

# MilDef RK12



## 15" Military-Rugged Laptop

The MilDef RK12 rugged computer is designed from the inside out to perform in the most extreme conditions over the long haul. With a subtly updated classic form factor and new technology on the inside, a powerful Intel® quad core i7 CPU, and up to 32GB of RAM you will get impressive computing performance with a long lifecycle.

### 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

- Intel® Core™ i7-6822EQ
- Up to 32 GB RAM
- 15" display
- 900 nits (option)
- Docking connector
- Flexbay
- Wi-Fi, BT, & GPS (option)
- Touch Screen (option)
- Smart Card slot (option)
- TPM 2.0 (option)
- Express card slot

## Technical Specification

CPU	Intel® i7-6822EQ
Display	15" LCD Resolution: UXGA (1600x1200) Brightness: 450 nits High Brightness: 900 Nits <b>optional</b> Single Touch screen <b>optional</b>
Keyboards	83-key w. Backlight (Membrane Type) Resistive Touchpad (Single touch)
Case	Magnesium Alloy (Black or Green)

### Software

Operating system	Windows 7 & Windows 10
------------------	------------------------

### Memory

RAM	Up to 32 GB DDR4 2133 MHz
Storage	1x SATA III SSD 1x additional SATA III <b>optional</b>

### Graphics

GPU	Intel® HD Graphics 530
-----	------------------------

### Battery

Battery	10,8V / 7500 mAh Li-Ion (primary) 10,8V / 7500 mAh Li-Ion (secondary) <b>optional</b>
---------	---

### Sound

Audio	HD Audio and Stereo Speakers
-------	------------------------------

### Security & Management

TPM	TPM2.0 <b>optional</b>
-----	------------------------

### Interfaces

Ethernet	1x Ethernet 1000Base-T 1x Additional Ethernet 1000Base-T <b>optional</b>
WiFi/Bluetooth	802.11 a/b/g/n/ac <b>optional</b> Bluetooth 4.2 <b>optional</b>
GPS	Ublox Neo-M8N GPS/GLONASS <b>optional</b>
USB	2x USB 3.1 Gen 2 1x USB 2.0 (w. fast charging) 1x USB 2.0
Video out	1x VGA 1x Display port 1x DVI
Flex bay	Yes <b>optional</b>
Express card slot	Yes
Docking port	Yes
Speaker	Stereo Speakers
Audio out / Line in	Yes / Yes
Mic	Mic in mono
Serial	2x COM* 2x additional COM* <b>optional</b>

## Technical Specification (cont.)

### Size & Weight

Dimensions with bumpers (W x D x H)	352 x 294 x 79 mm (13.8 x 11.6 x 3.1 Inches)
Weight	6 kg (depending on configuration)

### Temperature Range

Operational DC	-20°C to +55°C (-4°F to +131°F) -30°C** to +55°C <b>optional</b> (-22°F** to +131°F)
----------------	--

Battery is charging between  
0°C to +45°C (+32°F to +113°F)

### Storage

Storage	-40°C to +71° (-40°F to +160°F)
---------	---------------------------------

### Reliability

MTBF (Ground Benign)	25 825 hours
MTTR	15.983 minutes

### Power

Power input	19 VDC 12- 32 VDC w. surge protector <b>optional</b>
Battery Operating time	7-9 hours (JEITA 1.0)
Power consumption	60 W (100% LCD / no charging)
AC Adapter	Please see the accessories section

### Standards

CE / FCC / UKCA	Yes / Yes / Yes
REACH	Yes
Environment	MIL-STD-810H IP65
EMC/EMI	MIL-STD-461G Ground Navy MIL-STD-461G Ground Army <b>optional</b>

### 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.

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

\*\* -40°C option is possible

\*\*\* -30°C option



## Accessories & Options

### AC/DC Adapters

AC Adapter 90W (EU) – Indoor Use	110/220VAC (100~240 VAC), 50/60 Hz
AC Adapter 90W (US) – Indoor Use	110/220VAC (100~240 VAC), 50/60 Hz
AC Adapter 90W Ground Army – Indoor Use (EU)	110/220VAC (100~240 VAC), 50/60 Hz
AC Adapter 90W Ground Army – Indoor Use (US)	110/220VAC (100~240 VAC), 50/60 Hz
AC90 – AC adapter 90W Ground Navy (IP65, MIL-STD-810G, MIL-STD-461F & Wide temp)	110/220VAC (90~264 VAC), 50/60 Hz or 400Hz
AC90 – AC adapter 90W 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 both primary and secondary 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 7  
Windows 10

## Environmental Specification

### Low Air pressure

Low air pressure – Rapid Decompression MIL-STD-810G w/ change 1, Method 500.6, <i>Procedure I - Storage/Air Transport</i>	12.192 m / 40.000 ft
Low air pressure - Operating MIL-STD-810G w/ change 1, Method 500.6, <i>Procedure II - Operation/Air Carriage</i>	4.572 m / 15.000 ft

### IP Class

IP	IP65
----	------

### Freeze/Thaw

Freeze/Thaw – Operating MIL-STD-810G w/ change 1, Method 524.1 <i>Procedure III - Rapid Temperature Change</i>	According to method and procedure
--	-----------------------------------

### Humidity

Humidity – Storage MIL-STD-810G w/ change 1, Method 507.6 <i>Procedure II (Aggravated) - Figure 507.6-7</i>	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-810G w/ change 1, Method 506.6 <i>Procedure II</i>	276kPa(40psig) 5-surfaces 40-minutes/surface
---	--

### Shock

Functional Shock - Operating MIL-STD-810G w/ change 1, Method 516.7 <i>Procedure I - Figure 516.7-10</i>	Table 516.7-IV Terminal-peak sawtooth shock pulse 40g, 11ms
--	---

### Salt Fog

Salt fog - Storage MIL-STD-810G w/ change 1, Method 509.6	Salt concentration of 5 % +- 1 % 24 h wet + 24 h dry /cycle Total 2 cycles / 96 hours
--	---

### Temperature

Low temperature - Operating MIL-STD-810G w/ change 1, Method 502.6 <i>Procedure II – Operation</i>	-20 °C / -4 °F (optional -30 °C / -22 °F)
Low temperature - Storage MIL-STD-810G w/ change 1, Method 502.6 <i>Procedure I – Storage</i>	-40 °C / -40 °F
High temperature - Operating MIL-STD-810G w/ change 1, Method 501.6 <i>Procedure II – Operation</i>	55 °C / 131 °F
High temperature - Storage MIL-STD-810G w/ change 1, Method 501.6 <i>Procedure I – Storage</i>	71 °C / 160 °F
Temperature Shock – Non-Operating MIL-STD 810G w/ change 1, Method 503.5 <i>Procedure I–C (Figure 503.5-3)</i>	-40°C / -40°F to 71°C / 160°F

### Vibrations

Vibration – Operating	
A. MIL-STD-810G w/ change 1, Method 514.7 <i>Category 20 - Ground Vehicles-ground mobile</i> Table 514.7C-V Composite wheeled vehicle vibration exposure Figure 514.7C-4, 60-minutes/axis	
B. MIL-STD-810G w/Change 1, Method 514.7 <i>Category 14 - Rotary wing aircraft-Helicopter</i> Table 514.7D-IIIa (OH-58AC), Figure 514.7D-3, 60-minutes/axis	
C. MIL-STD-810D, Method 514.6 <i>Procedure I, Category 20 - Tracked Vehicle</i> Figure 514.6D-8, (M548) 60-minutes/axis	

### Vibration Storage

MIL-STD-810H, Method 514.8 <i>Category 24 - General minimal integrity</i> 60-minutes/axis
--



## EMC Specification (optional)

### 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	Conducted susceptibility 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 40GHz