

# 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 128 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)

## Technical Specification

|                                  |  |
|----------------------------------|--|
| CPU                              | Intel® Xeon® E-2176M Processor   |
| Display                          | 15.6" FHD LCD (1920x1080) with Optical Bonding<br>Standard: 270 nits<br><i>High brightness: 850nits optional</i> |
| Keyboards                        | 83-key w. Backlight (Membrane Type)<br>Resistive Touchpad (Single touch)   |
| Case                             | CNC milled Aluminium<br>(Black or Green)   |
| <b>Software</b>                  |  |
| Operating system                 | Windows 10, Windows Server 2016* & Windows Server 2019*  |
| <b>Memory</b>                    |  |
| RAM                              | Up to 128 GB DDR4 2400 MHz (4x SO-DIMM) ECC / non ECC  |
| Storage                          | Up to 4 x SATA III SSD<br>Intel RAID 0, 1, 5, 10 support   |
| <b>Graphics</b>                  |  |
| GPU (standard)                   | Intel® UHD Graphics P630   |
| GPU (optional)                   | Nvidia® GeForce® GTX1050 4GB   |
| <b>Battery</b>                   |  |
| Battery                          | 2x 10,8V / 5980 mAh Li-Ion   |
| Battery (extended temperature)   | 2x 10,8V / 5000mAh Li-Ion <i>optional (needed for - 30°C option)</i>   |
| <b>Sound</b>                     |  |
| Audio                            | HD Audio and Stereo Speakers   |
| <b>Security &amp; Management</b> |  |
| TPM                              | <i>TPM2.0 optional</i>   |
| Smart card                       | <i>Smart Card reader optional</i>  |
| Intel vPro                       | Supported  |
| <b>Interfaces</b>                |  |
| Ethernet                         | 1x Ethernet 1000Base-T<br><i>1x Additional Ethernet 1000Base-T optional</i>                                      |
| WiFi/Bluetooth                   | 802.11 a/b/g/n/ac <i>optional</i><br>Bluetooth 5.0 <i>optional</i>   |
| GPS                              | Ublox Neo-M8N GPS/GLONASS <i>optional</i>  |
| USB                              | 1x USB 3.1 Gen 2 (w. fast charging)<br>3x USB 3.1 Gen 2  |
| Video out                        | 1x VGA<br>1x Display port  |
| Docking port                     | Yes  |
| Speaker                          | Stereo Speakers  |
| Audio out / Line in              | Stereo / Stereo  |
| Mic                              | Mic in mono<br>Digital Mic <i>optional</i>   |
| Serial                           | 2x COM**<br>2x Additional COM* <i>optional</i>   |

## Technical Specification (cont.)

|   |  |
|---|--|
| <b>Size &amp; Weight</b>  |  |
| Dimensions with bumpers (W x D x H)   | 392 x 302 x 43 mm<br>(15.4 x 11.9 x 1,7 inch)  |
| Weight  | 4,9 kg (incl Wi-Fi, 2x battery, 1x SSD)  |
| <b>Temperature Range</b>  |  |
| Operational DC  | -20°C to +60°C (-4°F to +140°F)<br>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)<br>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)  |
| <b>Reliability</b>  |  |
| MTBF (Ground Benign)  | 55 670h (60°C)   |
| MTTR  | 15.934 minutes   |
| <b>Power</b>  |  |
| Power input   | 19 VDC<br>12- 32 VDC w. surge protector <i>optional</i>  |
| Operating time  | 6 hours  |
| Power consumption   | Configuration: 64GB RAM, 128GB SSD, w/o NVIDIA GPU, no battery charge<br><br>Idle: 20W<br>Typical: 90W<br>Please see the accessories section |
| <b>Standards</b>  |  |
| CE / FCC  | Yes / Yes  |
| REACH   | Yes  |
| Environment   | MIL-STD-810H<br>IP65   |
| EMC/EMI   | MIL-STD-461G Ground Navy <i>optional</i><br>MIL-STD-461G Ground Army <i>optional</i>   |
| <b>Warranty</b>   |  |
| Warranty  | 5 years  |
| <b>Customization</b>  |  |
| 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 -20°C / -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<br>(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<br>(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<br>30Hz to 10KHz  |
| MIL-STD-461G, Method CE102 | Conducted emissions, power leads<br>10 kHz to 10 MHz   |
| MIL-STD-461G, Method CS101 | Conducted susceptibility, power leads<br>30 Hz to 150 kHz Curve #1                                 |
| MIL-STD-461G, Method CS114 | Bulk cable injection<br>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,<br>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<br>30Hz to 100kHz   |
| MIL-STD-461G, Method RE102 | Radiated emissions, electric field<br>10kHz to 18GHz   |
| MIL-STD-461G, Method RS101 | Radiated susceptibility, magnetic field<br>30Hz to 100kHz  |
| MIL-STD-461G, Method RS103 | Radiated susceptibility, electric field<br>2MHz to 18GHz   |