



MMIST's **Multipurpose Rugged Tablet™ (MRT)** (P/N 073350) is designed for seamless incorporation with parachutists, for use in cargo aircraft and for ground uses limited only by the imagination.

Designed for Harsh Conditions

The MRT is specifically designed for day and night use in extreme environments across the planet, achieving this robust capability through careful selection of components, use of advanced display technologies for viewing while in direct sunlight and simultaneously reducing total power consumption, internal heating for deep-cold operation, heat sinking for hot operation and aero-specific sensors to bolster MMIST's parachutist navigation algorithms (including external temperature, humidity, pressure and more).

Designed for a Range of Needs

The MRT operates standalone or as integrated into a COTS hub system using a standard STANAG-1695/4851 connector to provide extended power to the MRT and for the MRT to link to radios and other peripherals. Supporting HAHO/HALO insertion through temperatures of -55 °C, the MRT is also designed to support fight-through operations in temperatures up to +50 °C and control Sherpa cargo flights remotely. The MRT is robust to harsh mechanical and weather environments and includes a range of ancillary sensors to maximize use flexibility.

While other tablets in the market warn of damage to the device and its battery, if operated outside of their stated and limited temperature ranges, the MRT is purpose built for the extreme operating environment of -55 to +50 °C.

A user is free to run software of their choice on the MRT hardware platform. However, MMIST's HAHO/HALO Parachutist Navigation software provides advanced capability to determine horizontal and vertical wind speeds, air density and glide ratio in real time, while also providing situational and proximity awareness of self, teammates and cargo. Note that, for security enhancement, wireless interfaces can be disabled and the camera has no flash.

Product Highlights

Physical	Human Interface	Computational	Interfaces	Sensors
820 g 192 x 118 x 38 mm tan, olive green or black 1280 x 720 screen display replaceable 7 Ah battery	low glare sunlight readable capacitive multipoint touch glove compatible directional control pad programmable buttons brightness control buttons on, off and dark modes	Android O/S quad core processor 8 GB DRAM 64 GB eMMC NVRAM micro SD card slot	STANAG 4695/4851 port accepts external power wired data via USB 2 wi-fi 802.11ax Bluetooth 5.4 clip-cradle mounting threaded 2" x 3" pattern	multi-constellation GNSS magnetic field acceleration angular rates external pressure external temperature external rel. humidity ambient light & camera



Mist Mobility Integrated Systems Technology Inc.
3 Iber Road, Ottawa, ON
Canada K2S 1E6
proposals@mmist.ca
mmist.ca

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Operational Performance and Limits

Operational Aspect	Performance or Limit
Embedded Battery Duration	24 hour stand-alone operation at +20 °C and at BOL
ESD Robustness	8 kV contact
Maximum Deployment Altitude	35,000 ft MSL [10 688 m MSL]
Shock	robust to functional shock and drops from 1.5 m onto concrete
Thermal Operating Range	stand-alone: -30 °C to +50 °C, boot at -30 °C with external COTS battery: -55 °C to +50 °C, boot at -30 °C
Thermal Storage Range	-40 °C to +70 °C
Vibration	robust to ground and air transportation environments

Qualifications

Qualification Aspect	Standard
Conducted Emissions	MIL-STD-461G CE-101, CE-102
Conducted Susceptibility	MIL-STD-461G CS-101, CS-114, CS-115, CS-116
ESD	MIL-STD-461G CS-118 (8 kV Contact)
Explosive Atmosphere	MIL-STD-810H 511.7 Procedure I
Humidity	MIL-STD-810H 507.6 Procedure II
Precipitation (Rain)	MIL-STD-810H 506.6 Procedure I
Pressure (Operating)	MIL-STD-810H 500.6 Procedures I & II
Pressure (Rapid Decompression)	MIL-STD-810H 500.6 Procedure III
Radiated Emissions	MIL-STD-461G RE-101, RE-102
Radiated Susceptibility	MMIL-STD-461G RS-101, RS-103, RS-105
Salt Fog	MIL-STD-810H 509.7
Sand and Dust Ingress	MIL-STD-810H 510.7 Procedures I & II
Shock (Functional)	MIL-STD-810H 516.6 Procedures I & IV
Solar Irradiation	MIL-STD-810H 505.7 Procedure I
Temperature (Cold)	MIL-STD-810H 502.7 Procedure II
Temperature (Hot)	MIL-STD-810H 501.7 Procedure II
Temperature (Shock)	MIL-STD-810H 503.7 Procedures I-C & I-D
Water Ingress	IEC 60529, IPx8; MIL-STD-810H 512.6 Procedure I (Immersion 1.5 m, 30 min)

Certifications and Regulatory Compliance

The MRT is compliant with the following and is additionally free of radioactive sources and substances defined in Annex XIV of REACH:

- ITU Radio Regulations (2012), unwanted and spurious emissions
- ITU SM.1541-4 (2011), out-of-band emissions
- ITU SM.329-12 (2012), low power by geography
- RTCA DC-307, aircraft radio-system interference
- CE (Europe)
- FCC (United States)
- ISED (Canada)
- MIC (Japan)



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