PERSONAL RADIO
SENTRY MESH 6161

Codan | DTC's Sentry Mesh 6161 is the ultimate Soldier / Squad radio for demanding military applications that require performance, range and versatility in a lightweight and compact, wearable unit that minimises the burden on soldiers.

PROVEN, ROBUST MESHULTRA WAVEFORMS

The Sentry Mesh 6161 is a Software Defined Radio based on our highly robust MANET waveforms, that have been proven in applications from Special Forces to Unmanned Systems and Covert Operations. MeshUltra™ optimises the use of available channel bandwidth through a "Token Passing" technology, which avoids collisions and provides a short, predictable data packet latency. Wider bandwidth together with superior LPI/LPD performance and advanced Interference Avoidance System (IAS) maximises communications effectiveness in contested environments and provides protection against Electronic Attack (EA).

With up to 2 watts output and a 2x2 MIMO RF architecture, the Sentry Mesh 6161 maximises throughput and avoids drop-outs using two independent transmit / receive channels. In complex environments where multiple obstacles cause signal reflections and cancellation, MIMO results in far superior performance.

SIMPLE CONTROLS

Primary functions of the Sentry Mesh 6161 are controlled by a simple rotary control, which provides power on / off, talkgroup selection, EMCON, and emergency zeroize functions. A single LED indicator provides network power & network status as well as reporting any fault conditions.

SWAP OPTIMISED

The Sentry Mesh 6161 features a compact, light, ergonomic construction which is designed to integrate with soldier systems, including Power and Data distribution systems, minimising cabling complexity and removing the need for a dedicated battery.

CLEAR ROBUST MULTI CHANNEL VOICE

The Sentry Mesh 6161 uses Digital Voice (DV) technology with high clarity CODECs to provide multiple simultaneous talkgroups over the same frequency (up to 32 in total), with each handheld able to join two talkgroups simultaneously.

HIGH SPEED IP DATA

The Sentry Mesh 6161 forms a robust, self-forming, self-healing wireless network that can support sensor data, video streaming, and high availability situational awareness. With peak data rates of up to 44.9 Mbps, the Sentry Mesh 6161 waveforms are fully interoperable with our Mesh unmanned range of products, providing the ability to extend range and share the operational picture.

EMBEDDED WEB CONFIGURATION

More advanced features such as frequency settings, talkgroup configuration, network settings and access to real time system performance metrics can easily be accessed through the Sentry Mesh 6161's embedded web interface. For larger deployments this can also be used to facilitate centralised, bulk firmware and setting changes.

KEY FEATURES

- MeshUltra waveforms
  - Up to 144 total nodes
  - Predictable IP latency
  - Non-collision based channel access
- Up to 2 watts RF
- 2 x 2 MIMO
- Simple controls
- SWaP optimised
- Multi-channel voice
- User selectable presets/talkgroup
- Emergency zeroise, protected from accidental activation
- High speed IP data
- EMCON mode
- AES-128/AES-256 Encryption
- Standard compliant
  - MIL-STD-461G
  - MIL-STD-810H
- 3 year warranty
- USB2/USB3 and Ethernet Connectivity

CRYPTO

Protection of voice and data is assured through the FIPS 140-2 certified AES-256 bit encryption (AES-128 also available). Operation of the encryption is entirely transparent to the end user, and simply requires for the periodic fill of encryption keys in accordance with operational requirements.

GPS

The Sentry Mesh 6161 has an in-built GPS receiver, designed to operate in conjunction with a solder worn small form factor GPS antenna, to provide Position Location Information (PLI).
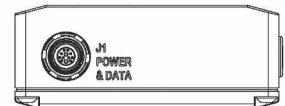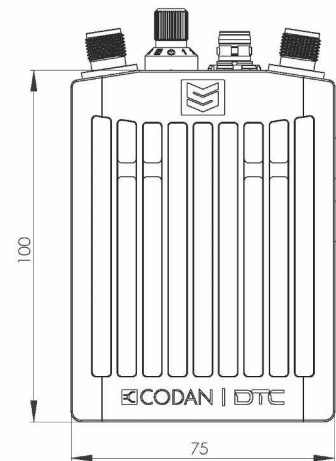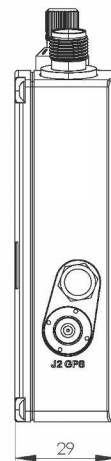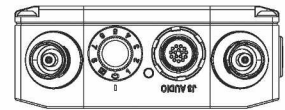
STANDARDS COMPLIANT

The Sentry Mesh 6161 is built to exacting military standards to ensure trouble free operation in service. It is designed and certified to relevant provisions of MIL-STD-810H, covering extremes of temperature, shock, humidity, vibration, altitude and more.

WARRANTY, SERVICE AND SUPPORT

The Sentry Mesh 6161 provides proven product reliability and performance, backed up by our standard three-year warranty. The ability to independently sustain your equipment, complimented by field upgradable unique option codes, enables you to truly utilise SDR technology should your mission change features can easily be enabled.
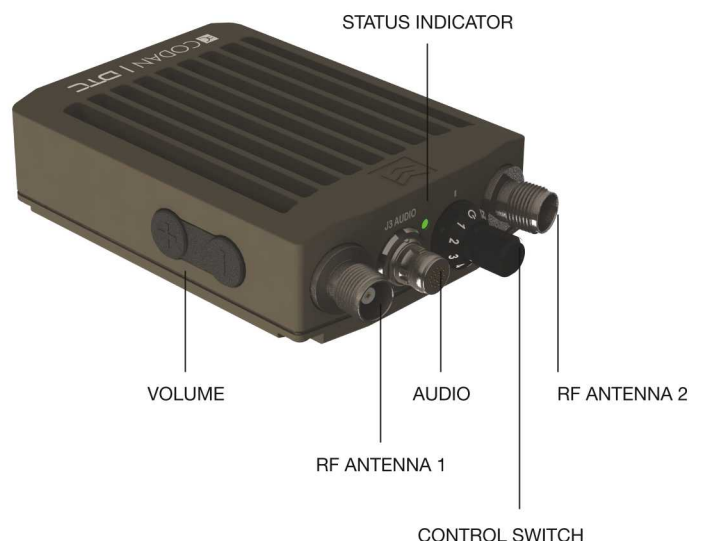
ACCESSORIES

- Headset
- PTT and Dual PTT
- Pouch
- Antennas (conventional and wearable)
- Power & Data Hub
- Conformal Batteries
- Wearable Camera
- Cables

GPS ANTENNA — POWER & DATA

STATUS INDICATOR — VOLUME — RF ANTENNA 1 — AUDIO — CONTROL SWITCH — RF ANTENNA 2

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CODAN COMMUNICATIONS | DTC

SPECIFICATIONS

GENERAL

Waveforms	MeshUltra™-X soldier waveform (up to 144 nodes, 0.25 to 10 MHz BW)
Talkgroups	Up to 32 simultaneous per frequency
Vocoder	CODEC2
Network size	Up to 144
Data throughput	44.9 Mbps maximum, dependent upon number of active nodes, settings and channel conditions
Supply characteristics	Wide range DC supply input (9 - 17 VDC) Power Consumption 6W typical
Battery life	Up to 18 Hours typical with UBBL35 Conformal Battery
GPS	Internal receiver (GPS, GLONASS and Beidou). Antenna external (SMB connector)
Compliance	MIL-STD 461G, Australian RCM, IEC62368
Interfaces	Headset (2-channel, dual PTT support) Power & data – USB 3 (12-pin ODU AMC High-Density connector), NetWarrior (NATO AEP-4695) via adaptor RF (TNC x 2) GPS (SMB) USB and Ethernet
Controls	Pre-set Talkgroup / Power / EMCON / Zeroise (multifunction rotary control) Volume up/down (pushbutton)
Indicators	One LED (Power / Network / BITE status)

RF

Frequency bands	1.2 to 1.7 GHz (L Band variant). Other bands available upon request
Bandwidth	1.25 MHz, 1.5 MHz, 1.75 MHz, 2.5 MHz, 3 MHz, 3.5 MHz, 5 MHz, 6 MHz, 7 MHz, 8 MHz, and 10 MHz
Power Output	Programmable, up to 2 x 1W per channel (2W total)

MECHANICAL AND ENVIRONMENTAL

Size	100 x 75 x 29mm, excluding connector protrusions
Weight	430g, excluding cables
Temperature range	Operational: -30 to +45°C Storage: -50 to +80°C
Ingress protection	IP68
Military standards	MIL-STD-810H (high temperature, low temperature, shock, vibration, altitude, dust, humidity, salt fog, fungus, contamination by fluids)
Environmental protection	RoHS Compliant, RoHS3 (EU 2011/65-EU), REACH
MTBF	110,000 hours
MMTR	Less than 10 minutes

Values noted are typical. Equipment descriptions and specifications subject to change without notice or obligation.

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SUPPORTED ACCESSORIES

Headsets	INVISIO® T5, T7 3M™PELTOR™ Gentex® Ops-Core AMP® FalCom Pods Pro, OTE2000
PTT	Invisio® V10, V50, V60 FalCom MFC1000
Power & Data Hub	Galvion™ NERV CENTR® / SQUAD POWER MANAGER™ / PDH-4 Glenair® STAR-PAN™ Ultra Electronics UltraLynx™
Batteries	Galvion SoloPack™ Bren-Tronics, BT-70791 (BB-2590/U), BT070867Bx, BT-70716BV (MBITR) UltraLife® UBBL35 (Conformal), UBBL10 (UBI-2590), UBBL06 (LI-200) UBBL08 (LI-100) Generic (Land Warrior, 2590 series, MBITR compatible) with adaptor cable
Antennas – RF	Omnidirectional Whip Omnidirectional Gooseneck Conformal soldier wearable
Antennas – GPS	Omnidirectional Dipole Active Patch Conformal soldier wearable
Cameras	MOHOC
Pouches	Custom designed Camo, Tan, Black – MOLLE compatible

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