

# RLC-3

## RUGGED LAPTOP COMPUTER

### **INTEL® CORE™ 2 DUO PROCESSOR TECHNOLOGY DELIVERS FASTER, MORE POWERFUL PERFORMANCE IN A LIGHTER WEIGHT, MORE VERSATILE PACKAGE.**

It is still the rugged, militarized laptop that you count on in heat, cold, dust, sand, water, salt fog, humidity, and bright sun. It's even more compact, with a slimmed down design and lighter weight, yet with a larger 15.4" WXGA display. The RLC-3 continues to meet all EMI/C requirements and now the Intel® Core™ 2 Duo processor technology adds faster speeds, interface design flexibility, and unsurpassed performance.

VT Miltope's next generation rugged laptop is powered by the 45nm Intel® Core™ 2 Duo T9400 Mobile Processor and features 2.53 GHz clock speed with 6MB L2 cache and 1066 MHz front side bus. DDR3 Dual Channel Memory comes with up to 8 GB at 1066 MHz. It also features Integrated Intel® graphics, with Mobile Graphics Media Accelerator 4500MHD and up to 533 MHz graphics core performance.

The most dramatic next-generation capability is in the power of Intel® Core™ 2 Duo processor technology to significantly improve range, wireless performance, battery life, and speed, coupled with VT Miltope's flexible I/O design. There are ample USB ports (4), Ethernet (Gigabit) (2), RS-232/485 (2), eSATA, audio in and out, and video (analog and digital), all managed by the Intel® ICH9M I/O controller hub. VT Miltope's patented modular I/O technology can handle all kinds of I/O options specified for any program including 1553 data bus, video capture, async, serial and more.

VT Miltope's RLC-3 continues the lineage of ultra-rugged computers serving in the harshest environments in the world. Now with the addition of the revolutionary Intel® Core™ 2 Duo processor technology, we reinforce our commitment to provide the ultimate in rugged mobile computing to the people who need it most — those who serve.

### **KEY BENEFITS:**

- Features Intel® Core™ 2 Duo processor technology
- Faster, more powerful performance in a rugged portable computing system for military tactical operations
- Delivers the fastest-yet 3D video thanks to its Intel® Mobile Graphics Media Accelerator 4500MHD
- Developed specifically to meet qualification testing and safety/material release by the US Army
- Industry leading five year warranty



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**PROCESSOR:** Intel® Core™ 2 Duo T9400 Mobile Processor includes a 2.53 GHz Processor, 6 MB L2 cache, 1066 MHz Front Side Bus

**OPERATING SYSTEM:** Windows® Vista (XP downgrade available IAW Microsoft licensing provisions) Linux validated for initial release

**RAM:** Up to 8 GB DDR3; Integrated Intel® Mobile Graphics Media Accelerator 4500MHD 352 MB VRAM Allocation DVMT 5.0

**STORAGE:** Removable Solid State or Rotating Shock Isolated Hard Disk Drive SATA (3 Gigabit/per second); Rotating 80 GB standard; 40-320 GB optional; Solid-state 16-256 GB optional

**DISPLAY SYSTEM:** 15.4" WXGA (1280 x 800), Sunlight Readable AMLCD; optional higher resolutions up to WSXGA+ (1680 x 1050)

**KEYBOARD/POINTING DEVICE:** Rugged keyboard with tactile feel, touchpad and mouse "stick"

**INTERFACES:** Two RS-232/422/485-2/4 wire SW configurable, four USB 2.0, Analog (SVGA)/Digital (DisplayPort), two 10/100/1000 Ethernet, eSATA 3Gbps, audio (3) with ports, PCMCIA - 2x Type I or II or 1x Type III, Express Card/54, Smart Card, 802.11 a/b/g/n wireless

**PERIPHERALS:** DVD+RW/CD-RW; optional Blu-ray

**PHYSICAL:** Dimensions 15"W x 3"H x 11"D; Weight ~11 lbs. (configuration dependent)

**POWER:** Rugged AC adapter/charger and AC power cord, Single DR36 Form Factor Li-Ion 7200 mAh rechargeable battery

## ENVIRONMENTALS

**TEMPERATURE:** MIL-STD-810F, Method 501.4/502.4, Procedure II (3 cycles); -30°C to +60°C, ramp of 5°C per minute (-40°C with optional heater kit); Procedure II (5 cycles); Non-Operating -51°C to +71°C, ramp of 5°C per minute

**NON-OPERATING THERMAL SHOCK:** MIL-STD-810F, Method 503.4, Proc. I (Steady State); (+71°C to -51°C 3 cycles, high to low = 1 cycle)

**SOLAR RADIATION:** MIL-STD-810F, Method 505.4, Procedure I, Diurnal Cycle A1 (3-24 hour continuous cycles)

**TRANSIT DROP SHOCK:** Using quick release hook or drop tester (in and out of transit case, 36 inch drop any orientation total 26 drops; Functional and PCMCIA Card Operational Checks after each drop)

**OPERATING SHOCK:** MIL-STD-810F, Method 516.5, Procedure I (Functional); RLC-3, 40G, 11 ms, EUT operational (3 shocks/axis/direction = 18 total shocks)

**OPERATING VIBRATION:** MIL-STD-810F, Method 514.5, Procedure I, Cat. 20 (Ground Vehicles), Figure 514.5C-1 (RLC-3 out of transit case)

**TRANSPORTATION VIBRATION:** MIL-STD-810F, 514.5, Procedure I, Category 4, Annex A, Figure 514.5C-3 vibration profile for composite wheeled vehicles (RLC-3 in transit case, each axis)

**MINIMUM INTEGRITY TEST:** MIL-STD-810F, Method 514.5, Procedure I, Category 24, Figure 514.5C-17 (RLC-3 in transit case, each axis, 0.04g<sup>2</sup>/Hz at 20-1000Hz, -6dB/Octave at 1000-2000Hz, 1hour/axis duration)

**BENCH HANDLING:** Survive one 45 degree rotational drop from each bottom edge

**ALTITUDE:** MIL-STD-810F, Method 500.4, Procedures I and II; (RLC-3 in or out of transit case, 12,500 (15,000 optional) feet operating, 30,000 (40,000 optional) feet Non-Operating; minimum test duration 1 hour using 10 ms rate of change)

**DUST AND WATER:** IP 54; (RLC-3 Protect against dust limited ingress (no harmful deposit) and protection against water sprayed from all directions to limited ingress permitted.)

**RAIN:** MIL-STD-810F, Method 506.4, Procedure I; (RLC-3 in and out of transit case, 1.8 inches per hour, 20 mph wind for 30 minutes/each surface)

**HUMIDITY:** Operational: MIL-STD-810F, Method 507.4, Procedure I (10 to 95% five 48 hour aggravated temperature-humidity cycles (10 days total) at RH 95%/60°C with an operational test performed every 2 days); Non-Operational (in transit case): MIL-STD-810F, Method 507.4 Procedure II (5 to 95% five 48 hour aggravated temperature-humidity cycles (10 days total) at RH 95%/60°C with an operational test performed every 2 days)

**SALT FOG:** MIL-STD-810F, Method 509.4; (RLC-3 in transit case, 5±1% aqueous salt)

**SAND/DUST:** MIL-STD-810F, Method 510.4, Procedures I and II; (RLC-3 out of transit case, 20 mph ± 3 mph for 30 minutes/surface, sand concentration 2.2 ± .5 g/m<sup>3</sup>, dust concentration of 10.6 ± .7 g/m<sup>3</sup>)

**FUNGUS:** MIL-STD-810F, Method 508.5; (RLC-3 in transit case certification materials do not support fungal growth)

**EMI/EMC:** MIL-STD-461E Radiated Emissions (RE101-1 and RE102-3), para 5.15 and 5.16; Radiated Susceptibility (RS103 and RS105) para 5.19 (2 MHz to 18 GHz) and 5.20; Conducted Susceptibility (CS101, CS114, CS115, and CS116) para 5.4 and 5.5; Conducted Emissions (CE101, CE102) para 5.7, 5.12 (limit curve #3), and 5.14, MIL-STD-464A Electrostatic Discharge, para 5.7.3; FCC Class B, Part 15 Electronic Equipment Digital Device

**HIGH ALTITUDE ELECTROMAGNETIC PULSE (HEMP):** MIL-STD-461E, RS105; MIL-STD 2169B HEMP environment 1

**NEAR STRIKE LIGHTNING (NSL):** MIL-STD-464A, TOP 1-2-511

**ACOUSTIC NOISE:** MIL-STD-810F, 515.5; (Ambient noise generated does not exceed 60dBA, measured at 1 meter in front of the unit with a low ambient noise floor)

**EXPLOSIVE ATMOSPHERE:** MIL-STD-810F, Method 511.4



**VT Miltope**

A company of VT Systems