to acquire the newest technology rapidly.

Custom Configuration

Up to 8 GB — Memory

Up to 256 GB — Storage

GPS/ GLONASS

WWAN

EMI Glass/ Touch

Application

Temperature Tolerance

BUILT-IN BACKUP BATTERY

The FM10E-VML contains a backup battery (minimum 30 minutes) that enables the device to be seamlessly swappable from one dock to another, keeping your tasks going on without interruption.

10.4" / 12.1" Vehicle Mounted Defence Panel PC

FM10E-VML/ FM12E-VML

NEW PRODUCT

COMPLIANT MIL-STD 461G · COMPLIANT MIL-STD 810H · IP65 · FC CE

"VIBRATION AND SHOCK PROOF DESIGN."

- Intel® Elkhart lake x6425E Processor
- 1024 x 768 Panel with PCAP touch screen
- IP65 waterproof and dustproof

Wide power input 9-36V DC with ignition
Wide range operating temperature
Support VESA Mount
IO ports with Military grade 38999 connectors
Compliant MIL-STD 810H/ MIL-STD 461G

8.4”/ 10.4" Defence Ultra-Rugged Tablet

Intel® Pentium® N4200 Series

> “ BUILT TO HANDLE THE TOUGHEST TASKS. ”

- 8.4”/ 10.4”, resistive touchscreen
- Intel® Pentium® N4200 Apollo Lake 1.1 GHz (up to 2.5 GHz)
- Windows 10 IoT Enterprise

With daylight-readable screen 700 nits, optical bonding for clarity increasing and readability enhancing
Ecological seals protect ports as well as connectors from moisture and dust
Adjustable kickstand that is convertible to a handle
Magnesium alloy housing with all-around elastomeric rubber
MIL-STD-38999 connector for LAN/USB2.0, RS232/ RS422 and DC Power Input
IP54 waterproof and dustproof
MIL-STD-810G shock, vibration, and drop resistance

Custom Configuration

Up to 8 GB — Memory

Up to 512 GB — Storage

GLONASS

WWAN

Application

Military Field Exercises

RUGGED AND ERGONOMIC

With military application-tailored accessories, the 10.4-inch Ultra-Rugged Tablet R08IP8M-RTU1ML offers an ultimate solution for military training. The tablet withstands the rigors of harsh environments: dust, rain, and drops on the ground.

Custom Configuration

Up to 16 GB — Memory

Up to 512 GB — Storage

WWAN — WWAN

GLONASS

Application

Tactical Operations

POWERFUL, COMPACT, AND RUGGED

Durable housing of 10.1-inch Rugged Tablet R10IW8M is strong enough to withstand shocks, jolts, drops, and prolonged vibration. And impervious to incursion by dust, dirt, water and other liquids, or any contaminant.

8.4"/ 10.1"/10.4" Defence Ultra-Rugged Tablet

Intel® Core i5 Series

COMPLIANT MIL-STD 461G

COMPLIANT MIL-STD 810G

FC CE

“FEATURES MILITARY-SPECIFIC INTERFACES.”

- 8.4”/ 10.1” /10.4” Panel with direct optical bonding
- 8th Gen. Intel® Core™ i5-8265U,1.6 GHz (turbo up to 3.90 GHz)
- Adjustable Kickstand that is Convertible to a handle

Ecological seals protect ports as well as connectors from moisture and dust

MIL-STD-38999 connector for Giga LAN, RS232/ RS422 and Power Input

With daylight-readable screen 800 nits optical bonding for clarity increasing and readability enhancing

Sunlight readable display with touchscreen

Supports GPS GLONASS, Galileo, BeiDou (Optional)

Magnesium alloy housing with all-around elastomeric rubber

13.3" Defence Rugged Tablet

M133KML(HB)

"FIELD MOBILITY FOR MISSION CRITICAL."

- 13.3", Resolution Transflective TFT-LCD Panel
- Intel® Core™ i5-7200U 2.5 GHz, up to 3.10 GHz
- Windows 10 IoT Enterprise

4 GB SODIMM DDR4-2400
128 GB M.2 SSD
MIL-STD-38999 connectors: RJ45/ USB 2.0/ RS-232
2 x USB 3.0, 1 x USB 3.1(Type C)
2 MP front camera, 5 MP rear camera with autofocus
WLAN, BT, GPS/ GLONASS
Battery operating time up to 11 hours
IP65 waterproof and dustproof
MIL-STD-810G shock, vibration, and drop resistance

Custom Configuration

Up to 16 GB — Memory

Up to 512 GB — Storage

Up to 512 GB — 2nd Storage

WWAN

Battery Hotswap

Application

Combat Mission Navigation

BRILLIANT LARGE SUNLIGHT READABLE SCREEN

Ranger commander uses the M133KML ultra-rugged tablet to explain the combat mission and points. Designed for those in the field, the M133KML features an adjustable handle easily convertible to a kickstand for extra convenience.

8.4”~15” G-WIN Military Panel PC

G-WIN Military Series

Custom Configuration

- Up to 8 GB — Memory
- Up to 512 GB — Storage
- EMI Mesh Coating
- RS232
- 9~36V DC — DC Power Input
- AR Glass
- WLAN — WLAN

Application

Military Vehicle

FAST COMPUTING AND RICH CONNECTIVITY

Compact and rugged G-WIN military panel PC with powerful processor and latest operating system now controls a military armored vehicle's navigation system.

“ WIRELESS CONNECTIVITY AND RUGGED FORM FACTOR. ”

- Military grade power connector
- Ultra Low Power and High Performance Intel® Celeron® Bay Trail N2930 1.83 GHz
- Fanless Design

Full IP65 dust/water resistant protection (except I/O parts)
Aluminum housing with anti-corrosion treatments
Anti-shock and vibration standard according to MIL-STD-810G & IEC60068-2-27
5 wire resistive touchscreen/ anti-reflection protection glass (Optional)
Wireless LAN with antenna (Optional)
Wide range 9 to 36 V DC input (Optional)

15”~24” Defence Console Rack Panel PC

Rack Mount Series

“POWERFUL PROCESSING AND LATEST OS.”

- Anti-Corrosion Housing/ Fanless
- Projective touch/ Resistive touch
- Compliant with MIL-STD-810G , MIL-STD-461E/F

Flush Rack / Rack Mount Mechanical Design

Convenient On-Screen Display Controls

AC 110~240 V Power input default

Isolation DC 9~36 V Power input (Optional)

Built-in Light Sensor for auto brightness control

Custom Configuration

Up to 32 GB — Memory

Up to 512 GB — Storage

EMI Mesh Coating

AR Glass

9~36V DC — DC Power Input

RS232

Application

Military Training Center

COMPATIBLE WITH OUR EXISTING SYSTEM DESIGN

Military-grade panel PC was installed in a new military training center facility in Europe. The solution simulates real experience on the field.

Custom Configuration

EMI Mesh Coating

DC Power Input

PCAP Touch

RS232

AR Glass

Application

Reliable Computing

COMMAND CENTER FOCUSED DESIGN

Increase the efficiency of the command center and control room personnel. Built your ergonomic command console that complies with defence and defense precise needs with Defence Console Rack Displays that feature rack mount mechanical design (8U).

15.6”~55” Defence 4K2K Display

4K2K UHD Rack Mount Series

NEW PRODUCT

“4K2K UHD TFT PALEL.”

- Display with 4K2K UHD Rack Mount Display (3840 x 2160) native resolution
- AC 100~240V, Universal, ±10%; DC 9~36V, ±10% (Optional)

Compliant MIL-STD 810G/ MIL-STD 461E/F/G

Convenient on-screen display controls

Military-grade power connector (MIL-DTL-38999/1)

PCAP multi-touch screen

Rack mount mechanical design, supports VESA mount

32” 4K UHD Chassis Defence Display

M320TF-MIL

“RUGGED CONSTRUCTION AND RESPONSIVE TOUCH SCREEN.”

- 32” Display with 4K UHD native resolution
- Compliant MIL-STD 810G/ MIL-STD 461E/F/G
- Support VESA mount

Thin and compact design with impact resistant screen
AR glass, PCAP touch optional , 4K UHD chassis defence display
Fanless design, easy-to-clean
Compatible with existing imaging systems
Build-in light sensor for auto brightness control

Custom Configuration

PCAP Touch

Brightness 700 nits

EMI Glass/ Touch

RS232

USB for Touch

HDMI

Application

Command Control Room

MILITARY GRADE COMPLIANCE

The military console rack display was mounted in a command center on a military base. Full military compliance and ruggedness allow for easy implementation.


FIELD MOBILITY
FOR MISSION
CRITICAL.
COMPLIANT
MIL-STD
461G
COMPLIANT
MIL-STD
810G
Rugged Handheld Computer
E500QK-ML


WINMATE
COMPLIANT
MIL-STD
461G
COMPLIANT
MIL-STD
810G
Defence Rugged Tablet
M133KML(HB)


TO MEET NEAR-
TERM AND
LONG-TERM
MISSION NEEDS.


COMPLIANT
MIL-STD
810H
INGRESS
PROTECTION
IP65