PERSONAL RADIO
SENTRY MESH 6161

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
- Built-in GPS
- SWaP optimised
- Multi-channel voice
- User selectable Presets/ talkgroups with voice announcements
- Emergency zeroise, protected from accidental activation
- High speed IP data
- Optional DES-56 and AES-256 Encryption
- Standards compliant
  - MIL-STD-461G
  - MIL-STD-810H
  - IEC60529: IP68
  - IEC62368-1
  - FIPS 140-2 L1
  - FIPS 140-3 L2 (pending)
- 3 year warranty
- USB and Ethernet Connectivity
- Multi-lingual Web User Interface

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

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 Public Safety 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 RF performance and optional Interference Avoidance System (IAS) maximises communications effectiveness in the presence of interference.

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, and a zeroise capability. Two user programmable function keys located on the side of the radio can be assigned for volume control or talkgroup selection. A single LED indicator provides indications for built-in test results, mesh network status, and radio power state.

SWAP OPTIMISED

With the weight of just 410g, the Sentry Mesh 6161 features a compact, light, and ergonomic design which supports integration with a range of accessory devices such as power and data hubs and off-the-shelf battery solutions, ensuring flexibility and scalability of configuration.

CLEAR ROBUST MULTI CHANNEL VOICE

The Sentry Mesh 6161 uses Digital Voice (DV) technology with high clarity voice to provide multiple simultaneous talkgroups over the same channel (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 87 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 user interface (WUI). For larger deployments, this can also be used to facilitate centralised bulk firmware and setting changes.

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CRYPTO

Protection of voice and data is assured through the optional FIPS140-2 and FIPS140-3 (pending) certified AES-256 bit encryption (DES-56 is 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. FIPS140-3 level 2 approval in progress.

GPS

The Sentry Mesh 6161 has an in-built GPS unit, with a built-in antenna, to provide Position Location Information (PLI) which can operate in conjunction with an optional external GPS antenna, if required.
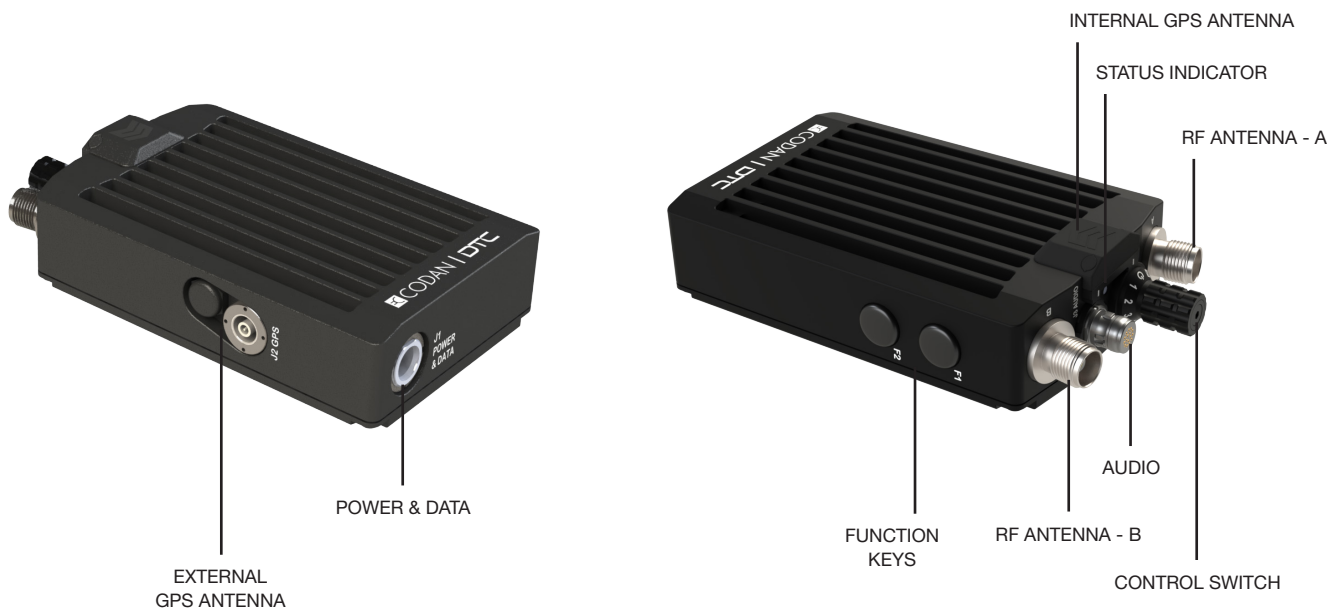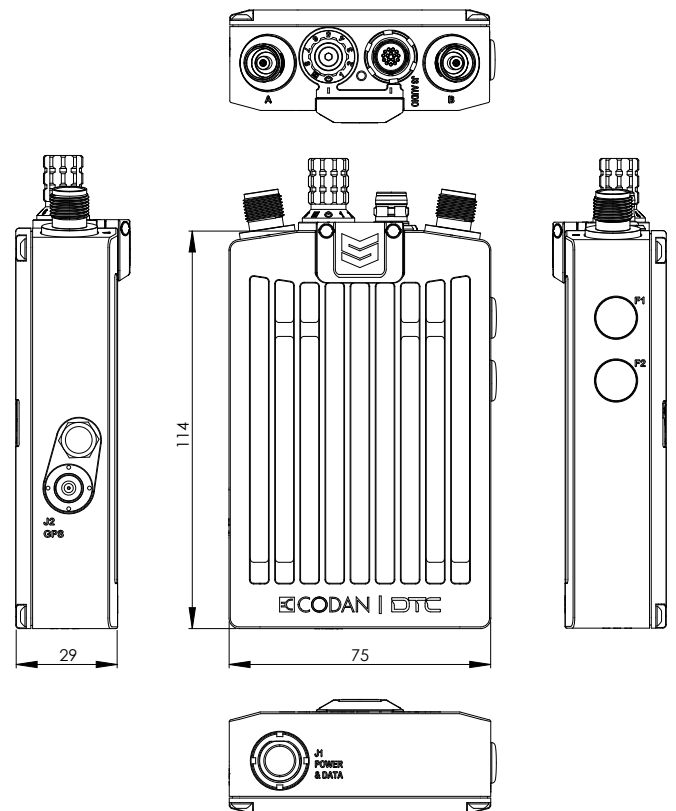
STANDARDS COMPLIANT

The Sentry Mesh 6161 is built to exacting 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 upgradeable unique option codes, enables you to truly utilise SDR technology. Should your mission change, features can easily be enabled.

ACCESSORY SUPPORT

- Headsets
- Single and dual PTT
- Molle mount and soft pouch
- Antennas (conventional and wearable)
- Power & Data hubs
- Batteries (conventional and conformal)
- Wearable camera
- Interconnection cables

EXTERNAL GPS ANTENNA

POWER & DATA

INTERNAL GPS ANTENNA

STATUS INDICATOR

RF ANTENNA - A

FUNCTION KEYS

RF ANTENNA - B

AUDIO

CONTROL SWITCH

SPECIFICATIONS

GENERAL

Waveforms	MeshUltra™ Set of user selectable MESH waveforms (up to 144 nodes, 0.25 to 10 MHz Bandwidth)
Talkgroups	Up to 32 simultaneous per channel, with user programmable primary and secondary Talkgroup control
Vocoder	CODEC2
Network size	Up to 144
Data throughput	87 Mbps maximum, dependent upon number of active nodes, settings, channel conditions, and MESH waveform selected
Supply characteristics	Wide range DC supply input (9 - 17 VDC) Power Consumption 6 W typical
Battery life	SoloPack Battery (98 Wh): Up to 11 hours typical at 2 x 1 W Up to 17 hours typical at 2 x 0.5 W
GPS	Internal GPS unit with built-in antenna (GPS and GLONASS). Optional external antenna (SMB connector)
Compliance	MIL-STD-810H, MIL-STD 461G, Australian RCM, IEC 62368-1, IEC 60529: IP68, FIPS 140-2 Level 1, FIPS 140-3 Level 2 (Pending)
Interfaces	J3 Audio Interface (2-channel, dual PTT support) and Ethernet - ODU, 16-pin J2 GPS Antenna, External (Optional) - SMB connector J1 Power & Data Interface (DC input, USB data and power distribution control) - Nett Warrior, 7-pin RF x 2 - TNC
Controls	Power / Preset selection / Zeroise F1 / F2 Function Keys (user programmable push button controls)
Indicators	Status LED (Power / Network / BIT 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, 10 MHz, and 20 MHz
Power Output	Programmable, up to 2 x 1 W per channel (2 W total), default 2 x 0.5 W

MECHANICAL AND ENVIRONMENTAL

Size	114 x 75 x 29 mm, excluding connector protrusions
Weight	410g, excluding cables and antennas
Temperature range	Operational: -45 to +55°C (with typical network size and data traffic volumes, operating at 2 x 0.5 W) Storage: -50 to +80°C
Ingress protection	IP68, 2 meters for 1 hour
Military standards	MIL-STD-810H (high temperature, low temperature, shock, vibration, altitude, dust, humidity, salt fog, fungus, contamination by fluids, immersion, rain, temperature shock)
Environmental protection	RoHS 2011/65/EU, REACH (EC 1907/2006)
MTBF	110,000 hours
MTTR	Less than 10 minutes

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

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AUSTRALIA +61 8 8305 0528 | **UK** +44 1489 566 750 | **US** +1 727 471 6900 | **UAE** +971 44 53 72 01 | **SALES@CODANCOMMS.COM**

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RECOMMENDED ACCESSORIES

Headsets	FalCom OTE2000 INVISIO T7 Sylinx HSI CJ Lightweight Tactical Headset CJ Tactical Handset CJ Fist Mic Note: Dual and Single PTT configurations available for some headset solutions.
Power & Data Hubs	Galvion PDH-4 Fischer KEYSTONE™ Glenair STAR-PAN™ 2 Glenair STAR-PAN™ 4
Batteries	Galvion SoloPack™ Generic: 2590 series & MBITR compatible (with adaptor cable), Land Warrior
RF Antennas	SWA L-Band Gooseneck antennas Mastodon L-Band Conformal antennas
GPS Antennas	Mastodon Conformal GPS antenna
Cameras	MOHOC® USB camera MOHOC® IP camera
Mounting solutions	Soft pouch with MOLLE straps – Camo & Black Rigid MOLLE Mount – Black

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