MilDef RW14

Rugged workstation with built-in RAID

The MilDef RW14 offers a rugged 15.6” workstation with a powerful Intel® Xeon® processor, optional NVIDIA® GPU card and RAID support. Designed for tactical military environments where reliability and performance are key.

Customizable
Are you looking for features and functions beyond the standard solutions offered by large commercial manufacturers? MilDef products are designed to enable customization to your specific program requirements, e.g. connectors, chassis modifications, mounting solutions, etc. Contact your nearest MilDef Sales Office and we will help you to find a solution that meets your requirements.

Guaranteed performance
All MilDef products come with comprehensive lifecycle sustainment support to ensure your equipment maintains peak performance for many missions to come. We also guarantee the availability of spare parts for 5 years after product end-of-life.

Features

- 15.6” display
- Intel® Xeon® E-2176M
- Up to 64 GB RAM
- NVIDIA® GeForce® GTX1050 (optional)
- 850 nit Full HD LCD
- 4x Removable SSD, RAID capable
- 2x Removable Battery
- Docking connector
- Wi-Fi, Bluetooth, & GPS (optional)
- TPM 2.0 (optional)

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Technical Specification

CPU	Intel® Xeon® E-2176M Processor
Display	15.6" FHD LCD (1920x1080) with Optical Bonding Standard: 270 nits *High brightness: 850nits* ***optional***
Keyboards	83-key w. Backlight (Membrane Type) Resistive Touchpad (Single touch)
Case	CNC milled Aluminium (Black or Green)
Software	
Operating system	Windows 10, Windows Server 2016* & Windows Server 2019*
Memory	
RAM	Up to 64 GB DDR4 2400 MHz (4x SO-DIMM) ECC / non ECC
Storage	Up to 4 x SATA III SSD Intel RAID 0, 1, 5, 10 support
Graphics	
GPU (standard)	Intel® UHD Graphics P630
GPU (optional)	Nvidia® GeForce® GTX1050 4GB
Battery	
Battery	2x 10,8V / 5980 mAh Li-Ion
Battery (extended temperature)	*2x 10,8V / 5000mAh Li-Ion* ***optional*** *(needed for - 30°C option)*
Sound	
Audio	HD Audio and Stereo Speakers
Security & Management	
TPM	*TPM2.0* ***optional***
Smart card	*Smart Card reader* ***optional***
Intel vPro	Supported
Interfaces	
Ethernet	1x Ethernet 1000Base-T *1x Additional Ethernet 1000Base-T* ***optional***
WIFI/Bluetooth	802.11 a/b/g/n/ac ***optional*** Bluetooth 5.0 ***optional***
GPS	Ublox Neo-M8N GPS/GLONASS ***optional***
USB	1x USB 3.1 Gen 2 (w. fast charging) 3x USB 3.1 Gen 2
Video out	1x VGA 1x Display port
Docking port	Yes
Speaker	Stereo Speakers
Audio out / Line in	Stereo / Stereo
Mic	Mic in mono Digital Mic ***optional***
Serial	2x COM** 2x Additional COM* ***optional***

Technical Specification (cont.)

Size & Weight	
Dimensions with bumpers (W x D x H)	392 x 302 x 43 mm (15.4 x 11.9 x 1,7 inch)
Weight	4,9 kg (incl Wi-Fi, 2x battery, 1x SSD)
Temperature Range	
Operational DC	-20°C to +60°C (-4°F to +140°F) Battery is charging between 10°C to +45°C (+50°F to +113°F)
Operational DC (-30°C option)	-30°C*** to +60°C (-22°F*** to +140°F) Battery is charging between 0°C to +45°C (+32°F to +113°F)
Operational Battery (Standard Battery)	-20°C +60°C (-4°F to +140°F)
Operational Battery (Ext. Temp Battery)	-30°C + 60°C (-22°F to +140°F)
Storage	-40°C to +71° (-40°F to +160°F)
Reliability	
MTBF (Ground Benign)	55 670h (60°C)
MTTR	15.934 minutes
Power	
Power input	19 VDC 12- 32 VDC w. surge protector ***optional***
Operating time	6 hours
Power consumption	Configuration: 64GB RAM, 128GB SSD, w/o NVIDIA GPU, no battery charge Idle: 20W Typical: 90W
AC Adapter	Please see the accessories section
Standards	
CE / FCC	Yes / Yes
REACH	Yes
Environment	MIL-STD-810H IP65
EMC/EMI	MIL-STD-461G Ground Navy ***optional*** MIL-STD-461G Ground Army ***optional***
Warranty	
Warranty	5 years

Customization

Need anything not included in the data sheet? MilDef products are designed to enable customization to your specific program requirements. Please contact your MilDef sales team member to find the best solution for your requirements.

** Radio frequency devices and Intel onboard graphics are not supported by Windows Server 2016 & 2019*

*** Can be selected via BIOS RS232/RS422/RS485*

****LCD Heater active up to -20C* / -4°F*

Accessories & Options	
AC/DC Adapters	
AC Adapter 200W (EU) – Indoor Use	110/220VAC (100~240 VAC), 50/60 Hz
AC Adapter 200W (US) – Indoor Use	110/220VAC (100~240 VAC), 50/60 Hz
AC Adapter 200W Ground Army – Indoor Use (EU)	110/220VAC (100~240 VAC), 50/60 Hz
AC Adapter 200W Ground Army – Indoor Use (US)	110/220VAC (100~240 VAC), 50/60 Hz
AC 150 – AC adapter 150W Ground Navy (IP65, MIL-STD-810G, MIL-STD-461F & Wide temp)	110/220VAC (90~264 VAC), 50/60 Hz or 400Hz
AC 150 – AC adapter 150W Ground Army (IP65, MIL-STD-810G, MIL-STD-461F & Wide temp)	110/220VAC (90~264 VAC), 50/60 Hz or 400Hz
Chargers	
Multi battery charger	Charger for 2x 10,8V batteries
Mounting & Transport	
Docking and mounting solutions	Please get in contact with your MilDef sales office for options
Bag / Backpack	Please get in contact with your MilDef sales office for options
Carrying Handle	Standard option.
Operating system	
Windows 10	
Windows Server 2016	
Windows Server 2019	

Environmental Specification	
Low Air pressure	
Low air pressure – Rapid Decompression MIL-STD-810H, Method 500.6, *Procedure I - Storage/Air Transport*	12.192 m / 40.000 ft
Low air pressure - Operating MIL-STD-810H, Method 500.6, *Procedure II - Operation/Air Carriage*	4.572 m / 15.000 ft
IP Class	
IP	IP65
Freeze/Thaw	
Freeze/Thaw – Operating MIL-STD-810H, Method 524.1 Procedure III - Rapid Temperature Change	According to method and procedure
Humidity	
Humidity – Storage MIL-STD-810H, Method 507.6 Procedure II (Aggravated) - Figure 507.6-7	24-hours per cycle / Total of 10 cycles Between 30°C (86°F) and 60°C (140°F) with the relative humidity at 95% constant
Rain	
Rain – Operating MIL-STD-810H, Method 506.6 *Procedure II*	276kPa(40psig) 5-surfaces 40-minutes/surface
Shock	
Functional Shock - Operating MIL-STD-810H, Method 516.8 Procedure I - Figure 516.8-3	Table 516.8-IV 40g, 11ms Terminal-peak sawtooth shock pulse
Salt Fog	
Salt fog - Storage MIL-STD-810H Method 509.7	Salt concentration of 5 % +- 1 % (by weight) 24 h wet + 24 h dry /cycle Total 2 cycles / 96 hours
Temperature	
Low temperature - Operating MIL-STD-810H Method 502.7 *Procedure II – Operation*	-20 °C / -4 °F (optional -30 °C / -22 °F)
Low temperature - Storage MIL-STD-810H Method 502.7 *Procedure I – Storage*	-40 °C / -40 °F
High temperature - Operating MIL-STD-810H Method 501.7 *Procedure II – Operation*	60 °C / 140 °F
High temperature - Storage MIL-STD-810H Method 501.7 *Procedure I – Storage*	71 °C / 160 °F
Temperature Shock – Non-Operating MIL-STD 810H Method 503.7 *Procedure I–C (Figure 503.7-3)*	-40°C / -40°F to 71°C / 160°F
Vibrations	
Vibration - Operational MIL-STD-810H, Method 514.8 *Category 20* - Ground Vehicles-ground mobile	Table 514.8C-VII Composite wheeled vehicle vibration exposure Figure 514.8C-6, 60-minutes/axis
Vibration Storage MIL-STD-810H, Method 514.8 *Category 24 - General minimal integrity*	60-minutes/axis

EMC Specification	
MIL-STD-461G	
MIL-STD-461G, Method CE101	Conducted emissions, power leads 30Hz to 10KHz
MIL-STD-461G, Method CE102	Conducted emissions, power leads 10 kHz to 10 MHz
MIL-STD-461G, Method CS101	Conducted susceptibility, power leads 30 Hz to 150 kHz Curve #1
MIL-STD-461G, Method CS114	Bulk cable injection 10kHz to 200MHz
MIL-STD-461G, Method CS115	Conducted susceptibility, bulk cable injection, impulse excitation
MIL-STD-461G, Method CS116	Conducted susceptibility, damp sinusoidal transients, cables and power leads, 10 kHz to 100 MHz
MIL-STD-461G, Method CS118	Personnel borne electrostatic discharge – All (ESD)
MIL-STD-461G, Method RE101	Radiated emissions, magnetic field 30Hz to 100kHz
MIL-STD-461G, Method RE102	Radiated emissions, electric field 10kHz to 18GHz
MIL-STD-461G, Method RS101	Radiated susceptibility, magnetic field 30Hz to 100kHz
MIL-STD-461G, Method RS103	Radiated susceptibility, electric field 2MHz to 18GHz